European Commission

Equity in school education in Europe

Structures, policies and student performance

Eurydice report

Education, Audiovisual and Culture Executive Agency

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FOREWORD

Equitable education systems play a major role in making European societies fairer and more inclusive. Education authorities in the EU Member States have the main responsibility for ensuring equity in education so that every student can reach his or her own potential and Europe does not waste the precious talents of its youngest generation. However, the socio-economic background of students continues to influence achievement. For disadvantaged students, the risk of underperformance and leaving education early can be significant. The COVID-19 crisis brings increased challenges that are likely to compound existing inequalities. We need to make concerted efforts to address this situation and to support students who face difficulties.

This new report explores education structures and policies that influence equity in school. It connects them to student performance in international assessment surveys and identifies which key policies and structures are associated with higher levels of equity.

The key findings point to a number of ways education authorities can act to improve equity in school. Relevant policy measures include increasing public spending, especially in primary education; increasing the participation of disadvantaged children in high quality early childhood education and care; assigning students to different educational programmes or tracks at a later stage, removing differentiation in school choice and admissions policies, as well as reducing grade repetition. The report also shows large differences between countries as to how these policies are implemented and how well they work in combatting inequality in education.

I am confident that this comparative report will be a great help to education policy makers and other stakeholders at national level. I hope that it will encourage countries to exchange best practices and to learn from each other. It is important to hold a deep and open debate on how to make our education systems more inclusive and fair.

Mariya Gabriel

Commissioner responsible for
Innovation, Research, Culture,
Education and Youth

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CODES AND ABBREVIATIONS

Country codes

EU/EU-28	European Union	**CY**	Cyprus	**UK**	United Kingdom
BE	Belgium	**LV**	Latvia	**UK-ENG**	England
BE fr	Belgium – French Community	**LT**	Lithuania	**UK-WLS**	Wales
BE de	Belgium – German-speaking Community	**LU**	Luxembourg	**UK-NIR**	Northern Ireland
BE nl	Belgium – Flemish Community	**HU**	Hungary	**UK-SCT**	Scotland
BG	Bulgaria	**MT**	Malta		**EEA and candidate countries**
CZ	Czechia	**NL**	Netherlands	**AL**	Albania
DK	Denmark	**AT**	Austria	**BA**	Bosnia and Herzegovina
DE	Germany	**PL**	Poland	**CH**	Switzerland
EE	Estonia	**PT**	Portugal	**IS**	Iceland
IE	Ireland	**RO**	Romania	**LI**	Liechtenstein
EL	Greece	**SI**	Slovenia	**ME**	Montenegro
ES	Spain	**SK**	Slovakia	**MK**	North Macedonia
FR	France	**FI**	Finland	**NO**	Norway
HR	Croatia	**SE**	Sweden	**RS**	Serbia
IT	Italy			**TR**	Turkey

Statistics

(:) or : (Figures and tables)	Data not available
✗	Not part of the data collection
(–)	Not applicable

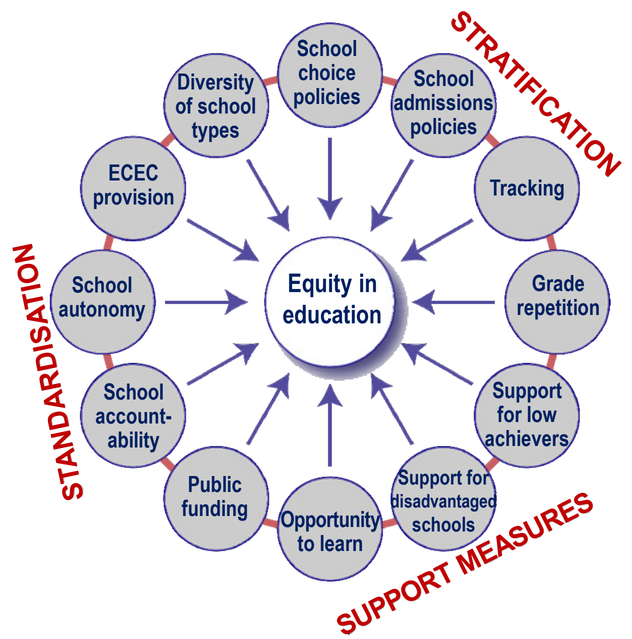
EXECUTIVE SUMMARY

Equity in school education in Europe: Structures, policies and student performance

Education can play an important role in making European societies fairer and more inclusive. To accomplish this, education systems must be equitable. In other words, they must ensure that all young people are able to develop their talents and achieve their full potential regardless of their background. However, socio-economic background continues to be a strong determinant of student attainment: underperformance, leaving education or training early, and social exclusion are still very real dangers for some students. The on-going COVID-19 crisis reinforces the case for improving equity in education as the shift to distance learning and the loss of teaching time bring increased challenges for disadvantaged students and are likely to compound existing inequalities.

This report examines a range of key education policies and structures and assesses how they affect the levels of equity in education systems. In this report equity is addressed in terms of inclusiveness (i.e. whether all students receive at least a minimum amount of good quality education) and fairness (i.e. whether student performance is largely independent of socio-economic background). The report draws on three types of data: original policy information collected from the Eurydice national units, international survey data on student performance and characteristics (PISA, PIRLS and TIMSS), and statistical data collected by Eurostat. Using bivariate and multivariate statistical analysis methods, the report evaluates the impact of these system-level features on educational equity, individually and in combination. It covers 42 education systems across 37 European countries.

Figure 1: Education policies and structures that influence equity in school education



Source: Eurydice.

The main findings presented below show that a number of system-level features can affect equity in school education in different ways and to a different extent. These policies and structures are closely linked and often influence each other. They are analysed as parts of a broad framework that comprises stratification, standardisation and support elements, as shown in Figure 1. Stratification refers to the extent to which students are grouped into different classes, schools or school programmes based on their ability, interest, or other characteristics. Standardisation indicates the extent to which education meets the same quality standards within an education system. Support measures aim to promote equity and to mitigate disadvantage.

While equity is addressed in top-level policy documents in most education systems, the levels of equity vary

Top-level authorities in nearly all European education systems define or refer to a range of concepts relating to equity in education in their official documents. Apart from equity, the terms used include fairness, equal opportunities, equality/inequality, disadvantage, non-discrimination, vulnerable groups, at risk groups and early school leaving.

Whatever terms are used in top-level policy documents, the great majority of European systems have at least one major policy initiative in place to promote equity in education or to support disadvantaged students.

Nevertheless, equity levels differ widely across Europe, especially in secondary education. The levels are measured through the achievement gap between high- and low-achieving students (inclusion dimension), and by looking at the impact of socio-economic background on student achievement (fairness dimension). Relative country positions may vary depending on the equity indicator chosen. Still, in the majority of education systems, large (or small) achievement gaps go together with a more (or less) pronounced impact of socio-economic background on achievement. At the same time, less than one third of education systems can be considered to be relatively equitable in both dimensions.

Barriers to participation in high quality ECEC remain

Research evidence shows that there are clear benefits for children who participate in early childhood education and care (ECEC) in terms of their overall development and academic performance. This finding is especially valid for disadvantaged students. Nevertheless, survey data reveal that in the majority of European countries, children from disadvantaged families participate less in ECEC.

Policies for improving equity in ECEC include extending access (both universal and targeted) as well as improving the quality of provision. Other important measures address the challenges faced by disadvantaged families such as cost, cultural and linguistic barriers and lack of information.

Public funding is important for equity, especially in primary education

School education in Europe is predominantly funded by public money. Public funding is often expected to ‘level the playing field’, reducing the effect of socio-economic background on student performance.

The empirical analysis revealed that a higher public expenditure per pupil/student can reduce the student achievement differences between schools which, in turn, reduces the achievement gap between low- and high-achieving pupils/students in primary schools.

At the same time, there are significant differences across Europe in the level of public funding per student (between 1 940 and 13 430 purchasing power standards for primary and lower secondary education), and in the amount of private expenditure on primary and secondary education (ranging from less than 1 % to 19 % of public expenditure).

Diversity in the types of school increases academic segregation and decreases equity

Most European education systems offer different types of school. While a greater variety of school types can cater for the diverse needs of students, it can also increase educational inequalities. Therefore, it is important to strike the right balance between meeting different needs and ensuring educational equity.

Differentiation may occur in an education system due to differences in governance and funding (public or private sector). It may also arise due to differences in the curriculum (e.g. schools offering different specialisations or educational pathways), or through structural features (different school types catering for different age groups or levels of education in parallel). While these system-level features may on the surface be separate from each other, in reality they are often interlinked. For example, as private education institutions often have greater autonomy than public ones, this can lead to greater differentiation in other areas such as the curriculum. As a general rule, if differentiation commences at primary level it then continues through all school levels.

Public/private differentiation is a key factor influencing equity, mostly through regulatory differences between public and government-dependent private institutions. When the level of public spending per pupil is controlled for, academic segregation (i.e. where students of different levels of academic ability are concentrated in particular schools) in primary education is higher in education systems with a larger government-dependent private sector.

At secondary level, differences in the curriculum, besides being linked to the relative autonomy of government-dependent private institutions, are also related to the practice of assigning students to particular tracks or educational pathways. As such, curricular differentiation goes together with a stronger association between socio-economic background and student performance.

Different school choice rules within education systems reduce equity

Top-level authorities provide different levels of freedom for families to choose a school, in particular at primary and lower secondary education levels. In more than two-thirds of all education systems, students tend to be assigned, at least on a preliminary basis, to public schools based on their residence. In ten of these countries, families can opt-out from the assigned school only under certain conditions. In nineteen others, families are allowed to choose another public school without any restrictions; thus allowing free choice for active and informed parents. In the remaining third of countries, all parents may (or are obliged) to choose their child's school. In the majority of education systems, therefore, parents have considerable freedom to choose between schools or to opt out from the school assigned.

In a third of all education systems, different regulations apply to government-dependent private schools and/or to particular types of public school offering a different curriculum or structure from those applying to the majority of public schools. The differences often lie in the nature of the catchment area; or, more often, in the fact that the mainstream residence-based student assignment system does not apply and the school can usually accept applications from any student. More freedom for families to choose a school, in combination with a greater degree of differentiation in the regulatory framework for different school types, can have a significant negative impact on equity. Depending on the degree of differentiation and the particular level of education, this may contribute to an increase in both academic segregation and the impact of socio-economic background on student performance.

In most of the countries with universal free choice and/or school types following different school choice rules, the top-level authorities provide centralised information to facilitate an informed choice. However, the provision of information supporting school choice is not able to offset the impact of the differentiation in the regulatory framework.

Five main types of school choice system have been identified across Europe: 1) systems with residence based assignment and conditions to choosing another school, 2) systems with residence based assignment and conditions to choosing another public school, but different regulations applying to some school types; 3) systems with residence based assignment and no conditions to choosing another school; 4) systems with residence based assignment, no conditions to choosing another public school, but different regulations applying to some school types; 5) universal free school choice (no residence based assignment).

Using academic admissions criteria in lower secondary education has negative consequences on equity

The more freedom parents and students have in choosing a school (whether due to the range or number of schools on offer or to the policies governing the choice of school), the more marked is the role of admissions criteria and procedures in how students are distributed across schools.

In the majority of education systems, top-level authorities establish the main principles for school admissions. They usually also determine which specific admissions criteria are permitted; however, in more than a third of the systems, they leave schools considerable freedom to add further criteria to those already set. In many systems, more autonomy tends to be given to government-dependent private schools or to particular types of public school. The resulting differences in admissions policies between government-dependent private and public schools, especially when in combination with differentiation in school choice policies, significantly contribute to both academic segregation and a stronger impact of socio-economic background on student performance.

Admissions criteria defined by top-level authorities are typically not related to academic achievement at primary level. Academic admissions criteria are more common in secondary education when students are assigned to different educational tracks or pathways. A third of the education systems start this academic selection process as early as lower secondary education. The use of academic admissions criteria at this level strongly correlates with both academic segregation and the strength of socio-economic background on achievement. At secondary level, few systems make use of non-academic criteria, in particular socio-economic criteria, in school admissions.

Early tracking has a strong negative impact on equity

Tracking, or the assigning of students to different educational tracks or pathways, has been found to influence equity in education to a considerable extent. However, the effects of tracking can vary depending on how it is organised, particularly with respect to the age at which students are first assigned to a track or pathway. The number of tracks, the degree of differentiation, and the relative proportion of upper secondary students in vocationally oriented programmes are also important.

Five main types of tracking system have been identified across Europe: 1) systems where tracking starts early (between ages 10 and 13), often with hierarchically ordered general tracks; 2) systems where tracking starts at around age 14/15 with a high degree of differentiation predominantly among vocational tracks; 3) systems where tracking starts between ages 14 and 16 with a high degree of differentiation predominantly among general pathways; 4) systems where tracking starts late (age 15/16) with few tracks, limited academic selection and relatively high permeability; and 5) systems where tracking is mainly carried out on a course-by-course basis.

Early tracking in combination with other elements can have a greater impact on equity. For example, alongside a large vocational sector (and, typically, a high degree of differentiation among vocational tracks), it tends to lead to more substantial academic segregation. Early tracking also contributes to a stronger association between socio-economic background and achievement.

Grade repetition results in lower equity in secondary schools, yet it remains a widespread practice

Grade repetition has a negative impact on equity at secondary level. It can lead to a widening of the gap between low- and high-achieving students, and it makes socio-economic background an even more important predictor of student performance. Nevertheless, grade repetition remains a widespread practice in Europe. On average, 4 % of European students repeat a school grade at least once, but in individual education systems the grade repetition rate can exceed 30 %.

Compared to 2009/10, fewer European education systems now allow grade repetition. Furthermore, the number of education systems where students progress to the next grade automatically has increased from four to six in primary education and from two to four in lower secondary. To help students avoid grade repetition, most education systems also have mechanisms in place to give students a second chance. This often takes the form of an exam before the new school year starts. In addition, in about a quarter of education systems, students are allowed to progress to the next grade provided they meet certain conditions in the following school year.

Limited school autonomy is the most common model in Europe

School autonomy in combination with accountability is often seen as a way of improving student achievement. At the same time, a very high degree of school autonomy may lead to differences in the quality of education provision, which can have a negative effect on equity.

Overall, across Europe, full school autonomy is most likely to be given in relation to teaching methods, choice of textbooks and internal assessment criteria, as well as in the management of human resources. In other areas, such as the content of the compulsory curriculum and the allocation of resources, the responsibility often remains with the top-level authorities.

Limited school autonomy, where schools share decision making with top-and/or local level authorities, is the most common model in Europe. At the same time, a number of systems can be classified as either having very high or, alternatively, very low levels of school autonomy.

The use of school accountability tools varies across systems

European education systems differ in the extent to which they use the two main school accountability measures: student performance data (results in national examinations for certified qualifications or other national standardised tests), and school performance data (the results of external school evaluations). Practices also vary in the approaches taken to the public reporting of these results.

Three distinct types of school accountability system have been identified across Europe.

- The first type involves a relatively elaborate system of school accountability. It includes the administration of a number of national examinations and/or other national tests. The results of individual schools in (at least some of) these examinations and/or tests are published and used in the external school evaluation process. In turn, the reports emanating from the school evaluation process are also published.
- The second type of accountability system is a lighter version of the first. In addition to holding national examinations and/or other national tests, one or two of the other accountability measures (the use of test results in external school evaluation and the publishing of evaluation reports) are implemented. Most of the systems in this group, however, do not publish the test results of individual schools.

- The last type of accountability system is less well developed. Fewer national examinations and/or other national tests are held, or in some cases, none at all. These education systems rarely have top-level policies for the publication of national examination or test results and some of them do not carry out any external school evaluation. Where external school evaluation does take place, examination/test results are not taken into account and evaluation reports are not made public.

This analysis did not find a statistically significant relationship between indicators on school autonomy and accountability (individually or in combination) and equity.

Only a quarter of education systems use a wide range of measures to support disadvantaged schools

Disadvantaged schools – those enrolling high proportions of students from low socio-economic backgrounds – still exist in many education systems, and they often experience problems in terms of academic performance and school climate. To reduce the differences in performance between schools, top-level authorities can use several policy options: redressing the imbalance in the socio-economic composition of schools, providing targeted support to disadvantaged schools and encouraging good teachers to work in these schools.

While more than half of all systems allocate additional financial or non-financial support to disadvantaged schools, measures to improve the socio-economic composition of schools and incentives to attract teachers to disadvantaged schools are less common.

In terms of the policy measures implemented, three groups of education systems have been identified: those implementing all three (11 systems); those implementing at least one (usually the provision of additional support to disadvantaged schools) (26 systems); and those that have not implemented any of the measures (5 systems).

Having teachers who specialise in dealing with low achievement is associated with less academic segregation in secondary schools

The great majority of European education systems have some measures in place to support low-achieving students. Support from psychologists or other professional specialists is the most common type of support available at all education levels. Teachers who specialise in dealing with low-achieving students are rarely available, but such teachers can be of use in reducing differences between schools in terms of student achievement, especially at secondary level. In primary education, teachers specialising in supporting low-achieving students are available in all schools in only twelve education systems. This decreases in lower secondary to ten, and in upper secondary to seven.

Additional activities outside the formal school day and during long school holidays are rare in schools in Europe

There are significant variations in the length of compulsory education (between eight and twelve years) and the amount of instruction time for the compulsory curriculum (between 4 541 and 11 340 hours) across Europe. Similarly, there are large differences across education systems both in the total and the annual average instruction time in primary education, when all students typically follow the same curriculum and receive the same amount of instruction in public and government-dependent private education.

Top-level authorities in only about half of the education systems recommend free or subsidised additional activities in schools outside the normal school day. Even fewer education systems call for educational activities to be provided in schools during the summer holidays; where this does occur, it is usually for remedial classes for students who risk repeating a grade.

More instruction time and longer years of schooling are often seen as narrowing the achievement gap between different socio-economic groups. This analysis, however, did not find a statistically significant relationship between the average yearly instruction time in primary education and equity.

Highly stratified systems have lower levels of equity, especially in secondary education

Academic segregation is an important intervening factor between the system-level features of an education system and student achievement differences. At primary level, academic segregation is the only factor with a significant direct influence on performance differences between high- and low-achieving students, and academic segregation remains an important predictor of this achievement gap at secondary level. However, when significant system-level features are controlled for, the impact of socio-economic background on achievement is largely independent of the degree of academic segregation.

The system-level features controlled for are the age at which students are first assigned to a track or pathway, the degree of grade repetition, and the extent of differentiation between school types (in relation to school choice and school admissions policies). The impact of socio-economic background on student performance is thus greater in systems with early tracking, a high degree of grade repetition, and extensive differentiation between different school types in terms of school choice and school admissions policies. These features do, however, all increase the degree of stratification in education systems, and they emerge as major factors negatively influencing equity in school education.

There is a high correlation between the strength of the association between socio-economic background and achievement in primary and secondary education. However, the student achievement gap in primary and secondary education depends on different factors which are not necessarily related to each other. The achievement differences observed at primary level do not necessarily predict the performance gaps detected at secondary level. Education systems with smaller achievement gaps, therefore, do not necessarily maintain this level of inclusiveness once stratifying policies such as tracking are introduced.

None of the policies aiming to counterbalance systemic stratification were found to have a statistically significant impact on equity. This means that standardisation policies (linked to different levels of school autonomy and the use of accountability tools), financial and pedagogical support for disadvantaged schools, or support for low achievers and additional opportunities to learn, cannot, on their own, offset the impact of the stratification policies. Nevertheless, given the important role of academic segregation in explaining levels of equity in both primary and secondary education, early public investment reducing such academic segregation has the potential to have a lasting impact.

INTRODUCTION

Education plays a key role in integrating young people into both society and the labour market. It is also a means by which European societies can become fairer and more inclusive. In order to accomplish this, education systems must be equitable, ensuring that all young people are able to develop their talents and achieve their full potential. However, socio-economic background continues to be a strong determinant of student attainment: underperformance, leaving education or training early, and social exclusion are still very real dangers for some students.

Policy context

In recent years, equity in education has been a major policy issue at the highest level. European heads of state and government discussed the importance of education for the future of Europe at the Gothenburg Social Summit in November 2017. The Summit called on countries to work for 'fair jobs and growth' in Europe and established the European Pillar of Social Rights ([1]). Equity in education is a key element of the Pillar: the first principle states that 'Everyone has the right to quality and inclusive education, training and life-long learning…', while the third principle emphasises that everyone has the right to equal treatment and opportunities in education (as well as in employment and social protection). Furthermore, the European Council conclusions of 14 December 2017 ([2]) noted that education is one of the keys to building inclusive and cohesive societies; consequently, EU Member States, the Council and the Commission were asked 'to examine possible measures to address the need for an inclusive…education and training [system]'.

Moreover, under the 2017 Council conclusions on inclusion in diversity to achieve a high quality education for all ([3]), the EU Member States agreed to promote an inclusive school culture and to develop measures for the early identification of those at risk of social exclusion and to take action to prevent it. Again in 2017, the Council conclusions on school development and excellent teaching ([4]) noted that the priority is to make 'high-quality, inclusive and equitable school education a reality for all learners'.

Building on the earlier policy documents, the Council recommendation of 22 May 2018 on promoting common values, inclusive education, and the European dimension of teaching ([5]) reaffirmed the need to ensure 'effective equal access to quality inclusive education for all learners, which is indispensable for achieving more cohesive societies'. The recommendation called on the EU Member States to provide the 'necessary support to all learners according to their particular needs, including those from disadvantaged socio-economic backgrounds' and to 'facilitate the transition between various educational pathways and levels'. Most recently, the Council Resolution on education and training in the European Semester of 31 January 2020 re-affirmed that 'quality and inclusive education and training enable personal fulfilment, social cohesion and inclusive societies' ([6]).

The on-going COVID-19 crisis reinforces the case for improving equity in education. The Council conclusions of 16 June 2020 on countering the COVID-19 crisis in education and training

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([1]) Interinstitutional Proclamation on the European Pillar of Social Rights (OJ C428, 13.12.2017, p. 10-15). Signed by the European Parliament, the Council and the Commission on 17 November 2017 in Gothenburg, Sweden.

([2]) Presidency Conclusions of the Brussels European Council, 14 December 2017.

([3]) Conclusions of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, on inclusion in diversity to achieve a high quality education for all. 2017/C 62/02.

([4]) Council conclusions of 8 December 2017 on school development and excellent teaching. 2017/C 421/03.

([5]) Council recommendation of 22 May 2018 on promoting common values, inclusive education, and the European dimension of teaching. 2018/C 195/01.

([6]) Council Resolution of 31 January 2020 on education and training in the European Semester: ensuring informed debates on reforms and investments. 2020/C 64/01.

acknowledged that 'one of the major challenges has been the issue of ensuring inclusion and equal access to quality distance learning opportunities' ([7]). The physical closure of schools and the shift to distance learning have increased the challenges faced by disadvantaged students in terms of the need for good digital skills, access to technology or the internet and support for learning at home. To counter the effects of the COVID-19 crisis, the Council invited the EU Member States to 'pay additional attention to ensuring equal opportunities and continued access to high quality education and training for learners of all ages' ([8]).

Against this policy background and in line with the strong emphasis on advancing inclusive and equitable education in Europe, the Eurydice Network undertook the task of producing a report that supports the development of evidence-based policies in the field of equity in school education at national and EU level.

Content and structure of the report

In this report, the concept of equity in education refers to education provision which is both inclusive (i.e. all students receive at least a minimum amount of good quality education) and fair (i.e. student performance is largely independent of socio-economic background).

The report aims first to provide an overview of the education structures and policies that influence equity in school education and, second, to connect these system-level features to student performance (based on international student assessment surveys). Relying on these two components and looking across 42 European education systems, the report seeks to identify which education system features are associated with lower levels of equity.

The design and structure of education systems can affect student performance and educational inequalities. Research shows that a range of systemic features can affect equity in education in different ways and to a different extent. These include tracking, grade repetition, school choice and admission policies and the diversity of schools ([9]). In addition, these and other factors are closely linked and often influence each other. Therefore, it is not sufficient to study them individually; they must be examined in combination, taking account of their interrelationships.

The report is divided into three parts.

I. Concepts and indicators of equity in education

II. Education system features

III. Education system features and equity

The first part provides a theoretical overview of the concept of equity in education, as well as an analysis of indicators on the impact of socio-economic background on student performance in international surveys (PISA, PIRLS and TIMSS). It also examines country-specific information on national definitions relating to equity in education and disadvantage, as well as on top-level policy initiatives to tackle inequalities.

The second part contains twelve chapters examining each of the systemic factors that the research literature highlights as having an influence on equity in education. These factors include participation in early childhood education and care (ECEC), funding levels in education, differentiation and school

([7]) Council conclusions of 16 June 2020 on countering the COVID-19 crisis in education and training. 2020/C 212 I/03.

([8]) Ibid.

([9]) For a full list of the system-level factors that will be considered see Chapter I.1.

types, school choice, admissions policies, tracking systems, grade repetition, school autonomy, school accountability, support for disadvantaged schools, support for low achievers and the opportunity to learn. Each chapter describes and compares top-level structures and policies and aims to distinguish groups of education systems with similar approaches. An overview of educational pathways is provided in Annex I.

The third part brings together the information described in Part II with student performance data from international student assessment surveys. It analyses the relationship between educational system features (classified for the purposes of the quantitative analysis as explanatory variables) and indicators of equity computed on the basis of assessment surveys. First, it examines the relationship between education system features and educational equity in a bivariate context, that is, when each explanatory factor is analysed on its own, without controlling for other factors. Second, it maps interactions, patterns and relationships through a path analysis. Additional information linked to statistical calculations is provided in Annex II.

Methodology and data sources

The report is produced using a combination of qualitative and quantitative methods. On the qualitative side, descriptions of system-level features are provided and differences between systems are analysed based on information collected through the Eurydice Network.

On the quantitative side, the indicators of equity in education are based on several international large-scale assessment databases (PISA 2015 and 2018, PIRLS 2011 and 2016 and TIMSS 2011 and 2015). The indicators of equity are in turn analysed as outcomes conditional on different educational system features, first through a series of bivariate linear regressions, and second through a path analysis. Path analysis allows for the modelling of more complex patterns of relationships, including the role of intervening factors (in this case, academic segregation) between the explanatory variables and the indicators of equity. The equity indicators are linked to both the overall distribution of educational outcomes (e.g. differences between high- and low-achievers) as well as the equality of opportunity available to students (i.e. the extent to which an individual's educational achievement depends on his or her personal and social circumstances, most importantly socio-economic background). In order to provide a clear focus, this report does not consider additional student characteristics such as their gender, whether they come from a migrant background ([10]), or have special educational needs (SEN).

The Eurydice data collection concentrates on primary, lower and upper secondary school education (ISCED levels 1-3), and focuses on the main systemic features of these education levels. Where relevant, a distinction is made between general and IVET programmes.

Publicly funded schools are the focus in all countries ([11]). Private schools are not included, except for government-dependent private schools in all the education systems where they exist ([12]).

The reference school year is 2018/19. National information on major policy developments that have been implemented since the end of the 2018/19 school year is available in the Eurydice descriptions

([10]) For a recent review of national policies in support of students from migrant backgrounds, see the Eurydice report on *Integrating Students from Migrant Backgrounds into Schools in Europe: National Policies and Measures* (European Commission/EACEA/Eurydice, 2019e).

([11]) See also UNESCO-UIS (2019).

([12]) Government-dependent private schools receive more than half of their basic funding from public sources (UNESCO-UIS/OECD/Eurostat, 2018, p. 26).

of education systems ([13]). The report covers 42 education systems, including the 27 EU Member States, as well as the United Kingdom, Albania, Bosnia and Herzegovina, Switzerland, Iceland, Montenegro, North Macedonia, Norway, Serbia and Turkey. Liechtenstein does not participate in this report.

The information in this report has been collected through a questionnaire completed by national experts and/or the national representative of the Eurydice Network. The prime sources of information contained in the report always refer to regulations/legislation and official guidance issued by top-level education authorities, unless otherwise stated. All contributors are acknowledged at the end of the report.

([13]) See in particular Chapter 14: Ongoing Reforms and Policy Developments (European Commission/EACEA/Eurydice, 2020).

Part I

Concepts and indicators of equity in education

I.1. CONCEPTUAL FRAMEWORK

Education allows us to access a pool of knowledge and to develop skills which, in turn, help us to cultivate the essential qualities that make us human: our personality, our sociability and our capacity to act as moral agents. Hence, education can be appreciated in and for itself. At the collective level, education plays an important role in strengthening the sense of belonging to a community, in promoting and safeguarding a collective identity and culture and in raising shared living standards. In short, education is essential for a community to exist and to flourish. Education is also a means to an end: it allows people to pursue goals that would otherwise have been unattainable.

It is not by chance that education has been identified as 'the single most important determinant of life chances' (Barone, 2019, p. 1). A child with more and high quality education is more likely to secure a high-skilled job in the future, which in turn translates to better chances for securing a higher income. In addition, increasing educational attainment contributes to productivity growth, higher national income, and healthier societies with greater social cohesion (UNESCO-UIS, 2018). Therefore, societies have many and good reasons to provide educational opportunities and to improve student performance in terms of academic outcomes. The question remains, however, as to how these educational opportunities should be distributed and whether positive educational outcomes should be reached by all students. In other words, questions of social justice arise.

If school-level education, which is the focus of this report, influences job prospects and income, should it be a means to address economic inequalities in society? Should education authorities strive for an equal distribution of educational opportunities, of positive educational outcomes or of both? Moreover, should education authorities do anything to combat the phenomenon whereby students from lower socio-economic family backgrounds are, on average, less likely to achieve good results in schools? These are all questions related to equity in education and as such they invite different answers.

The aim of this chapter is not to be exhaustive or to provide definite answers, but to explain how the notion of equity is understood and used in the report. Consequently, the following two sections concentrate on providing a working definition of equity in education and on how the different parameters in an education system may impact equity.

I.1.1. Equity in school education

There may be disagreement about what schools can or should do to promote social justice, but it is commonly, even if tacitly, assumed that schools have a role to play in this regard. Thus, when Allen and Goddard (2017, p. 22) state that 'as a route to social justice, education is a manifest failure: though it claims to offer opportunity to all nothing could be further from the truth', they imply that schools are addressing, however imperfectly, 'inequalities of opportunity, experience and outcome' (ibid.). Their pessimistic conclusion, however, is not shared by all. For instance, Barone (2019) finds that in western nations, inequalities of educational opportunity have declined in the post-war decades (but they have stagnated for student cohorts since the 1980s). Either way, there are good reasons why equality in education should be pursued, but there are also reasons why it should not.

Starting with the negative, a common argument for why equality either in terms of opportunities or outcomes should not be pursued is that it is a waste of resources. Society, the argument goes, will benefit more if students are encouraged to develop their talents, regardless of whether these talents are innate or whether they are the product of their family's socio-economic background. Some are naturally fit to receive more and higher education, while others are not. Therefore, committing resources to ensure all students achieve the same educational outcomes or even providing them with equal opportunities, the argument continues, is a waste of time and money ([1]).

However, arguments on the potential trade-off between economic efficiency and equity in education do not go unchallenged. According to the OCED (2012), 'equity in education pays off'. There is a growing amount of evidence that the highest performing education systems combine quality with equity in education (European Commission, 2019; Parker et al., 2018; Checchi et al., 2014; OECD, 2012). Consequently, 'education systems can pursue excellence and equity at the same time' (European Commission, 2019, p. 6).

Like education, justice is also a good in itself ([2]). Starting from the foundational premise that all humans are by default equal (as so eloquently expressed in Article 1 of the Universal Declaration of Human Rights) ([3]), social justice relates to egalitarianism, whatever its specific features. Similarly, social justice in the educational context refers to educational equality. The dominant version of educational equality is 'meritocratic educational equality' (Brighouse, 2009). Meritocratic equality rests on the premise that 'an individual's prospect for educational achievement should be a function of that individual's efforts and talents, not of his or her social class background' (ibid., p. 42). Other versions of educational equality can be more or less radical, but they are not considered here ([4]).

Thus, typically, equality in education 'considers the social justice ramifications of education in relation to the fairness, justness, and impartiality of its distribution' (Jacob and Holsinger, 2009, p. 4). However, the present report goes beyond this understanding. In order to take into account the notion that education is a universal right, this report uses the term 'equity' to encompass not only educational fairness but also inclusion.

Drawing on Field, Kuczera and Pont (2007), equity in education ensures 'a basic standard minimum education for all' (ibid., p. 11). In addition, it ensures 'that personal and social circumstances – for example gender, socio-economic status or ethnic origin – should not be an obstacle to achieving educational potential'. In short, equity, as understood here, has two dimensions, which are briefly discussed below.

At school level, inclusion means ensuring that all children 'partake in education in a sufficient and effective way' (Ballarino et al., 2014). In other words, all students should be able to reap the benefits of education. It is not enough to simply go to school, but students should also be able to make the most of it. If education is inclusive, achievement gaps between different segments of the student population should not be unjustifiably wide. Achievement, of course, can be expressed in various ways. For instance, in terms of the number of school years completed, the levels and types of qualifications

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([1]) This is an argument with a very old history. Most famously of all it is found in Plato's *Republic* (e.g. Rowe, 2012). Plato argues that justice is achieved in a highly stratified society where the members of the different classes receive different education according to their abilities and their prescribed role in society.

([2]) This argument too can be traced back to Plato's *Republic* (Rowe, 2012). See Heinaman (2002) regarding the division of goods in the *Republic*.

([3]) Article 1 of the UN declaration states: 'All human beings are born free and equal in dignity and rights' (UN, 1948).

([4]) Brighouse (2009) mentions also 'radical education equality' (educational achievement should be independent of both social background *and* natural talents), 'benefiting the least advantaged' (education should be distributed in a way maximizing the well-being prospects of the least advantaged), 'adequacy' (students should receive the kind of education that would enable them to reach a specified objective) and 'maximizing excellence' ('educational resources should be distributed to those who can make the most use of them'). It should be noted that there are also mixed versions of the aforementioned education equality principles.

achieved, or the actual competences acquired (as reflected in standardised test scores) ([5]). In the current report, inclusivity is measured in terms of the proportion of low-achieving students and the test performance differences between low- and high-achieving students (see Chapter I.2). Compared to the alternatives, these two indicators offer more sensitive measurements and promise greater data variation ([6]). Thus, it can be argued that the lower the percentage of low-achieving students and the smaller the performance differences between low and high-achieving students, the greater the inclusiveness of schooling.

Fairness is the second dimension of equity in education. It suggests that personal and social circumstances, such as gender, socio-economic status or ethnic origin should not be an obstacle to educational success (Ballarino et al., 2014, p. 122). As such, the concept of fairness is closely linked to equality of opportunity, which means that 'everyone should have the same opportunity to thrive, regardless of the variations in the circumstances into which they are born' (Cameron, Daga and Outhred, 2018, p. 17). Both fairness and the equality of opportunity are based on the normative assumption that education systems should be 1) impartial, thus education should not depend on students' background characteristics; and 2) meritocratic, thus educational achievement should be related to ability but not to other student characteristics (*ibid*.).

Studies describing the mechanisms through which differences in background characteristics shape educational inequalities often use Bourdieu's concept of 'cultural capital' (Bourdieu, 1986). Families with lower levels of education or migrant status often lack both the cultural capital that the school system values and the resources and social capital (networks) to acquire it. This in turn influences how such children perform in schools (Lynch and Baker, 2005). The lower performance of children from lower socio-economic backgrounds is then translated into lower qualifications when children leave the school system. This is often referred to as the primary effect of socio-economic differences (Parker et al., 2016). Moreover, the secondary effects of socio-economic differences are that they impact upon students' expectations and ambitions (thus the conception of achievable possibilities), further strengthening the primary effects (*ibid*.).

As with inclusion, measuring the fairness of education systems can be based either on the distribution of qualifications attained by different socio-economic, racial or ethnic groups, or on test scores indicating the competences acquired or achievement levels attained. The latter approach implies looking at differences between social groups in terms of their achievement, and examining the impact of certain background characteristics on their test scores (see Chapter I.2).

In sum, the present report defines equity in education as education provision which is both inclusive (i.e. all students receive at least a minimum amount of good quality education) and fair (i.e. student performance is largely independent of socio-economic background).

([5]) The EU has adopted a number of benchmarks related to inclusiveness and consequently to educational equity: (1) 'the share of early leavers from education and training should be less than 10 %', (2) 'the share of 30-34 year-olds with tertiary educational attainment should be at least 40 %', and (3) 'the share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15 %' (see Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'), OJ 2009/C 119/02).

([6]) 'Sensitive' means that the potential data range of test scores of low- and high-achievers is far greater than that offered by simple student graduation data (yes or no) or how many years the student spent in school (usually around 12).

I.1.2. Equity and the impact of the education system

Schools are central to the process of delivering equitable education and, more broadly, social justice. The quality of education provided by schools is at the core of the effectiveness of education provision as a whole, but schools can also shape how socio-economic inequalities are transformed into educational inequalities. However, schools are embedded within the wider education system and each system has its own particular features in terms of structure, policies, practices and traditions. In turn, these features influence the process of schooling, ultimately impacting upon the degree of equity in education (see Figure I.1.1 and Part II).

One way of analysing and evaluating the features of education systems is by following the stratification-standardisation framework outlined by Allmendinger (1989). Within this framework, the inter-related system-level features are evaluated according to a standardisation-stratification continuum. Given the widespread use of these concepts in educational research (see, for example, Checchi et al., 2014; Gross, Meyer and Hadjar, 2016; Horn, 2009), the empirical framework of this report is also largely built around them.

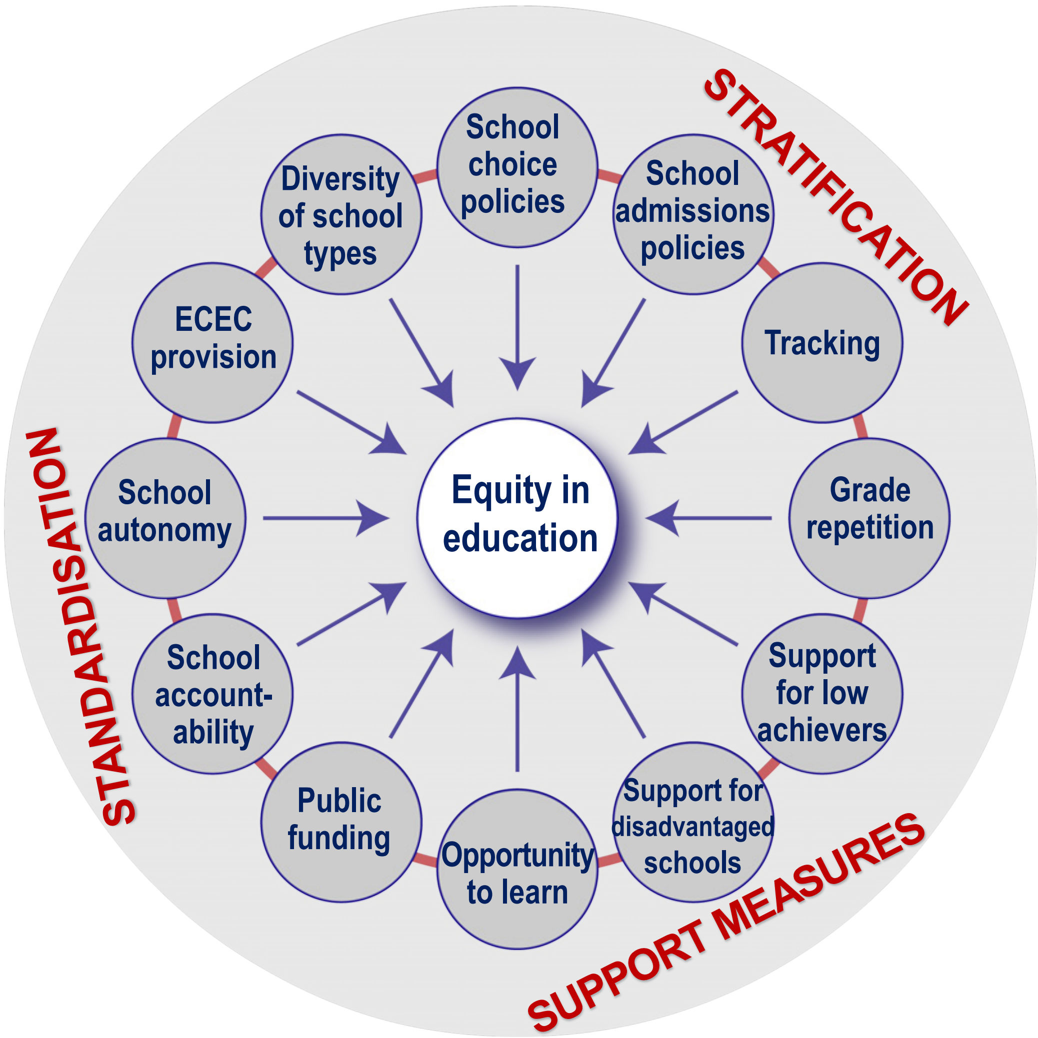
The degree of stratification in an education system reflects the extent of educational differentiation. Differentiation takes various forms – students may be grouped into different classes, schools or school programmes based on their ability, interests, or other characteristics. Stratification is most often referred to in relation to differentiated tracks (also known as tracking) or pathways (see Chapter II.6), but can also be the result of geographical segregation, a high number of school types and school choice policies (see Chapters II.3 and II.4), selective schooling policies (see Chapter II.5), or even streaming students into different ability groups or classes (see Chapter II.6) (Ammermüller, 2005; Parker et al., 2016).

An important effect of stratification is that students of similar ability levels become concentrated within the same schools or within the same classes (Parker et al., 2016, p. 12). At the same time, the impact of socio-economic background on achievement tends to be greater in highly stratified systems, with larger gaps between students from higher and lower socio-economic backgrounds (Strietholt et al., 2019).

Standardisation, on the other hand, refers to 'the extent to which education meets the same standards nationwide' (Checchi et al., 2014, p. 296). Standardisation occurs within two dimensions. The first is the standardisation of input, which refers to curricular standardisation, the standardisation of teacher quality and the standardisation in school resource allocation. In these respects, the extent of standardisation in an education system can range from fully standardised (usually where a system is highly centralised) to non-standardised (e.g. if schools have full autonomy) (see Chapter II.8). The second is the standardisation of output or educational outcomes, which is also referred to as 'accountability' (Horn, 2009). The most widespread instrument to standardise output is standardised school leaving examinations, but other accountability tools, such as external school evaluation, may also be used (see Chapter II.9).

While the concepts of stratification and standardisation underpin this report, the potential impact of the factors associated with these concepts is explored in depth. On the stratification side of the wheel (see Figure I.1.1), these include diversity of school types (see Chapter II.3), school choice (see Chapter II.4) and school admission policies (see Chapter II.5), tracking (see Chapter II.6) and grade repetition (see Chapter II.7). On the standardisation side they include school autonomy (see Chapter II.8) and school accountability (see Chapter II.9). The specific support policies introduced to promote equity in education and to mitigate disadvantage are also addressed. These include support for disadvantaged schools (see Chapter II.10) and for low-achieving students (see Chapter II.11), as well as the measures taken to increase the opportunities for students to learn (see Chapter II.12). Finally, early childhood education and care (see Chapter II.1) and funding for school education (see Chapter II.2) are also examined.

Figure I.1.1: Systemic factors potentially influencing equity in school education



Source: Eurydice.

As Figure I.1.1 suggests, the report builds on the premise that systemic factors cannot be evaluated in isolation. Wherever possible, it is important to look at the interplay between the characteristics of education systems, examining the various interrelationships and interdependencies between them. This is one of the goals of Part III of the report, alongside the assessment of the impact on equity of each systemic factor.

I.2. LEVELS OF EQUITY IN EDUCATION

Main findings

This chapter presents the main indicators of inclusion and fairness in both primary (fourth grade) and secondary education (15-year-old students). The inclusion indicators are based on the achievement gap between low- and high-achieving students analysed in combination with the percentage of low achievers, and the fairness indicators on the correlation between student achievement and socio-economic background. Both sets of indicators refer to achievement in reading literacy and mathematics.

- Equity levels are quite similar in each subject area for all indicators. This means that if the percentage of low achievers, the achievement differences, or the impact of socio-economic background on performance is high in one subject area, it also tends to be high in the other area.
- There is a stronger relationship between the levels of equity in primary and secondary education in the fairness dimension than in the inclusion dimension. In education systems where the impact of students' socio-economic background on their performance is already high at lower levels of education, this tends to remain high in later years as well.
- While some education systems show consistent relative levels of equity across both levels of education, others demonstrate a marked change, e.g. from being relatively equitable in primary education to becoming relatively unequitable in secondary education.
- Country positions vary depending on the equity indicator chosen. Higher percentages of low achievers can go together with larger or smaller achievement gaps and vice versa. The same is true when comparing achievement gaps with correlation coefficients between student background and achievement.
- There is a stronger relationship between the two dimensions of equity in reading literacy than in mathematics.

This chapter aims to translate the main concepts of inclusion and fairness (see Chapter I.1) into indicators that can provide an insight into the levels of equity in European countries. It builds on the extensive literature using the results of international assessment surveys such as the International Association for the Evaluation of Educational Achievement's (IEA) Progress in International Reading Literacy Study (PIRLS) and Trends in International Mathematics and Science Study (TIMSS), as well as the OECD's Programme for International Student Assessment (PISA) to measure educational inequalities.

Relying on international assessment surveys has its advantages and disadvantages. Certainly, international assessment surveys can only grasp a fraction of educational outcomes. However, among these types of measures, comparing education systems based on surveys that were designed to be comparable in terms of sampling design and content is certainly the most reliable option for researchers. Given that international assessment surveys are conducted at regular intervals, they allow comparisons to be made not only across many European countries but also over time.

Nevertheless, some issues related to the cross-national comparability of results might remain even after careful survey design, especially if social, cultural and economic differences between education systems are considerable (Schnepf, 2018). This can be true both for the measurement of skills (students might not have the same attitudes towards performing well on tests in general and low-stake tests in particular) and for other background variables such as the socio-economic status of students (see also below). In addition, any research on educational inequalities has to keep in mind that international assessment surveys only sample students that are in school, leaving out completely those who have left education early. This affects education systems differently depending on the proportion of out-of-school children in the population (Schnepf, 2018). In addition, education systems also differ with respect to the proportion of students with special educational needs included in the survey samples. Keeping these caveats in mind, international assessment surveys are still the best available tools for computing comparable indicators related to equity in education.

This chapter presents the main indicators of inclusion and fairness in both primary (fourth grade) and secondary education (for 15-year-old students). In order to understand how institutional systemic features influence educational inequalities, it is essential to start the analysis by looking at levels of equity at the earliest available level. Educational inequalities start early and tend to become stronger as students proceed through primary and secondary education.

The available surveys cover two important time points in a student's career: the fourth grade, which is typically part of primary education (through PIRLS and TIMSS), and age 15 (through PISA), when students are in lower or upper secondary education ([7]). Analysing surveys of fourth graders and 15-year-olds makes it possible to examine differences in equity for both younger and older age groups, and even to some extent compare their situation.

The PIRLS survey assesses the reading literacy skills of fourth graders, while the TIMSS survey evaluates the mathematics and science performance of the same cohort of students ([8]). The PIRLS survey is conducted every five years, with 2016 as the latest available year; while the TIMSS survey is conducted every four years, with the latest available data from 2015. For each survey, data are available for 25 of the European education systems participating in this report, although not exactly the same 25 in each case ([9]).

PISA is the OECD's Programme for International Student Assessment. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges ([10]). PISA was launched in 2000 and has been conducted every three years since then. The latest available PISA survey is from 2018, with data available for all the education systems participating in this report.

([7]) Due to the limited country coverage of the TIMSS eighth-grade survey and the relative closeness of grade eight and age 15, the TIMSS eighth-grade survey is not included in this chapter.

([8]) See the website of the IEA for more details: https://www.iea.nl/. This report analyses mathematics achievement, but not science due to space limitations.

([9]) For the list of participating countries in each international assessment survey, see Table A1 in Annex II.

([10]) See the OECD website dedicated to PISA for more details: https://www.oecd.org/pisa/. This report focuses on achievement in reading literacy and mathematics.

I.2.1. Inclusion

Inclusion implies a minimum standard of education for all (see Chapter I.1). One typical way to measure inclusion is to compute the proportion of low achievers within a given student population. This indicator shows the percentage of students who cannot reach a set minimum level of achievement (in this section, the Intermediate International Benchmark in PIRLS and TIMMS, and the baseline level of proficiency in PISA). However, in a comparative context, this indicator alone might not accurately reflect the level of inclusion in all countries. This is because when the same minimum education standards or thresholds are applied to all education systems, the proportion of low achievers can seem very high in greatly ineffective systems. In extreme circumstances, even the whole student population can be seen to be underperforming according to international standards, which signals problems of effectiveness rather than inclusion.

For this reason, this chapter includes a second indicator of inclusion to be analysed alongside the proportion of low achievers: the gap between high and low achieving students. Achievement gaps help to evaluate whether a relatively high proportion of low achieving students is due to non-inclusive elements of education systems, or rather signals insufficient or ineffective education provision overall. Low and high achievers can be defined according to various definitions; most commonly, the achievement differences between students performing at the 25th and 75th percentile (P25 and P75), or the 10th and the 90th percentile (P10 and P90) are used. The wider this gap (the greater the differences in performance between low and high achieving students), the less inclusive the education system. This report will use the gap between the 10th and 90th percentile, as in almost all education systems (the only exception is Finland in the PIRLS survey), the 10th percentile student is part of the low achievers group at all education levels in all subject areas according to international standards.

I.2.1.1. Inclusion in primary education

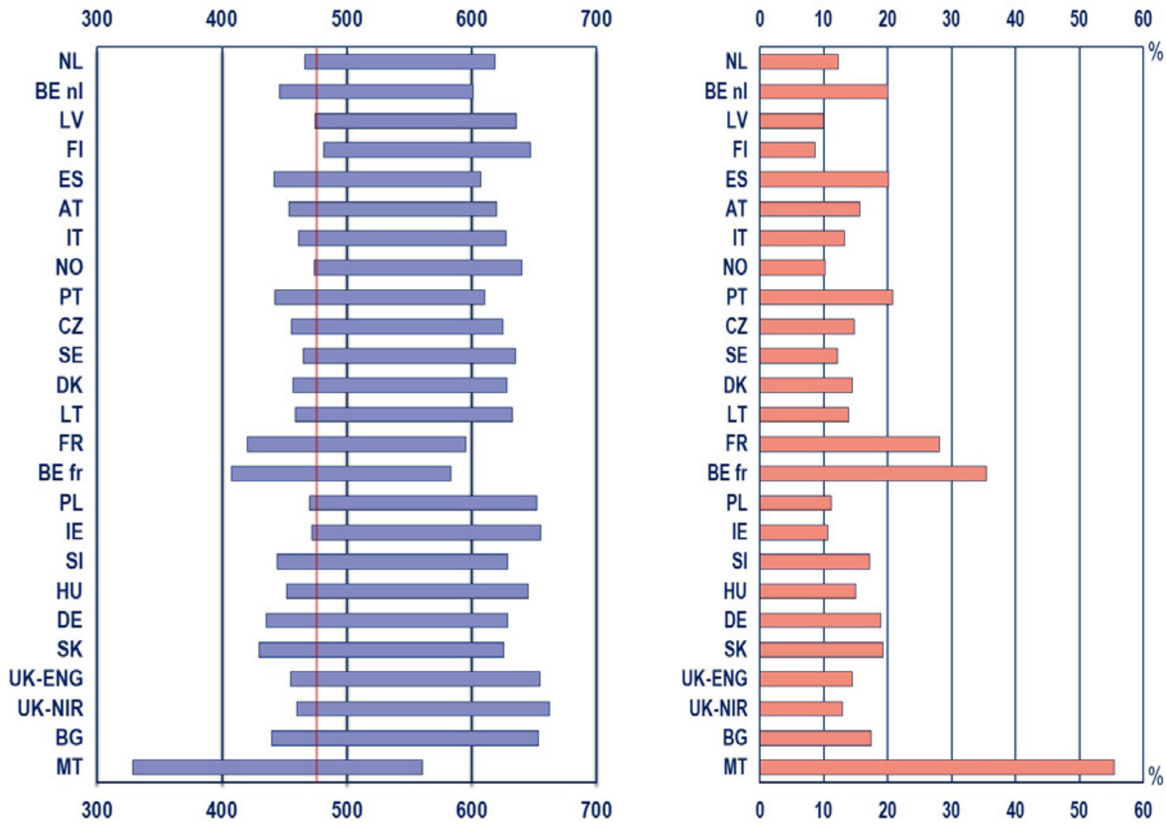
Inclusion levels in primary education can be computed based on the PIRLS 2016 and TIMSS 2015 surveys. Both surveys sample students in their fourth grade. Figure I.2.1 depicts the achievement gap between low- and high-achieving students (10th and 90th percentile; Figure I.2.1.A) as well as the percentage of low achievers (Figure I.2.1.B) in reading literacy, while Figure I.2.2 shows the same in mathematics. Although countries may have a different position in the two surveys, the correlation between achievement gaps in reading literacy and mathematics is quite high ([11]), which means that if the achievement gap is relatively large in one educational area, it tends to be large in the other area as well.

The proportion of low achievers in reading literacy is lowest in Ireland, Latvia, Finland and Norway, at around 10 %. Finland is the only education system where the proportion of low achievers is below 10 % in the PIRLS survey, thus the only system where the 10th percentile student is not a low achiever according to international standards. On the other hand, the proportion of low achievers is the highest in Malta, where more than half of fourth graders are below the intermediate benchmark (the threshold for low achievement) in reading literacy. In mathematics, the smallest proportion of low achievers can be found in the Flemish Community of Belgium, the United Kingdom (Northern Ireland) and Norway (between 12.1 and 14.3 %), while the proportion of low achievers is the highest in France and Turkey, both above 40 %.

([11]) The Spearman correlation coefficient between achievement gaps in reading literacy and mathematics is 0.70.

Figure I.2.1: Achievement gap between high- (P90) and low- (P10) performing students (in ascending order) and the percentage of low achievers in reading literacy in the fourth grade, 2016

I.2.1.A: Achievement gap **I.2.1.B: Percentage of low achievers**



	NL	BE nl	LV	FI	ES	AT	IT	NO	PT	CZ	SE	DK	LT
Achievement gap	153	155	161	165	166	166	166	166	168	169	170	171	174
% of low achievers	12.3	20.0	10.0	8.7	20.1	15.6	13.2	10.2	20.8	14.8	12.2	14.4	13.9
	FR	BE fr	PL	IE	SI	HU	DE	SK	UK-ENG	UK-NIR	BG	MT	
Achievement gap	175	176	182	183	185	194	194	196	200	202	213	232	
% of low achievers	28.1	35.4	11.2	10.6	17.2	14.9	18.9	19.3	14.5	13.0	17.4	55.4	

Source: IEA, PIRLS 2016 database.

Explanatory notes

Only education systems participating in the PIRLS 2016 survey are depicted on the figures. Education systems are in order of their achievement gap, from the lowest to the highest gap within one survey.

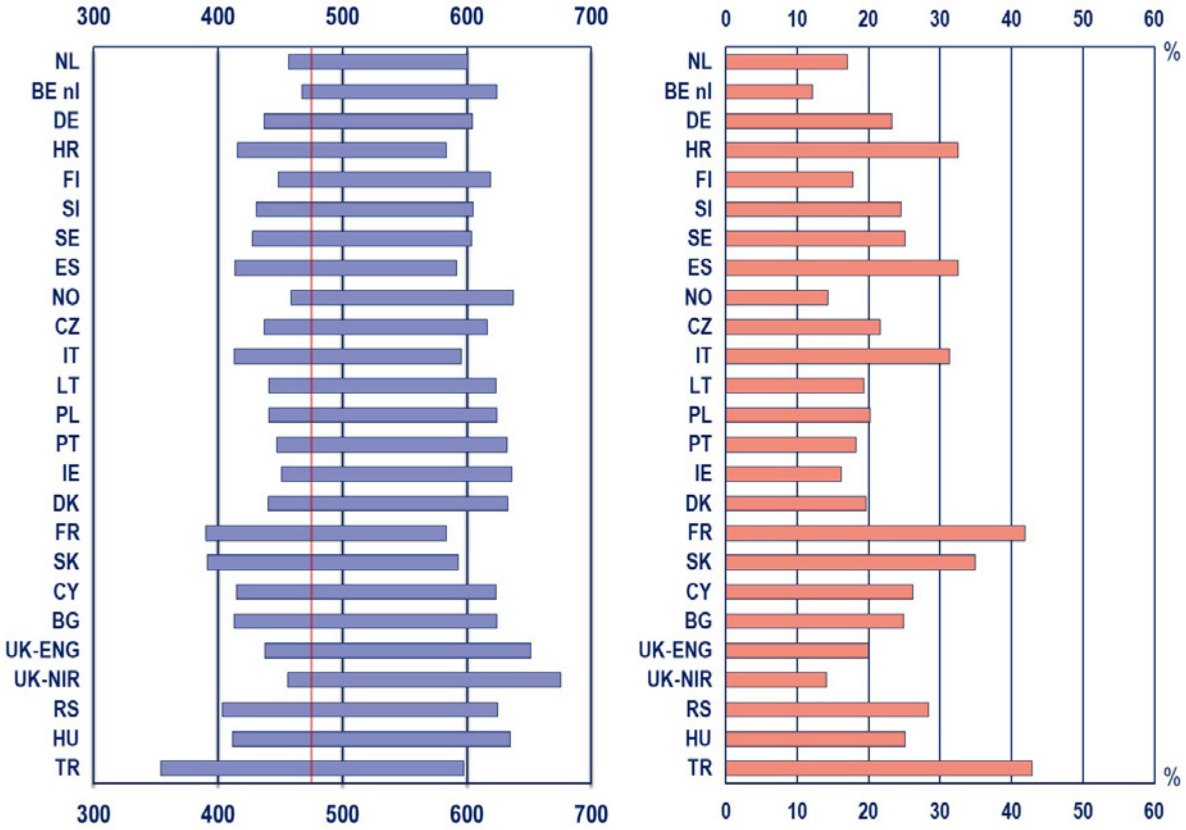
The PIRLS reading achievement scale was established in PIRLS 2001 based on the achievement of all participating countries, treating each country equally. The scales have a typical range of achievement between 300 and 700. A centre point of 500 was set to correspond to the mean of overall achievement at the first data collection, with 100 points set to correspond to the standard deviation. Achievement data from each subsequent PIRLS assessment have been reported on these scales, so that increases or decreases in achievement may be monitored across assessments. PIRLS uses the scale centre point as a point of reference that remains constant from assessment to assessment.

The percentage of low achieving students is defined as the percentage of students not achieving the Intermediate International Benchmark, which is set at a score of 475 on the scale and is marked with a red line on Figure I.2.1.A.

P90 and P10 refer to the 90th and 10th percentile. Achievement gaps were computed using all five plausible values (students' reading achievement scores). Standard errors are included in Table A2 in Annex II.

Figure I.2.2: Achievement gap between high- (P90) and low- (P10) performing students (in ascending order) and the percentage of low achievers in mathematics in the fourth grade, 2015

I.2.2.A: Achievement gap | **I.2.2.B: Percentage of low achievers**



	NL	BE nl	DE	HR	FI	SI	SE	ES	NO	CZ	IT	LT	PL
Achievement gap	144	156	168	168	171	175	176	178	179	179	182	183	183
% of low achievers	17.0	12.1	23.3	32.5	17.8	24.5	25.1	32.6	14.3	21.6	31.3	19.3	20.2

	PT	IE	DK	FR	SK	CY	BG	UK-ENG	UK-NIR	RS	HU	TR
Achievement gap	185	185	193	193	202	208	211	214	219	221	223	244
% of low achievers	18.2	16.1	19.7	41.9	35.0	26.2	24.9	20.0	14.1	28.4	25.1	42.9

Source: IEA, TIMSS 2015 database.

Explanatory notes

Only education systems participating in the TIMSS 2015 survey are depicted on the figures. Education systems are in order of their achievement gap, from the lowest to the highest gap within one survey.

The TIMSS mathematics achievement scale was established in TIMSS 1995 based on the achievement of all participating countries, treating each country equally. The scales have a typical range of achievement between 300 and 700. A centre point of 500 was set to correspond to the mean of overall achievement at the first data collection, with 100 points set to correspond to the standard deviation. Achievement data from each subsequent TIMSS assessment have been reported on these scales, so that increases or decreases in achievement may be monitored across assessments. TIMSS uses the scale centre point as a point of reference that remains constant from assessment to assessment.

The percentage of low achieving students is defined as the percentage of students not achieving the Intermediate International Benchmark, which is set at a score of 475 on the scale and is marked with a red line on Figure I.2.2.A.

P90 and P10 refer to the 90th and 10th percentile. Achievement gaps were computed using all five plausible values (students' reading achievement scores). Standard errors are included in Table A3 in Annex II.

Education systems with the smallest achievement gap between fourth graders are the Netherlands and the Flemish Community of Belgium in both reading literacy and mathematics (with 153 and 155 points in reading literacy and 144 and 156 points in mathematics respectively). The differences between the highest and the lowest percentiles are the largest – exceeding 200 points – in the United Kingdom (Northern Ireland), Bulgaria and Malta in reading, and in Slovakia, the United Kingdom (England and Northern Ireland), Bulgaria, Cyprus, Hungary, Serbia and Turkey in mathematics.

Putting the percentage of low achievers alongside the achievement gap illustrates well that similar proportions of low achievers can hide differences in achievement gaps, and vice versa, similar gaps can exist in education systems with different proportions of low achievers. For example, while Ireland, Latvia, Poland and Finland have similar proportions of low achievers in reading literacy, achievement gaps are around 20 scale points larger in Ireland and Poland than in Latvia and Finland (see Figure I.2.1). At the same time, while achievement gaps are similar in the French Community of Belgium, Ireland, France and Poland, the proportion of low achievers is much higher in the French Community of Belgium and France than in Ireland and Poland. Similar comparisons can be made based on Figure I.2.2 in mathematics. For example, Norway and the United Kingdom (Northern Ireland) have similar proportion of low achievers but very different achievement gaps; while similar achievement gaps hide different proportion of low achievers in the United Kingdom (Northern Ireland) and Serbia.

Nevertheless, in some cases – and most notably on the two extremes – high or low proportions of low achievers coincide with large or small achievement gaps. The Flemish Community of Belgium and the Netherlands have relatively low proportions of low achievers and small achievement gaps both in reading literacy and mathematics, while Malta and Turkey have both the highest percentage of low achievers and the greatest achievement gap in reading literacy and mathematics respectively.

I.2.1.2. Inclusion in secondary education

The PISA 2018 survey provides information on the performance of 15-year-old students in reading literacy, mathematics and science. In all education systems, 15-year-olds are generally in secondary education; some at lower, others at upper secondary level. Figures I.2.3 and I.2.4 depict achievement gaps and percentages of low achievers in reading literacy and mathematics respectively, based on the PISA 2018 database. As with the gaps in primary education, the correlation between achievement gaps in reading literacy and mathematics is quite high ([12]), which means that if the achievement gap is relatively large in one subject area, it tends to be large in the other subject area as well.

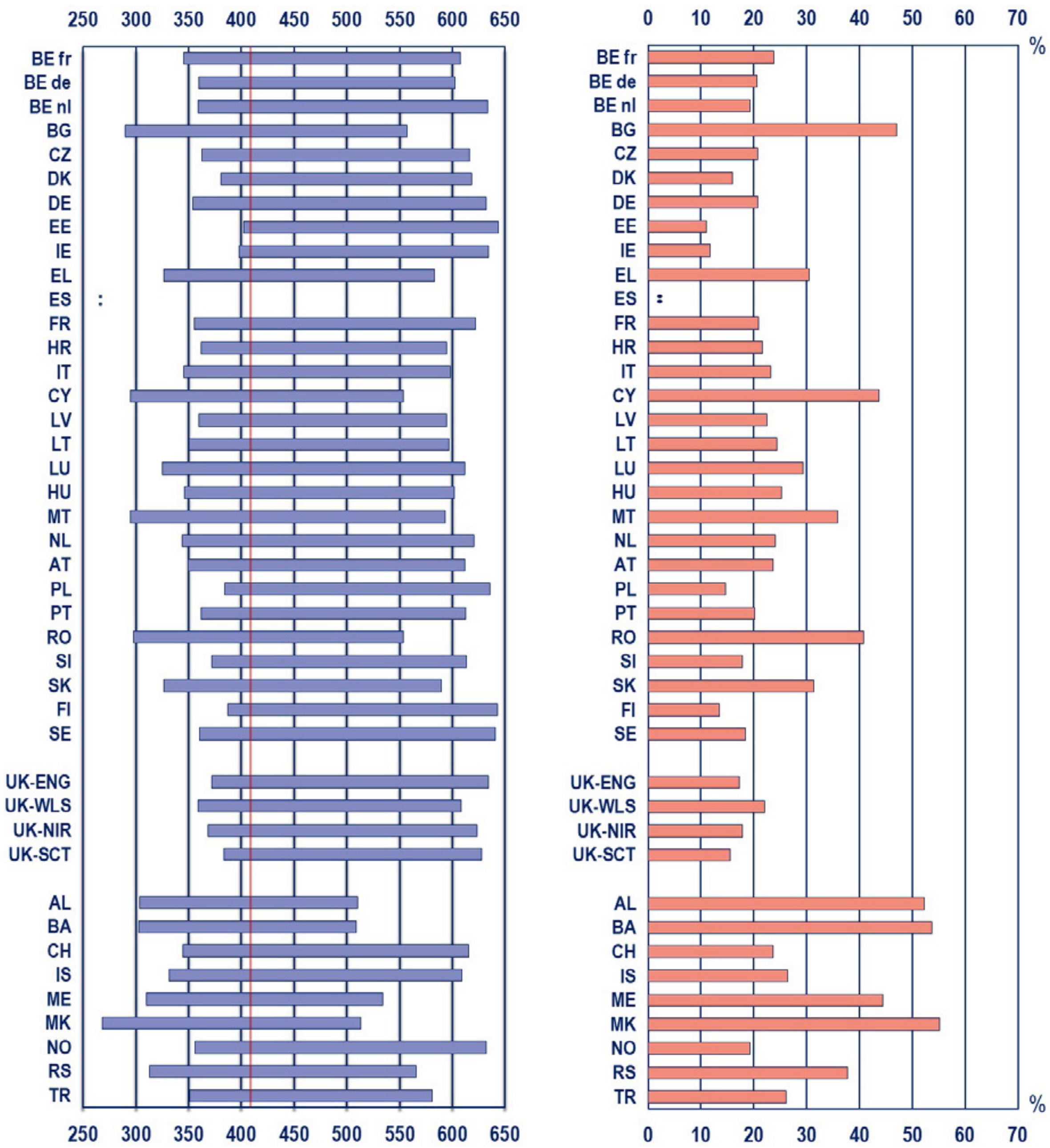
The percentage of low achievers varies between 11 % and 55 % in reading (see Figure I.2.3) and 10 % and 61 % in mathematics (see Figure I.2.4). In both subject areas, this percentage is the lowest in Estonia and the highest in North Macedonia. In the latter, more than half of 15-year-old students are regarded as low achievers according to international standards. Besides Estonia, the proportion of low achievers is at or under the 15 % Education and Training 2020 benchmark ([13]) in Ireland, Poland and Finland in reading; and in Denmark, Poland and Finland in mathematics. On the other hand, besides North Macedonia, more than 40 % of students are low achievers in Bulgaria, Romania, Albania, Bosnia and Herzegovina and Montenegro in both subject areas, and in Cyprus in reading.

([12]) The Spearman correlation coefficient between achievement gaps in reading literacy and mathematics is 0.70.

([13]) According to the ET 2020 benchmark, 'the share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15 %' (see Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'), OJ 2009/C 119/02).

Figure I.2.3: Achievement gap between high- (P90) and low- (P10) performing 15-year-old students and the percentage of low achievers in reading literacy, 2018

I.2.3.A: Achievement gap | **I.2.3.B: Percentage of low achievers**



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
Achievement gap	185	243	275	267	254	238	278	242	236	257	:	266	232	253	259	235	246	287	256	298	277
% of low achievers	18.2	20.6	19.3	47.1	20.7	16.0	20.7	11.1	11.8	30.5	:	20.9	21.6	23.3	43.7	22.4	24.4	29.3	25.3	35.9	24.1
	AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	**UK-ENG**	**UK-WLS**	**UK-NIR**	**UK-SCT**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
Achievement gap	262	252	250	256	242	263	256	280	262	250	255	244	207	206	270	277	224	245	276	253	230
% of low achievers	23.6	14.7	20.2	40.8	17.9	31.4	13.5	18.4	17.2	22.1	17.9	15.5	52.2	53.7	23.6	26.4	44.4	55.1	19.3	37.7	26.1

Source: OECD, PISA 2018 database.

Explanatory notes (Figure I.2.3)

PISA scores are set in relation to the variation in results observed across all test participants. There is theoretically no minimum or maximum score in PISA; rather, the results are scaled to fit approximately normal distributions, with means around 500 score points and standard deviations around 100 score points. PISA scales are divided into proficiency levels (1 to 6) corresponding to increasingly more difficult tasks. For each proficiency level identified, descriptions were generated to define the kinds of knowledge and skills needed to complete those tasks successfully. Each proficiency level corresponds to a range of about 80 score points. Hence, score-point differences of 80 points can be interpreted as the difference in described skills and knowledge between successive proficiency levels.

Because the PISA sample is defined by a particular age group, rather than a particular grade, in many countries, students who sit the PISA assessment are distributed across two or more grade levels. Based on this variation, past reports have estimated the average score-point difference across adjacent grades for countries in which a sizeable number of 15-year-olds are enrolled in at least two different grades. These estimates take into account some socio-economic and demographic differences that are also observed across grades. On average across countries, the difference between adjacent grades is about 40 score points (see more in OECD, 2019a).

The percentage of low-achieving students is defined as the percentage of students who score below the baseline level of proficiency (Level 2) on the PISA mathematics, reading and/or science scales. In reading literacy, this corresponds to not achieving 407.47 score points. The red line on Figure I.2.3.A marks the 407.47 score point.

P90 and P10 refer to the 90th and 10th percentile. Achievement gaps were computed using all ten plausible values (students' reading literacy achievement scores). Standard errors are included in Table A4 in Annex II.

Country-specific note

Spain: The OECD has decided to defer the publication of the PISA 2018 reading results for Spain, both national and sub-regional. Spain's data met PISA 2018 Technical Standards; however, some data show implausible student-response behaviour. Consequently, the comparability of Spain's results in reading cannot be assured.

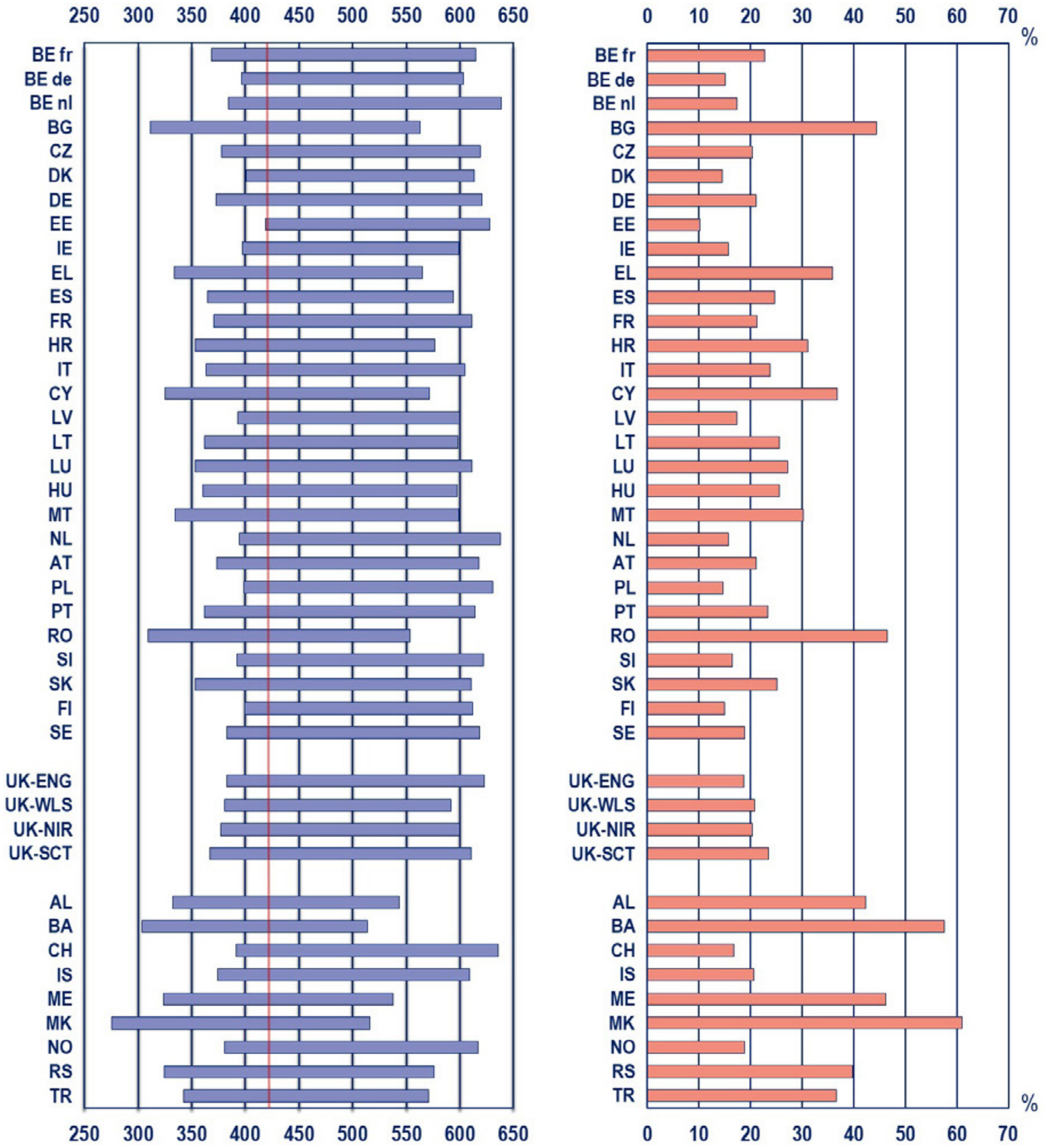
Education systems with the smallest gaps between low and high achievers (just above 200 score points) are Albania, Bosnia and Herzegovina and Montenegro in reading (these are all education systems with a high percentage of low achievers), and Ireland, Latvia, the German-speaking Community of Belgium and Estonia in mathematics. Achievement gaps tend to be larger in reading literacy than in mathematics: the largest gaps in reading get close to 300 score points, while they do not exceed 270 score points in mathematics. Education systems with the largest achievement gaps are Luxembourg and Malta (in both subject areas), Germany and Sweden in reading and the Flemish Community of Belgium and Slovakia in mathematics.

As with primary education, the relationship between achievement gaps and the percentage of low achievers varies considerably. Education systems with similar gaps can have a relatively high or low percentage of low achievers and vice versa. As the previous paragraphs showed, some education systems with a high percentage of low achievers have relatively small achievement gaps, but not all of them (see, for example, Bulgaria, where achievement gaps are relatively substantial in both subject areas). Also, a low percentage of low achievers can also go together with smaller (e.g. Estonia) or greater (e.g. the Flemish Community of Belgium or Norway) achievement gaps (see also Figure I.2.5).

Figure I.2.4: Achievement gap between high- (P90) and low- (P10) performing 15-year-old students and the percentage of low achievers in mathematics, 2018

I.2.4.A: Achievement gap

I.2.4.B: Percentage of low achievers



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
Achievement gap	246	207	254	251	241	213	248	209	202	231	229	241	223	242	246	207	236	257	237	265	243
% of low achievers	22.8	15.1	17.3	44.4	20.4	14.6	21.1	10.2	15.7	35.8	24.7	21.3	31.2	23.8	36.9	17.3	25.6	27.2	25.6	30.2	15.8
	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
Achievement gap	244	233	252	244	230	257	213	236	240	211	223	243	211	211	245	235	214	241	236	251	228
% of low achievers	21.1	14.7	23.3	46.6	16.4	25.1	15.0	18.8	18.7	20.8	20.3	23.5	42.4	57.6	16.8	20.7	46.2	61.0	18.9	39.7	36.7

Source: OECD, PISA 2018 database.

Explanatory notes (Figure I.2.4)

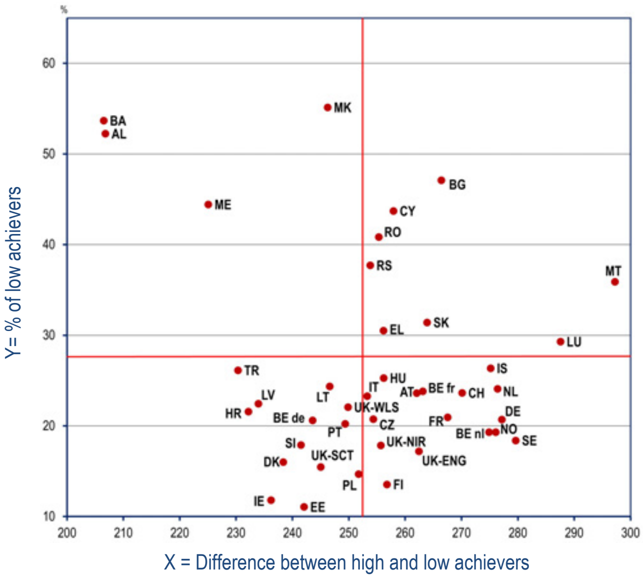
On PISA scoring, see explanatory note under Figure I.2.3.

The percentage of low-achieving students is defined as the percentage of students who score below the baseline level of proficiency (Level 2) on the PISA mathematics, reading and/or science scales. In mathematics, this corresponds to not achieving 420.07 score points. The red line on Figure I.2.4.A marks the 420.07 score point.

P90 and P10 refer to the 90th and 10th percentile. Achievement gaps were computed using all ten plausible values (students' mathematics achievement scores). Standard errors are included in Table A5 in Annex II.

Figure I.2.5: Achievement gap between high- (P90) and low- (P10) performing 15-year-old students and the percentage of low achievers in reading literacy and mathematics, 2018

I.2.5.A: Reading literacy



Source: OECD, PISA 2018 database.

Figure I.2.5 illustrates these relationships between the percentage of low achievers and the achievement gap between low- and high-achievers in reading literacy and mathematics in European education systems.

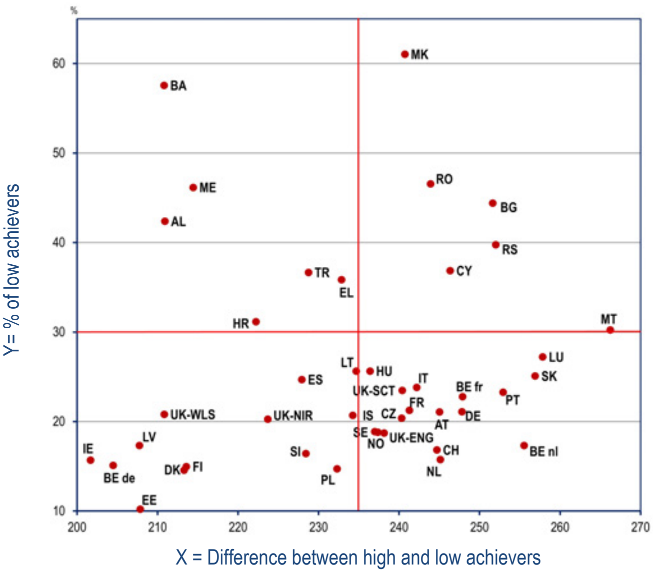
The systems in the upper left quadrant of the figures are characterised by a relatively high proportion of low achievers but a relatively small achievement gap. This points towards a general concern about the effectiveness of these education systems.

The systems in the upper right quadrant still have relative higher percentages of low achievers, but coupled with relatively large achievement gaps. These are the least inclusive education systems according to the indicators presented in this section.

The most inclusive education systems, on the other hand, can be found in the lower left quadrant of the figures. These systems are characterised by relatively low proportions of low achievers and relatively small achievement gaps between low- and high-achieving students.

Finally, the systems in the lower right quadrant have relatively lower proportions of low achievers but high achievement gaps, which also signal some equity concerns.

I.2.5.B: Mathematics



Source: OECD, PISA 2018 database.

I.2.2. Fairness or the equality of opportunity

Fairness implies that personal and social circumstances such as gender, socio-economic status or ethnic origin should not be an obstacle to educational success (see Chapter I.1). It is commonly measured by looking at the extent to which an individual's educational achievement depends on his/her gender, socio-economic background or migrant status. Given the emphasis of this report on socio-economic differences, this section is devoted to examining the extent to which achievement differences can be explained by the socio-economic status of pupils.

I.2.2.1. Fairness in primary education

In the PIRLS and TIMSS surveys, there is no pre-computed index for socio-economic status similar to the one provided by the OECD for the PISA surveys. In addition, most indicators of socio-economic status such as parental education or occupation are based on a questionnaire sent to students' parents for completion. However, in some education systems, parents were either not asked to complete this questionnaire (e.g. in the United Kingdom – England), or very few of them did so, which results in missing data and a potential bias in the results.

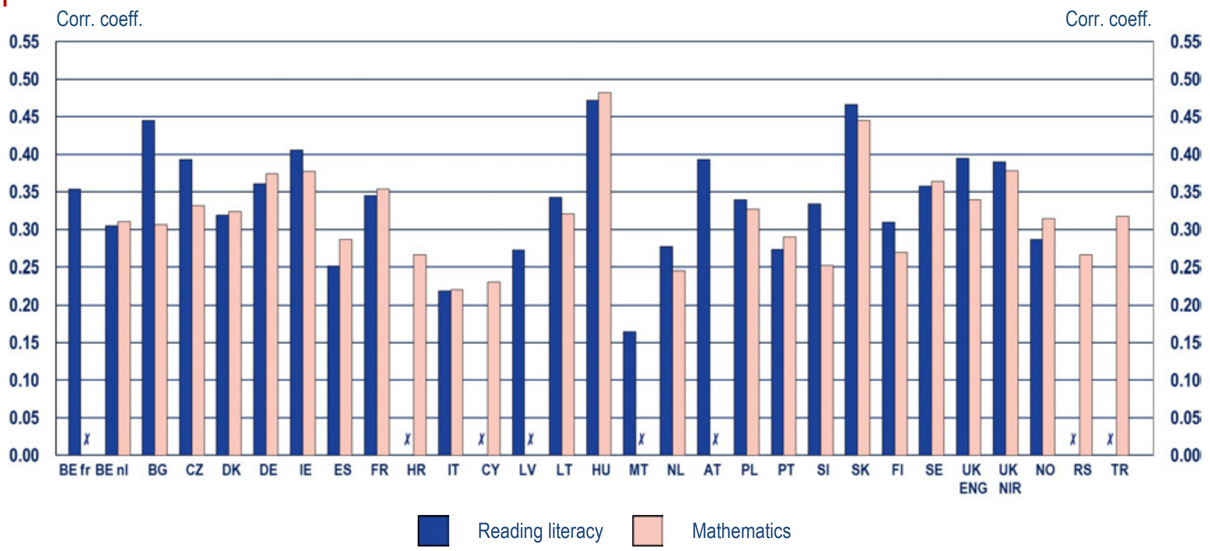
To overcome this weakness, many researchers use a different proxy for socio-economic status: the number of books at home, as reported by students ([14]). Researchers argue that books at home provide a good theoretical proxy for the educational, cultural and economic background of families (see e.g. Schütz, Ursprung and Wößmann, 2008). In addition, empirically, the number of books at home is a more important predictor of student performance than parental education (ibid.). Nevertheless, having books at home can have different cultural connotations in different education systems (i.e., having many books may signal high educational, social and cultural status in some education systems more closely than in others), which might limit the comparability of results to some extent.

Keeping these measurement issues in mind, the main indicator used in this report to assess the level of fairness in primary education in European education systems is the correlation coefficient between students' performance and the number of books at home as reported by students (depicted on Figure I.2.6 for both reading and mathematics).

On Figure I.2.6, the higher the bars, the stronger the relationship between pupils' socio-economic background and their reading/mathematics achievement. In other words, the larger the correlation coefficient, the higher the inequality of opportunity in an education system. As the figure depicts, the impact of socio-economic background on students' performance is very similar in reading and mathematics. Education systems where the impact of socio-economic background on performance is the largest are Bulgaria, Hungary and Slovakia. At the other end of the scale, correlation coefficients are the lowest in Italy, Cyprus and Malta.

([14]) While students' and parents' perceptions can differ, in systems where both answers are available, the correlation between students' and parents' answers are high in the education systems covered in this report. Therefore, there is no indication that students' perceptions are less reliable than their parents'. See discussions on related caveats in Singer, Braun and Chudowsky (2018).

Figure I.2.6: Correlation between the number of books at home and students' performance in reading literacy (2016) and mathematics (2015) in the fourth grade



	BE fr	BE nl	BG	CZ	DK	DE	IE	ES	FR	HR	IT	CY	LV	LT	HU
Reading	0.35	0.30	0.45	0.39	0.32	0.36	0.41	0.25	0.34	✗	0.22	✗	0.27	0.34	0.47
Maths	✗	0.31	0.31	0.33	0.32	0.37	0.38	0.29	0.35	0.27	0.22	0.23	✗	0.32	0.48
	MT	**NL**	**AT**	**PL**	**PT**	**SI**	**SK**	**FI**	**SE**		**UK-ENG**	**UK-NIR**	**NO**	**RS**	**TR**
Reading	0.16	0.28	0.39	0.34	0.27	0.33	0.47	0.31	0.36		0.39	0.39	0.29	✗	✗
Maths	✗	0.25	✗	0.33	0.29	0.25	0.45	0.27	0.36		0.34	0.38	0.31	0.27	0.32

Source: IEA, PIRLS 2016 and TIMSS 2015 databases.

Explanatory notes

Only education systems participating in the PIRLS 2016 and TIMSS 2015 surveys are depicted on the figure.

The number of books at home (variable ASBG04) is expressed in the following categories: 1: None or very few (0-10 books); 2: Enough to fill one shelf (11-25 books); 3: Enough to fill one bookcase (26-100 books); 4: Enough to fill two bookcases (101-200 books); 5: Enough to fill three or more bookcases (more than 200).

The correlation coefficient is a statistical measure of the strength of the relationship between the relative movements of two variables. The values range between -1.0 and 1.0. High values signal a strong relationship between the two selected variables.

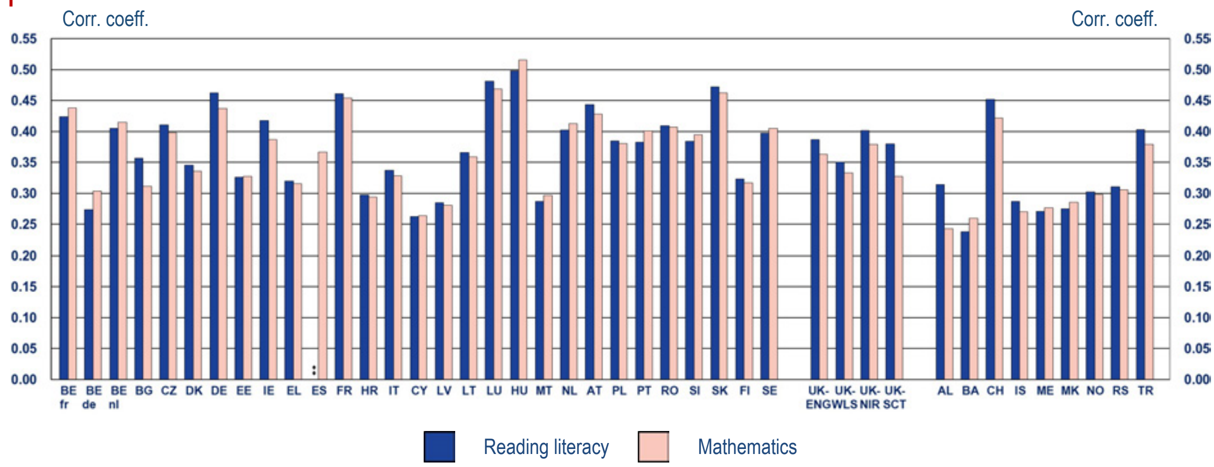
Correlation coefficients depicted on the figure were computed using all five plausible values (students' reading achievement scores). Standard errors are included in Table A2 and A3 in Annex II.

I.2.2.2. Fairness in secondary education

While the PISA 2018 database includes a composite index on students' economic, social and cultural status (ESCS) ([15]), for reasons of better comparability, this report uses the number of books at home as a proxy for students' socio-economic status also for secondary education data. Figure I.2.7 therefore depicts correlation coefficients between 15-year-old students' performance in reading literacy and mathematics and the number of books at home as reported by students. As it is apparent on this figure, correlation coefficients referring to students' performance in reading literacy and mathematics show very similar results.

([15]) The ESCS index has been constructed by the OECD from the responses given by students in their background questionnaire and it summarises information on parents' education, parents' occupation, home possessions, the number of books and educational resources available at home. As such, it takes several dimensions of socio-economic status into account instead of relying on only one component.

Figure I.2.7: Correlation between the number of books at home and 15-year-old students' performance in reading literacy and mathematics, 2018



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
Reading	0.42	0.27	0.41	0.36	0.41	0.35	0.46	0.33	0.42	0.32	:	0.46	0.30	0.34	0.26	0.29	0.37	0.48	0.50	0.29	0.40
Maths	0.44	0.30	0.41	0.31	0.40	0.34	0.44	0.33	0.39	0.32	0.37	0.45	0.29	0.33	0.26	0.28	0.36	0.47	0.52	0.30	0.41

	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
Reading	0.44	0.39	0.38	0.41	0.38	0.47	0.32	0.40	0.39	0.35	0.40	0.38	0.31	0.24	0.45	0.29	0.27	0.28	0.30	0.31	0.40
Maths	0.43	0.38	0.40	0.41	0.39	0.46	0.32	0.40	0.36	0.33	0.38	0.33	0.24	0.26	0.42	0.27	0.28	0.29	0.30	0.31	0.38

Source: OECD, PISA 2018 database.

Explanatory notes

In each round of PISA, one of the core domains is tested in detail, taking up nearly two-thirds of the total testing time. The major domain in 2018 was reading literacy, while mathematics was one of the minor domains. Measurement errors can be larger for minor domains (like mathematics in PISA 2018) than for major domains due to the more limited number of questionnaire items. This has to be taken into account when comparing figures across domains.

The number of books at home as reported by students (variable ST013Q01TA) is expressed in the following categories: 1: 0-10 books; 2: 11-25 books; 3: 26-100 books; 4: 101-200 books; 5: 201-500 books; 6: More than 500 books.

The correlation coefficient is a statistical measure of the strength of the relationship between the relative movements of two variables. The values range between -1.0 and 1.0. High values signal a strong relationship between the two selected variables.

Correlation coefficients depicted on the figure were computed using all ten plausible values (students' achievement scores). Standard errors are included in Table A4 and A5 in Annex II.

Country-specific note

Spain: The OECD has decided to defer the publication of the PISA 2018 reading results for Spain, both national and sub-regional. Spain's data met PISA 2018 Technical Standards; however, some data show implausible student-response behaviour. Consequently, the comparability of Spain's results in reading cannot be assured.

As with Figure I.2.6, the higher the correlation coefficient, the stronger the relationship between performance and students' background characteristics also on Figure I.2.7. This relationship is the strongest in Hungary, where the correlation coefficient between students' performance and the number of books at home is 0.5 or above in both reading literacy and mathematics. The French and Flemish Communities of Belgium, Czechia, Germany, France, Luxembourg, the Netherlands, Austria, Romania, Slovakia, Sweden and Switzerland also have correlation coefficients at or above 0.4 in both subject areas. On the other hand, correlation coefficients are at 0.3 or below in both subject areas in the German-speaking Community of Belgium, Croatia, Cyprus, Latvia, Malta, Bosnia and Herzegovina, Iceland, Montenegro and North Macedonia.

Looking at Figures I.2.6 and I.2.7 together reveals a strong relationship between the levels of equity in primary and secondary education. In education systems where the impact of students' socio-economic background on their performance is already high at lower levels of education, this tends to remain high in later years as well.

I.2.3. Relationship between inclusion and fairness

How are the two dimensions of equity in education related to each other? This section provides a brief overview of the main patterns in both primary and secondary education.

I.2.3.1. Primary education

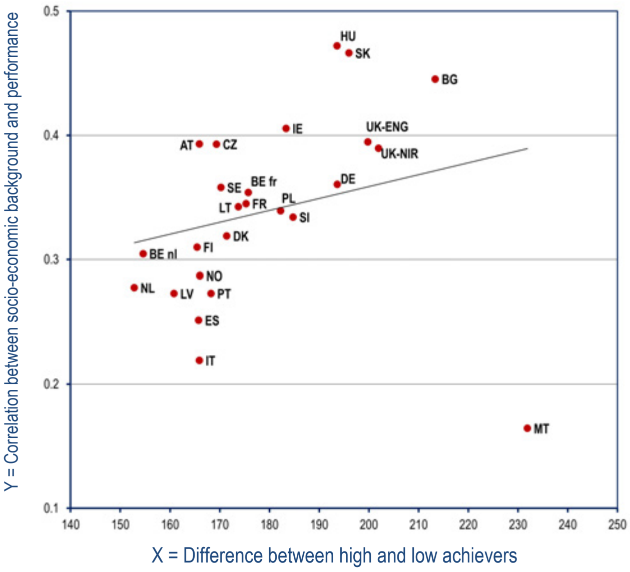
Figure I.2.8 depicts differences between high and low achievers plotted against the correlation coefficients between students' socio-economic status and their performance in primary education. The figures reveal quite a different picture for reading and mathematics.

Regarding reading literacy, education systems with larger achievement gaps tend to be those where the socio-economic status of pupils have a stronger relationship with their achievement (see Figure I.2.8.A). The only outlier is Malta, where differences between high and low achievers are substantial, but the socio-economic status of pupils does not seem to have a large impact on their achievement. While not depicted on the figure, no such relationship can be seen when comparing the percentage of low achievers with the size of the impact of socio-economic background on performance.

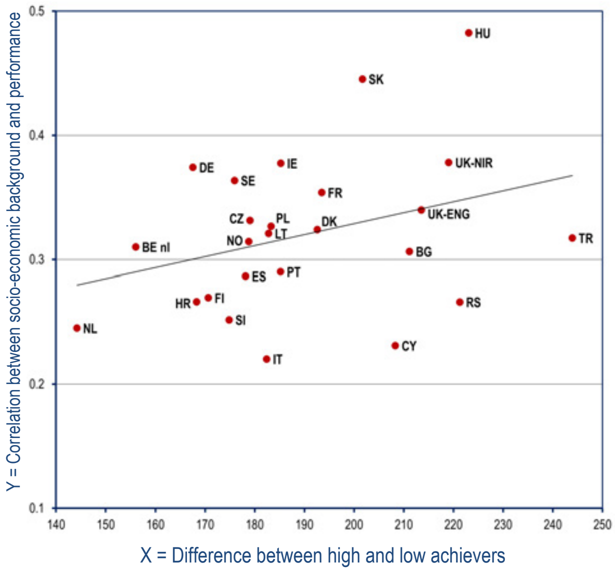
In mathematics, countries' positions are much more dispersed on the figure (see Figure I.2.8.B), though a positive relationship between the achievement gap and the impact of socio-economic background on performance is apparent. An even more varied picture emerges if we substitute the achievement gap with the percentage of low achievers.

Figure I.2.8: Inclusion and fairness in reading literacy and mathematics in the fourth grade

I.2.8.A: Reading literacy (PIRLS 2016)



I.2.8.B: Mathematics (TIMSS 2015)



Source: IEA, PIRLS 2016 and TIMSS 2015 databases.

Explanatory notes

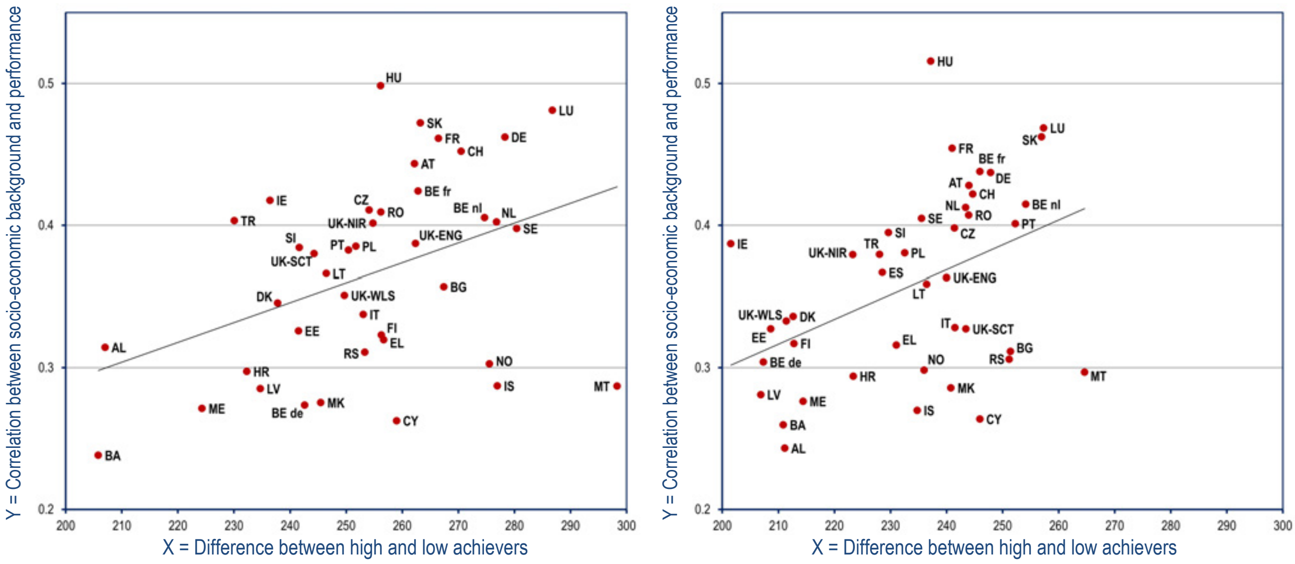
As with Figure I.2.6, the proxy for socio-economic background is the number of books at home as reported by students. See also the explanatory notes under Figures I.2.1, I.2.2 and I.2.6.

I.2.3.2. Secondary education

When looking at equity indicators computed on the basis of PISA 2018 data, again a mild positive relationship emerges between achievement gaps on the one hand, and the correlation between socio-economic background and performance on the other (see Figure I.2.9). As opposed to primary education, this relationship is very similar in reading literacy and in mathematics. Yet, as with previous findings, the relationship between the percentage of low achievers and the impact of socio-economic background on achievement is less pronounced at this level as well.

Figure I.2.9: Inclusion and fairness in reading literacy and mathematics for 15-year-olds, 2018

I.2.9.A: Reading literacy | **I.2.9.B: Mathematics**



Source: OECD, PISA 2018 database.

Explanatory notes

As with Figure I.2.7, the proxy for socio-economic background is the number of books at home. See also the explanatory notes under Figures I.2.3, I.2.4 and I.2.7.

It is also interesting to compare Figures I.2.8 and I.2.9 for education systems where data are available for both levels of education. There are some education systems – most notably Hungary and Slovakia – that show consistently low levels of equity across dimensions, subject areas and education levels. Other education systems – for example Croatia and Latvia – show similarly stable patterns, but with relatively high levels of equity. Yet, some education systems demonstrate remarkable changes in position depending on the education level concerned. For example, while the Flemish Community of Belgium and the Netherlands are among the most equitable systems across subject areas at primary level, they appear among the systems with relatively low levels of equity at secondary level. Such patterns will be analysed further in Part III of this report, after examining the most important system-level factors that might influence the differences in equity levels.

I.3. NATIONAL DEFINITIONS AND STRATEGIES

Main findings

- Top-level authorities in nearly all European education systems define or refer to concepts relating to equity in their official documents.
- As these definitions vary considerably between education systems, it is impossible to talk of a single or common pattern throughout Europe.
- Other terms used include fairness, equal opportunities, equality/inequality, disadvantage, non-discrimination, vulnerable groups, at risk groups and early school leaving.
- While many education systems have defined criteria relating to disadvantaged students, these vary to some degree:
  - the concept of being at risk is used in some education systems (e.g. at risk of dropping-out or repeating grades, or at risk of social exclusion for students from migrant backgrounds or for those with disabilities),
  - social, economic, cultural, ethnic, or family characteristics are used elsewhere as is geographical location (e.g. living in a remote area).
- Across Europe, 37 of the 42 European education systems studied have at least one major policy initiative in place to promote equity in education, reduce inequality or to support disadvantaged students.
- In 13 education systems, the policy may be described as a specific top-level strategy (18 have more than one strategy); in many others equity related initiatives are part of a broader strategy dealing with a range of education matters.

While few would deny that a more equal distribution of education opportunities and more favourable outcomes are in themselves important, in practice there are differences in the understanding of what equity in education means and what should be done to address it. The starting point of this empirical analysis is therefore to explore whether equity issues are currently under the spotlight of top-level education authorities in Europe. This is achieved by examining the data related to two indicators. The first focuses on whether equity or related concepts are defined or referred to in official top-level documents. This not only signals that attention is being paid to these issues at the highest level, but it also reveals how these concepts are understood in each education system. The second indicator shows whether European education authorities have introduced any major top-level policy initiatives such as a national strategy to create a more equitable system. However, because of space limitations, only a few such initiatives can be presented here.

It should be emphasised, however, that there is no direct link between the existence of an official definition or references to equity related concepts in official documents and the importance attributed to these issues at the top level. While these may imply that education authorities have devoted some time and resources to these issues it does not automatically follow that they have become a policy priority. Determining whether this is the case depends on many additional factors (e.g. the number of related programmes, their budget, scope, duration, etc.) as well as the relative position of equity policies compared to other policy areas, which are not treated here.

Nevertheless, it can be argued that an official definition or reference in official documents to equity related concepts means that education authorities are aware of the problems to some extent and are trying to address them.

To summarise, this chapter examines which education systems have

- defined or referred to equity related concepts in their official, top-level documents,
- devised strategies (or similar policy actions) to address these issues.

Examples from European education systems are provided in both cases.

I.3.1. What is equity in education and which students are disadvantaged: official definitions

While few of the education systems report having a formal or explicit definition of equity in education or related concepts, they nearly all have general statements referring to one or more of these concepts in official policy or guidance documents. These statements generally reveal how the concepts are understood by the top-level education authorities.

It will come as no surprise that there is great variety in how European authorities approach these issues. Five education systems (Denmark, Malta, the Netherlands, Slovenia and Sweden) refer to equity, but not to disadvantage, while for others (Belgium – Flemish Community, Ireland, Italy, Hungary, Romania, Slovakia, the United Kingdom – England, Wales and Northern Ireland) it is the other way around, that is, they refer to educational disadvantage, but not to educational equity. A few, namely Spain, Latvia, Lithuania, Austria, the United Kingdom (Scotland), Montenegro and Serbia, have defined both concepts.

Figure I.3.1 portrays which countries and education systems define or make reference to equity in education and/or disadvantaged students.

In particular, twelve education authorities reported having a goal or definition in relation to equity in education. For example,

> In **Denmark**, one of the goals for the public schools is to reduce the significance of social background with regard to academic results ([16]).
>
> In **Estonia**, equality in education is perceived as providing all students with equal educational opportunities commensurate with their abilities ([17]).
>
> In **Malta**, the term equity in education refers to a notion of fairness where the education of each student is of equal importance ([18]).
>
> In the **United Kingdom (Scotland)**, the inter-related terms 'inequity in education' and 'attainment gap' are used. The Scottish Attainment Challenge aims to raise the attainment of children and young people living in deprived areas, in order to close the equity gap. This can be achieved by ensuring every child has the same opportunity to succeed, with a particular focus on closing the poverty-related attainment gap ([19]).

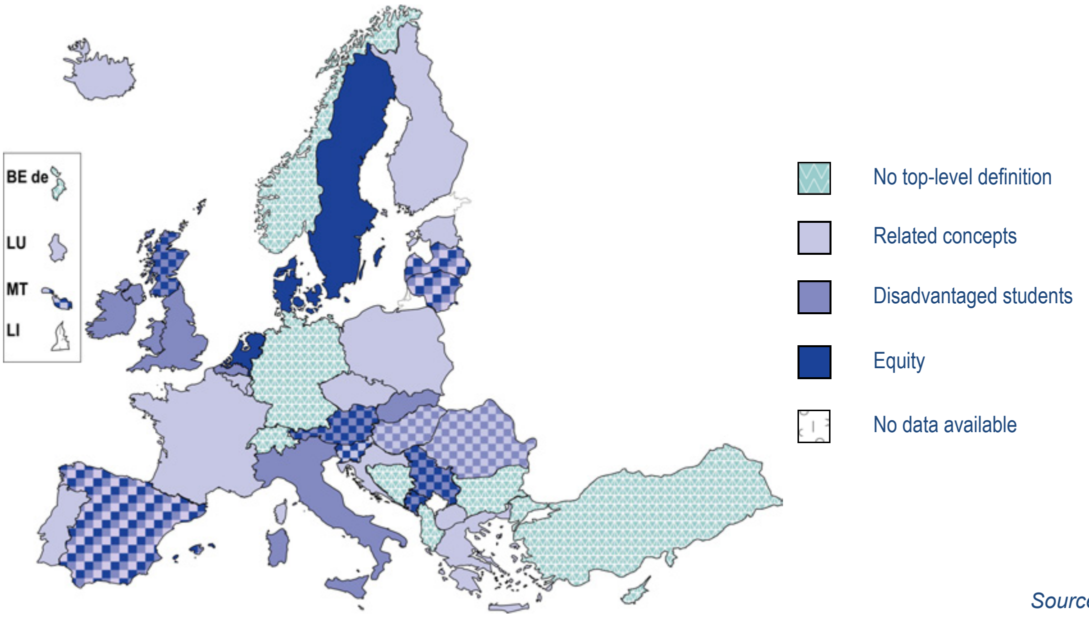
([16]) https://uvm.dk/folkeskolen/folkeskolens-maal-love-og-regler/nationale-maal/om-nationale-maal.

([17]) https://www.hm.ee/sites/default/files/estonian_lifelong_strategy.pdf.

([18]) https://education.gov.mt/inclusion/Documents/MEDE_Inclusion_Policy_Sep2019web.pdf

([19]) https://www.gov.scot/policies/schools/pupil-attainment/ and https://education.gov.scot/improvement/learning-resources/Scottish%20Attainment%20Challenge.

Figure I.3.1: Education systems defining or referring to equity, disadvantaged students or related concepts in education, 2018/19



Source: Eurydice.

The examples make it clear that equity in education can be approached in different ways, ranging from ascribing equal importance to each student (Malta) to equal opportunities for equal abilities (Estonia) and to the mitigation of the impact of socio-economic background on educational outcomes (Denmark, the United Kingdom – Scotland).

Definitions of, or references to, disadvantaged students are slightly more common (16 countries) (see Figure I.3.1). The national definitions are diverse and can include geographical, socio-economic, ethnic identity criteria, amongst others. Some educations systems specify the criteria for identifying disadvantaged students, while others make more general statements. As in the case of educational equity, the term disadvantaged student sometimes also refers to students with disabilities. Although disability is not within the scope of this report, to avoid any distortions in the examples given below, these references to disability have been retained.

In **Belgium (Flemish Community)**, the definition covers various criteria relating to social background: a low level of cultural capital (the mother has no ISCED3 qualification), linguistic capital (the language spoken at home is other than Dutch), financial capital (the student receives a school allowance) and social capital (the student lives in a neighbourhood with high levels of grade repetition) ([20]).

In **Spain**, disadvantaged students are those found in a disadvantaged situation, be it social, economic, cultural, ethnic or geographic (i.e. living in a rural area) ([21]).

In **Lithuania**, the groups at risk of social exclusion such as immigrants and children with special educational needs who are difficult to integrate into a community of learners are considered as being disadvantaged ([22]).

In **Romania**, the notion of students at risk of school failure is used, defined as students at risk of dropping out or having to repeat a grade. The highest risk categories are from rural, social-economically disadvantaged backgrounds, Roma children and students with special education needs.

([20]) https://data-onderwijs.vlaanderen.be/edulex/document.aspx?docid=12254 and https://data-onderwijs.vlaanderen.be/edulex/document.aspx?docid=14289.

([21]) https://www.boe.es/buscar/act.php?id=BOE-A-2013-12886.

([22]) http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=463390&p_tr2=2.

In **Slovakia**, student disadvantage is perceived as being linked to an environment that, due to social, family, economic and cultural conditions does not sufficiently encourage the development of students' mental and emotional abilities or does not support their socialisation, or provide them with adequate stimuli to develop their personality ([23]).

In the **United Kingdom**, entitlement to free school meals is used as a proxy for identifying disadvantaged students ([24]).

In **Serbia**, the term vulnerable groups is used, which refers to several categories, including children coming from financially deprived families or single parent families, but also to children lacking parental care. It also refers to children of the Roma minority, children with disabilities, chronic diseases, refugees or displaced persons ([25]).

Thus, although it is not possible to produce a single list of criteria of what constitutes disadvantage for students, the examples above illustrate that particular categories of students are more likely to qualify as such. This applies particularly to students from poorer families, and to a lesser extent to migrant and ethnic minority or Roma children.

Eighteen education systems reported that they have a definition that refers not specifically or exclusively to equity in education or to disadvantaged students, but to related concepts. Special needs education or inclusive education do not fall within the scope of this report, but given their overlap with the notion of educational inequalities, sometimes official definitions of related concepts overlap making them impossible to separate. For example:

In **Greece**, inclusive education refers to an educational approach that takes into account the heterogeneous nature of the student population, aiming to remove barriers to learning and ensure equal access to education for all students, including students with disabilities ([26]).

In **Italy**, special educational needs refer not only to the needs of physically or mentally disabled students, but also to the needs of students who are disadvantaged because of their socio-economic status, language or cultural background ([27]).

Overall, as Figure I.3.1 shows, most countries have some official top-level definition or reference to equity related concepts in education. Only a handful of education systems do not: Bulgaria, Germany, Cyprus, Switzerland, Albania, Bosnia and Herzegovina, Norway and Turkey. Of course, this does not preclude the existence of definitions or references to these concepts at lower levels of government, which are not dealt with here.

I.3.2. Policy initiatives to promote equity in education

Given that most education systems refer to equity related concepts in their official documents, it is logical to assume that there are policy initiatives in this regard. Naturally, there are different types of initiatives, conceived, adopted and implemented at different levels. To ensure international comparability, the report looks only at major top-level policy initiatives such as strategies and action plans in force during the 2018/19 school year ([28]). Many of these policies address low achievement or underperformance among students, seeking to reduce the numbers leaving education or training early

([23]) https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2008/245/20190102.html.

([24]) http://researchbriefings.files.parliament.uk/documents/SN07061/SN07061.pdf.

([25]) http://www.mpn.gov.rs/wp-content/uploads/2015/08/%D0%97%D0%B0%D0%BA%D0%BE%D0%BD-%D0%BE-%D1%83%D1%87%D0%B5%D0%BD%D0%B8%D1%87%D0%BA%D0%BE%D0%BC-%D0%B8-%D1%81%D1%82%D1%83%D0%B4%D0%B5%D0%BD%D1%82%D1%81%D0%BA%D0%BE%D0%BC-%D1%81%D1%82%D0%B0%D0%BD%D0%B4%D0%B0%D1%80%D0%B4%D1%83.pdf.

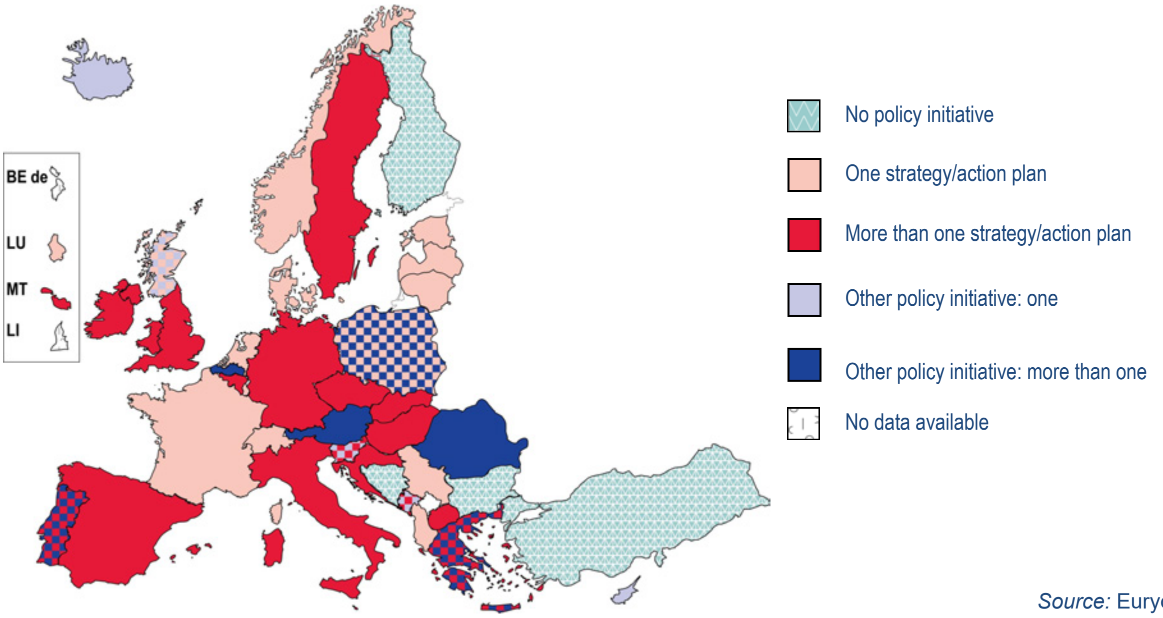
([26]) http://www.et.gr/idocs-nph/search/pdfViewerForm.html?args=5C7QrtC22wG3UHk-ZeQumndtvSoClrL8sN_Cl5tJ5zV5MXD0LzQTLWPU9yLzB8V68knBzLCmTXKaO6fpVZ6Lx3UnKl3nP8NxdnJ5r9cmWyJWelDvWS_18kAEhATUkJb0x1LIdQ163nV9K--td6SIufwsuG5x2FZp4dRmpsuHroxzyOwkWo8OopyrDmjZYcMW.

([27]) http://www.marche.istruzione.it/dsa/allegati/dir271212.pdf.

([28]) A top level strategy/action plan is understood here as one set out in official policy documents issued by top-level authorities at either national or regional level. It describes the specific objectives to be met and/or the detailed steps or actions to be taken within a given timeframe in order to reach a desired goal.

or without a formal qualification. Reducing grade repetition is also a goal, as is providing more differentiated teaching or better counselling and guidance.

Figure I.3.2: Top-level policy strategies and initatives addressing equity in education, 2018/19



Source: Eurydice.

The great majority of European countries reported having at least one policy initiative at the national level that deals with equity related issues in education. In particular, in thirteen education systems (Denmark, Estonia, France, Latvia, Lithuania, Luxembourg, Netherlands, Poland, the United Kingdom – Scotland, Albania, Switzerland, Norway and Serbia), there is one national strategy or action plan currently in force, and in another eighteen there is more than one (French Community of Belgium, Czechia, Germany, Ireland, Greece, Spain, Croatia, Italy, Hungary, Malta, Portugal, Slovakia, Sweden, the United Kingdom – England, Wales and Northern Ireland, Montenegro and North Macedonia). Cyprus and Iceland reported that they do not have a national strategy or action plan, but they do have a comparable policy initiative dealing with equity related issues. Similarly, Belgium (Flemish Community), Austria and Romania reported more than one policy initiative, although they are not called strategies or action plans. In a few education systems, strategies or action plans and other initiatives related to equity in education co-exist. These include Greece, Poland, Portugal, Slovenia, the United Kingdom – Scotland and Montenegro. In total, a major policy initiative in this area is currently in force in as many as 37 education systems.

The fact that so many European countries have reported major policy initiatives related to equity issues in education does not necessarily mean that it is being singled out as a policy priority. More often than not, policies relating to equity are but one dimension of a national strategy or action plan with a broader scope. This is partly due to the fact that equity is a problem that cuts across many dimensions of education practice. Hence, policy interventions that may have been devised primarily for other reasons may impact on equity issues and therefore fall within the scope of this report. Consequently, the number of top-level strategies, action plans etc. mentioned here and depicted in Figure I.3.2 are inflated in the sense that not all of them deal exclusively or primarily with equity in education. The choice of examples below reflects this reality.

> In 2010, **Germany** adopted its Support Strategy for Poorly-performing Pupils which applies to primary and lower secondary education and to initial vocational education and training. Still in force, the strategy seeks to reduce the number of students who do not achieve the minimum competence level and to increase the rate of students leaving school with a formal qualification. A large

number of specific actions were developed in this regard, ranging from individual student support (especially for students from migrant backgrounds) and support for longer learning periods, to teacher training and the improvement of vocational orientation guidance. In addition, the strategy promotes the expansion and development of all-day school provision in order to compensate for any educational disadvantage resulting from a lack of student support at home ([29]).

In Comunidad Foral de Navarra (**Spain**), the 'Strategic plan for attention to diversity' aims to diversify school populations so that disadvantaged students will be more evenly distributed among schools. The specific actions include mapping how schools deal with diversity, developing or revising a regulatory framework that ensures continuous attention to diversity, and measures raising awareness of inclusiveness and diversity.

In **Luxembourg**, a wider reform applying to all education levels is currently underway which is likely to impact student performance and hence inequalities in educational opportunities and outcomes. The creation of new international schools and European Schools will allow for more school choice. This is expected to give students a wider range of opportunities besides the trilingual curriculum of public schools, which has been too burdensome and an obstacle to educational achievement in some cases. The lowering of grade repetition rates is also among the strategy's goals for tackling inequality. A variety of measures is expected to help in this regard. First, two-year learning cycles have been introduced allowing students more time and flexibility to reach the competence levels set. Second, greater differentiation in teaching will allow individual learning needs to be met. Third, language development and early learning of languages in a playful and informal manner is encouraged. Fourth, in lower secondary education, students can study languages and mathematics in one of two different levels helping them to avoid grade repetition if the higher level is not achieved. The strategy envisages reforms in other areas too. In short, mobility between the classical and general secondary education pathways is being improved, more student guidance is being offered to students to help them choose an appropriate qualification, school autonomy is being increased, the allocation of resources for student support is being centralised and based on community indicators that will be re-visited every three years ([30]).

Hungary has more than one national strategy relating to equity in education which cover different dimensions. With regard to school choice, since 2017 new school district offices have been established which can advise education authorities to re-draw school catchment areas, so that any uneven distribution of socially disadvantaged students is minimised. Second, attending pre-school kindergartens has become obligatory from the age of 3 (as opposed to 5 before). Third, an early warning system to prevent early school leaving has been devised. The indicators include absenteeism, grade repetition, underachievement, but also social background factors, such as having a refugee status, being entitled to the child protection allowance and being placed with foster parents. If 50 % or more students in grades 6, 8 and 10 fail to reach a baseline performance, then the school is obliged to seek additional support from the education authorities in order to counter the problems of low achievement and early school leaving ([31]).

In the **Netherlands**, the 2016 strategy Equality Alliance aims at increasing mobility between education pathways and deferring pathway selection until students are older. In this respect, a pilot programme of twelve Teenage Schools is currently underway. Students aged 10 to 14 study in these schools which cover the later years of primary and early years of secondary education. Thus, the students can wait until they are 14 (instead of 12, which is the usual cut-off point) to decide which type of secondary education suits them best. The strategy also envisages financial support for schools with disadvantaged students or schools with a higher number of students more likely to underperform. The schools can decide how to spend the additional financial support to help these students ([32]).

Romania's Strategy for Reducing Early School Leaving, published in 2014, targets students from a disadvantaged socio-economic background, including Roma children, children living in rural areas, and also children with special education needs. Amongst the actions envisaged are measures to improve the quality of teaching, second chance and after school programmes and social as well as financial support measures ([33]).

National strategies and other major policy initiatives often include specific targets which help education authorities assess the effectiveness of the measures adopted. In this case, in nearly half of the

([29]) https://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2010/2010_03_04-Foerderstrategie-Leistungsschwaechere.pdf.

([30]) https://gouvernement.lu/dam-assets/documents/actualites/2018/12-decembre/Accord-de-coalition-2018-2023.pdf.

([31]) http://njt.hu/cgi_bin/njt_doc.cgi?docid=172340.275554 and http://romagov.hu/download/hungarian-national-social-inclusion-strategy-ii/).

([32]) www.gelijke-kansen.nl.

([33]) https://www.edu.ro/sites/default/files/_fi%C8%99iere/Invatamant-Preuniversitar/2015/Strategie-PTS/Strategia-PTS-2015.pdf.

countries covered here specific targets were identified, although particular indicators or benchmarks were not always reported. With respect to the examples mentioned above, only Germany, Portugal, Hungary and Romania reported specific targets and only Hungary and Romania provided a benchmark. Interestingly enough, the benchmarks mentioned relate to early school leaving rates.

The aim of the **German** strategy is to 'significantly reduce the number of pupils not achieving a minimum competence level by the end of their course of education' ([34]). The strategy is related to another policy initiative, the 2007 qualification initiative for Germany Getting Ahead through Education (*Aufstieg durch Bildung*), which included in its aims a target to halve the number of pupils without a school-leaving qualification.

In **Portugal**, the 2016 National Programme for the Promotion of Success in School strives to reduce the grade retention and school dropout rates by half ([35]).

In **Hungary**, the different strategies aim at reducing the proportion leaving school without a qualification to 10 % of the student population ([36]).

The **Romanian** strategy aims at reducing early school leavers to 11.3 % of the student population by 2020 ([37]). This is a country-specific target for the EU 2020 education early school leaving benchmark. It is important given the wide gaps, for example, between urban and rural 18-24-year-olds (9 % compared to 26 % early school leavers).

([34]) https://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2010/2010_03_04-Foerderstrategie-Leistungsschwaechere.pdf.

([35]) https://dre.pt/web/guest/home/-/dre/74094661/details/maximized?p_auth=J4UPdZ4U.

([36]) http://njt.hu/cgi_bin/njt_doc.cgi?docid=172340.275554 and http://romagov.hu/download/hungarian-national-social-inclusion-strategy-ii/

([37]) https://www.edu.ro/sites/default/files/_fi%C8%99iere/Invatamant-Preuniversitar/2015/Strategie-PTS/Strategia-PTS-2015.pdf.

Part II
Education system features

II.1. EARLY CHILDHOOD EDUCATION AND CARE (ECEC)

Main findings

- Research evidence shows that there are clear benefits for children who participate in ECEC in terms of their overall development and, more specifically, their academic performance. This finding is especially valid for disadvantaged students. In recent years, across Europe, there have been a number of policy developments introduced to ensure better access to high quality ECEC provision.
- Nevertheless, data from the EU-SILC Survey and PISA 2018 reveal that children from disadvantaged families participate less in ECEC. Policies for improving equity in ECEC include extending access (both universal and targeted) as well as improving the quality of provision by for instance employing well-qualified staff. Other important measures address the specific challenges faced by disadvantaged families such as cost, cultural and linguistic barriers and lack of information.
- The majority of European systems have put in place a variety of targeted measures, sometimes as part of provisions for universal access, sometimes as stand-alone measures. Often these are intended to improve the accessibility (e.g. priority admission) and affordability (e.g. fee reductions) of ECEC services. However, highly qualified staff (Bachelor's level or above) are not yet available in all systems.

Early childhood education and care (ECEC) is the phase before primary education. It usually covers the period from birth to age 6 (or the starting age of primary education) and is designated ISCED level 0. ECEC is increasingly considered to provide the foundations for lifelong education and training and is becoming an integral part of education systems. It has also been recognised as an important tool for increasing equity in education ([1]). In May 2019, the Council of the European Union adopted a Recommendation on High Quality Early Childhood Education and Care Systems ([2]). The Recommendation states that participating in early childhood education and care is beneficial for all children and especially for children from disadvantaged backgrounds. This phase also helps prevent the development of skills gaps early in a child's life and thus 'it is an essential tool to fight inequalities and educational poverty' ([3]).

Research shows that there are clear benefits to participating in ECEC in terms of both cognitive and behavioral outcomes, especially for disadvantaged children (OECD, 2017a; van Huizen and Plantenga, 2018; Vandenbroeck, Beblavý, and Lenaerts, 2018). However, these benefits depend on the quality of provision and can be eroded unless the level of quality is sustained in primary education (Ibid).

Across Europe, ECEC participation rates between different age groups differ significantly. Data for 2017 shows that, on average, only 34 % of children under age 3 attend ECEC. For this age group, at the top of the scale, participation rates vary between 72 % in Denmark and around 60-65 % in Luxembourg, the Netherlands and Iceland. At the other end of the scale, participation is less than 10 % in Bulgaria, Czechia and Slovakia (European Commission/EACEA/Eurydice, 2019a, Indicator B8).

(1) Communication from the Commission to the Council and to the European Parliament on Efficiency and Equity in European Education and Training Systems, COM/2006/0481 final.

(2) Council Recommendation of 22 May 2019 on High-Quality Early Childhood Education and Care Systems (OJ C 189, 5.6.2019, p. 4-14).
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2019.189.01.0004.01.ENG&toc=OJ:C:2019:189:TOC

(3) Ibid.

However, among older children (age 3 and over), participation in ECEC increases sharply and reaches 93.3 % on average for the EU-28. Among all Eurydice countries, the highest participation rates for children between age 3 and the starting age of compulsory primary education are in France and the United Kingdom (100 %), with Belgium and Ireland following closely behind (98.4 %). The lowest rate is in North Macedonia (36.5 %) (European Commission/EACEA/Eurydice, 2019a, Indicator B9).

Apart from the overall participation rate in ECEC, the other important indicator that is particularly relevant in the context of this report, is the participation rate among socially disadvantaged children. Despite certain limitations, data from the European Union Survey on Income and Living Conditions (EU-SILC) is used to measure ECEC participation among disadvantaged children (Flisi and Blasko, 2019). Data for 2016 shows that in the EU-28, for younger children (under age 3) there is an average gap of 15 percentage points between the participation rate for disadvantaged children and that for other (non-disadvantaged children). The rate for those from disadvantaged backgrounds rests at a little over 20 % (European Commission, 2019, pp. 48-49). Differences in participation rates are particularly high in the Netherlands, France, Spain, Belgium and Slovenia (among the countries with high overall participation rates), as well as Lithuania and Hungary (among the countries with low overall participation rates). For older children (between age 3 and the mandatory school age), the gap in participation rates between disadvantaged and non-disadvantaged children narrows, but nevertheless remains significant at around 11 percentage points on average (Ibid).

In recent years many European countries have undertaken significant reforms to ensure better access to and high quality of ECEC provision. Based on Eurydice information for the school year 2018/19 (European Commission/EACEA/Eurydice, 2019a) and data from PISA 2018, this chapter will briefly review:

- policies for improving access to ECEC – for all children (universal) or specific groups (targeted);
- policies for improving the quality of ECEC provision;
- evidence from PISA 2018 on participation in ECEC.

II.1.1. Improving access to ECEC

Research evidence and results from case studies point to the need to establish a 'progressive universalist approach'. This necessitates policies which combine the provision of a universal ECEC service accessible to all children with well-targeted and coordinated programmes to improve access for disadvantaged groups such as children in poverty and those from immigrant or ethnic minority backgrounds (Vandekerckhove et al., 2019). While across Europe there are two main approaches to delivering these policies, as the Eurydice data shows, there are significant differences in their implementation.

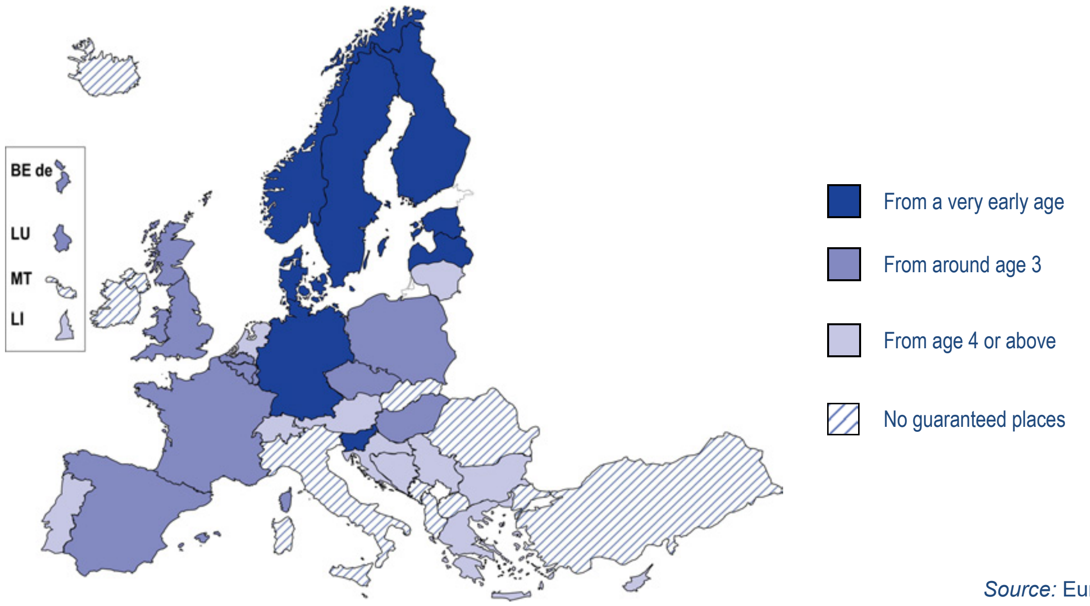
II.1.1.1. Universal access to ECEC

In order to guarantee universal access to ECEC, the public authorities in some countries provide a legal entitlement to an ECEC place while others make ECEC attendance compulsory. In some cases, a combination of both approaches is used. Under the first approach, public authorities have to guarantee a place for any child (in a specified age range) whose parents request it. In the second case, public authorities must guarantee a sufficient number of places for all children in the age range covered by the legal obligation. Most education systems have opted for the establishment of a legal entitlement; making ECEC compulsory is less common and, where it does occur, it usually only applies to the last year or two before primary education. Whichever approach is taken, as shown in Figure II.1.1., the majority of European systems guarantee a place in ECEC.

Adding to the complexity of the situation, there are significant differences in the age at which children are guaranteed a place in ECEC. Only eight countries (Denmark, Germany, Estonia, Latvia, Slovenia, Finland, Sweden and Norway) guarantee a place in ECEC for each child soon after its birth (between 6 and18 months), often immediately after the end of childcare leave. A place in publicly subsidised ECEC is guaranteed from the age of 3 or a little earlier in the three Communities of Belgium, as well as in Czechia, Spain, France, Luxembourg, Hungary, Poland and the United Kingdom (England, Wales and Scotland). Around a quarter of European education systems provide guaranteed places from age 4, 5 or 6, covering the last year or two of ECEC. Often, this provision is aimed at preparation for primary education and attendance is compulsory.

In contrast, a quarter of European education systems have no legal framework for guaranteeing a place in ECEC. However, some of these still have high ECEC participation rates, usually from the age at which ECEC becomes part of the education system. For example, this is the case from age 2 in Iceland, from age 3 in Malta and the United Kingdom (Northern Ireland), and from age 4 in the Netherlands.

Figure II.1.1: Age from which a place in ECEC is guaranteed, 2018/19 ([4])



Source: Eurydice.

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT
Starting age (in years) of guaranteed ECEC place	2.5	3	2.5	5	3	0.5	1	1.5	-	4	3	3	6	-	4.7	1.5	6	3	3	-	5	5
	PL	PT	RO	SI	SK	FI	SE		UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA*	CH	IS	LI ([5])	ME	MK	NO	RS	TR
Starting age (in years) of guaranteed ECEC place	3	4	-	0.9	-	0.8	1		3	3	-	3	-	5	4	-	4	-	-	1	5.5	-

([4]) This figure was first published in *Key Data on ECEC 2019* (European Commission/EACEA/Eurydice, 2019a, see Indicator B1). Updated information for 2019/20 will be available in European Commission/EACEA/Eurydice, 2020. *Structural Indicators for Monitoring Education and Training Systems in Europe – 2020,* forthcoming.

([5]) Liechtenstein does not participate in this report. The national information in this chapter is extracted from European Commission/EACEA/Eurydice, 2019a.

Explanatory notes (Figure II.1.1)

The Figure shows the earliest age from which a place in ECEC is guaranteed for all children. In the table, a legal entitlement is shown in black, while compulsory ECEC is marked in bold dark red.

Country-specific notes

Greece: Compulsory ECEC is being phased in, with full implementation due in 2020/21, except for five municipalities where full implementation is planned for 2021/22.
France: ECEC became compulsory for children from age 3 on 1 September 2019.

II.1.1.2. Targeted access to ECEC

In order to ensure that disadvantaged children can access ECEC, research reports indicate the benefits of a balance between universal and targeted measures. Reaching out to underrepresented groups that could potentially significantly benefit from ECEC services can be integrated into programmes intended to achieve universal participation. Targeted measures should aim to avoid stigmatisation and segregation (Vandekerckhove et al., 2019).

The majority of European systems have put in place a variety of targeted measures, sometimes as part of provisions for universal access, sometimes as stand-alone measures. Often these are intended to improve the accessibility (e.g. priority admission) and affordability (e.g. fee reductions) of ECEC services. Children living in poverty are the most commonly targeted group. The eligibility criteria used include family income, family composition, receipt of welfare benefits, and single parent status. (European Commission/EACEA/Eurydice, 2019a, Indicator B6 and Annex 1).

In addition, top-level authorities in some systems have established a targeted legal entitlement that enables disadvantaged children to access publicly funded ECEC from an earlier age and/or access additional hours in publicly funded ECEC (Ibid).

II.1.1.3. Barriers to participating in ECEC

The 2019 Recommendation of the Council of the European Union on High Quality Early Childhood Education and Care Systems notes that there could be multiple barriers to accessing and using ECEC services. These barriers relate to cost, geographical location, inflexible opening hours, inadequate provision for children with special needs, cultural and linguistic barriers, discrimination and a lack of information ([6]). Many of these issues could disproportionately affect disadvantaged children and families. They are also more likely to have an impact on the participation of children under age 3.

For instance, Eurydice data shows that most families in Europe have to pay fees for ECEC for children under age 3. The average monthly fees are highest in Ireland, the Netherlands, the United Kingdom and Switzerland. Accessibility and affordability improves for older children. Almost half of European countries guarantee a place in ECEC from around age 3 and this is often free of charge (European Commission/EACEA/Eurydice, 2019a, Indicators B4 and B5).

Another obstacle to participation relates to language difficulties – both for children and their families. Language support to children for whom the language of instruction is not the language spoken at home is provided in around half of the education systems and often concerns children aged 3 and over. The measures recommended by top-level authorities include preparatory classes (e.g. in Belgium – French Community), the teaching of the language of instruction as a second language in additional classes (e.g. Portugal), and the use of specific assessment tools. In addition, teaching the

([6]) Council Recommendation of 22 May 2019 on High-Quality Early Childhood Education and Care Systems (OJ C 189, 5.6.2019, p. 4-14).
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2019.189.01.0004.01.ENG&toc=OJ:C:2019:189:TOC

home language to children from migrant backgrounds takes place in a minority of education systems (e.g. Belgium – French Community, Finland, Luxembourg, Sweden and Norway) (European Commission/EACEA/Eurydice, 2019a, Indicators D11 and D12).

Finally, the participation of disadvantaged children in ECEC could also be supported by establishing good relationships with parents and encouraging their involvement in their child's learning. Although information sessions and parent-staff meetings have become more common, only a quarter of all European systems provide guidance to parents for learning at home, with slightly more systems doing so for children aged 3 and over (European Commission/EACEA/Eurydice, 2019a, Indicator D14).

II.1.2. Quality of ECEC provision

The 2019 Council Recommendation on High Quality Early Childhood Education and Care Systems identifies five dimensions of quality: governance, access, staff, educational guidelines, and evaluation and monitoring ([7]). This section uses the 'staff' dimension to illustrate the variation in ECEC quality; it highlights the differences in the qualification requirements for the ECEC staff whose role is to support children's development and ensure their well-being.

Well-qualified, experienced and competent staff can make a significant difference in ECEC. Staff trained to Bachelor's level (ISCED 6) or higher in an education/ECEC related subject are more likely to use appropriate pedagogical approaches, create stimulating learning environments and provide good care and support. In addition, a high minimum entry requirement for ECEC staff contributes to raising the status and pay of ECEC professionals (European Commission/EACEA/Eurydice, 2019b).

Despite these arguments, highly qualified staff (Bachelor's level or above) are not yet available in all European ECEC systems. Figure II.1.2 shows that only seventeen systems require that at least one of the team members caring for a group of children, regardless of age, is highly educated ([8]).

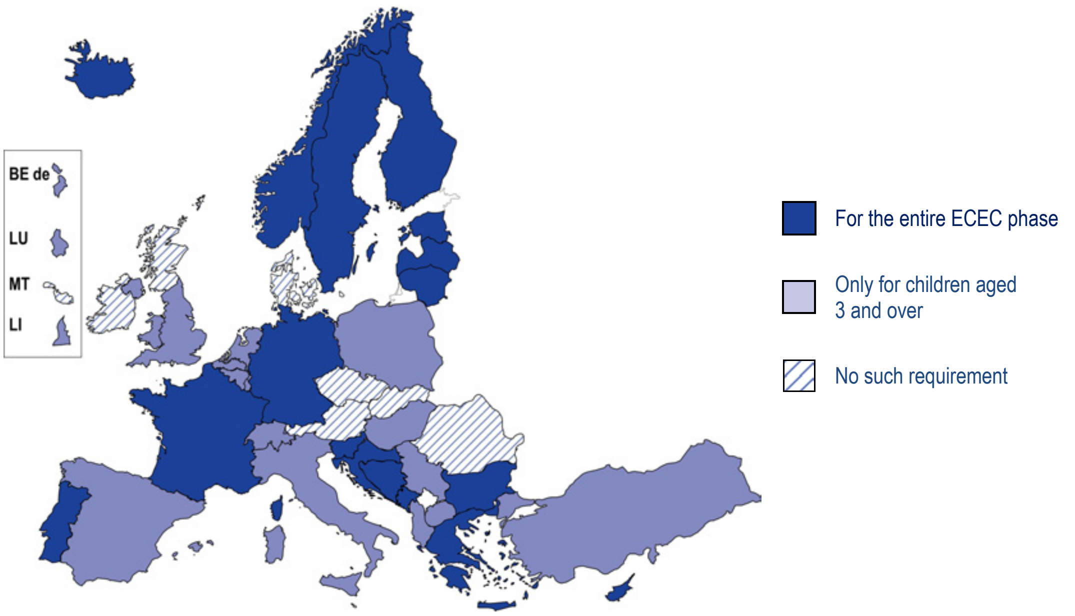
In another eighteen systems, a Bachelor's level or above is required during the second phase of ECEC (children aged 3 and over), but not during the first phase ([9]). Seven education systems do not have a requirement for at least one staff member to have a Bachelor's level qualification or above (Czechia, Ireland, Malta, Austria, Romania, Slovakia and the United Kingdom – Scotland). In Denmark, there are no top-level regulations on this matter.

([7]) Council Recommendation of 22 May 2019 on High-Quality Early Childhood Education and Care Systems (OJ C 189, 5.6.2019, p. 4-14).
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2019.189.01.0004.01.ENG&toc=OJ:C:2019:189:TOC

([8]) The minimum is at Bachelor's level (ISCED 6) in Bulgaria, Germany, Estonia, Greece, Croatia, Cyprus, Latvia, Lithuania, Slovenia, Finland, Sweden, Bosnia and Herzegovina, Montenegro and Norway. It is at Master's level (ISCED 7) in Portugal and Iceland. In France, it is at ISCED 6 in teams working with younger children and at ISCED 7 for those working with older ones.

([9]) This is the case in Belgium (all three Communities), Spain, Italy, Luxembourg, Hungary, Netherlands, Poland, the United Kingdom (England, Wales and Northern Ireland), Albania, Switzerland, Liechtenstein, Serbia, North Macedonia and Turkey.

Figure II.1.2: Requirement for at least one staff member to have a Bachelor's level qualification (ISCED 6) or above, in ECEC settings, 2019/20 ([10])



Source: Eurydice.

Explanatory notes

The Figure shows whether at least one staff member per group of children in centre-based ECEC must have a Bachelor's level (ISCED 6) qualification or higher related to ECEC (or education) according to top-level regulations ([11]).

Age 3 is the most common age of transition between the two phases of ECEC in Europe. There are some exceptions. The transition happens at age 2-and-a-half in Belgium (French and Flemish Communities) and at age 4 in Greece, the Netherlands, Switzerland and Liechtenstein.

Overall, qualification requirements for ECEC staff are usually lower for working with younger children than older ones. Furthermore, in the majority of education systems, assistants may be employed in an ECEC setting without an initial qualification. Moreover, only a few education systems have made continuing professional development (CPD) mandatory for all ECEC staff (European Commission/EACEA/Eurydice, 2019a).

II.1.3. Participation in ECEC - evidence from PISA

PISA examines the performance of 15-year-old students and gathers data on student characteristics, including their participation in ECEC. In this way, the survey data makes it possible to study whether students who attended ECEC perform better than students who did not.

Previous PISA surveys have demonstrated that students who participated in ECEC for one year or more tended to perform better in cognitive tests than those who participated for a shorter period or not at all. In addition, participation in ECEC appears to have particularly beneficial effects on the performance of 15-year-old students from low socio-economic backgrounds (European Commission/ EACEA/Eurydice, 2014; OECD, 2011a, 2014a).

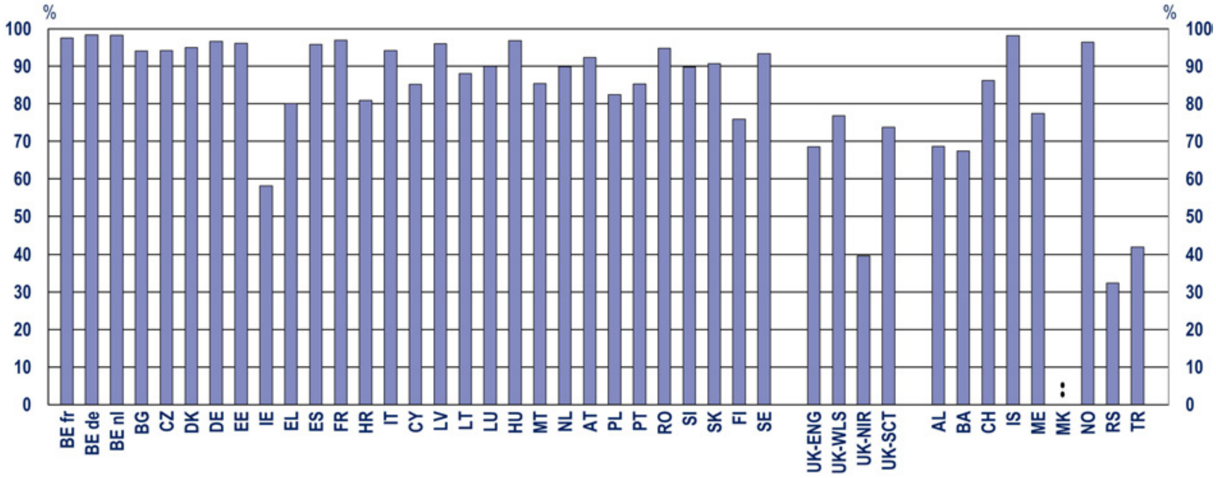
([10]) This figure was first published in the Eurydice Brief: *Key Data on Early Childhood Education and Care in Europe*, 2019b, see Figure 4. Updated information for 2019/20 will be available in European Commission/EACEA/Eurydice, 2020. *Structural Indicators for Monitoring Education and Training Systems in Europe – 2020,* forthcoming.

([11]) For more information and country-specific notes, see European Commission/EACEA/Eurydice, 2019a, Indicator C1.

For this reason, this section examines the extent to which 15-year-old students who were tested in PISA 2018 had attended ECEC; it also looks for any differences in the participation rates of students from different socio-economic backgrounds.

Figure II.1.3 presents the percentage of 15-year-old students who reported having participated in ECEC for more than one year – ten to fifteen years before they sat the PISA 2018 test. The figure shows that a significant majority of students attended ECEC for longer than a year in 25 EU Member States. Reported participation was lower in Ireland (58.1 %) and Finland (75.9 %), as well as in some other European countries. More than half of the 15-year-olds in the United Kingdom (Northern Ireland), Serbia and Turkey reported that they had participated for less than a year or who had not attended ECEC at all.

Figure II.1.3: Percentage of 15-year-old students who spent more than one year in ECEC, 2018



BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
97.6	98.3	98.2	94.1	94.2	95.0	96.6	96.1	58.1	80.0	95.9	96.9	80.9	94.2	85.2	96.1	88.1	90.0	96.9	85.4	89.9

AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
92.3	82.4	85.2	94.7	89.8	90.7	75.9	93.3	68.5	76.8	39.7	73.8	68.6	67.5	86.2	98.2	77.5	:	96.4	32.3	41.9

Source: OECD, PISA 2018 database.

Explanatory notes

Percentages in this figure were calculated based on the PISA 2018 variable DURECEC ('Duration in early childhood education and care') and are based on students' replies.

See Table A6 in Annex II: Statistical tables.

Country-specific note

North Macedonia: Data is not available for this variable.

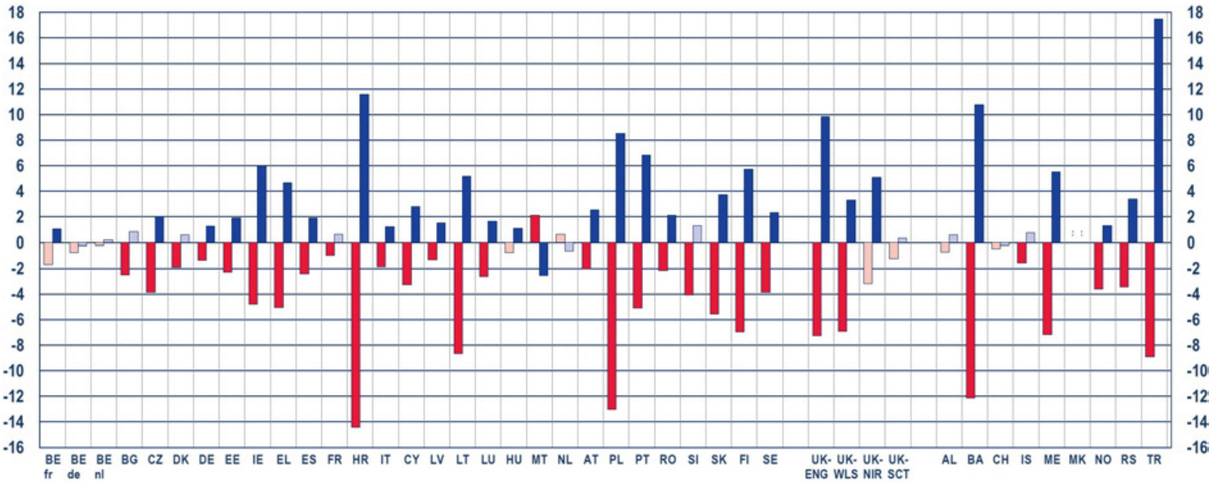
The impact of participation in ECEC on student performance in primary education is stronger for those from low socio-economic backgrounds [12] (European Commission/Eurydice, 2014). PISA 2018 confirms previous international surveys (see OECD, 2014a and Flisi and Blasko, 2019) in that students from low socio-economic backgrounds are less likely to participate in ECEC for more than a year in the vast majority of European education systems. In contrast, students from high socio-economic backgrounds tend to participate to a higher degree in almost all education systems.

Figure II.1.4 presents the differences between the ECEC participation rates of 15-year-old students from different socio-economic backgrounds compared to the overall student population of this age

[12] The impact of participation of ECEC diminishes as students progress through the education system.

group. It shows, on the one hand, the difference between the participation rate of students from low socio-economic backgrounds (‘low SES’, in red) compared to all students; and, on the other hand, the difference between the participation rate of students from high socio-economic backgrounds (‘high-SES, in blue) compared to all students.

Figure II.1.4: Differences in ECEC participation among 15-year-old students, in percentage points, by socio-economic status, 2018



Positive values: Compared to the overall 15-year-old student population, a higher percentage of 15-year-old students from either SES group participated in ECEC for more than one year

Negative values: Compared to the overall 15-year-old student population, a lower percentage of 15-year-old students from either SES group participated in ECEC for more than one year

	Differences statistically significant	Differences NOT statistically significant
Difference between Low SES and the overall student population		
Difference between High SES and the overall student population		

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
Difference Low SES and All	-1.7	-0.8	-0.2	**-2.5**	**-3.9**	**-1.9**	**-1.4**	**-2.3**	**-4.8**	**-5.1**	**-2.4**	**-1.0**	**-14.4**	**-1.9**	**-3.3**	**-1.3**	**-8.6**	**-2.6**	-0.8	**2.1**	0.6
Difference High SES and All	**1.0**	-0.3	0.2	0.8	**2.0**	0.6	**1.3**	**1.9**	**6.0**	**4.7**	**1.9**	0.6	**11.6**	**1.2**	**2.8**	**1.5**	**5.2**	**1.7**	**1.1**	**-2.6**	-0.6

	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
Difference Low SES and All	**-2.0**	**-13.0**	**-5.1**	**-2.2**	**-4.1**	**-5.6**	**-7.0**	**-3.9**	**-7.3**	**-6.9**	-3.2	-1.2	-0.7	**-12.2**	-0.5	**-1.6**	**-7.2**	:	**-3.6**	**-3.4**	**-8.9**
Difference High SES and All	**2.5**	**8.5**	**6.8**	**2.1**	1.3	**3.8**	**5.7**	**2.3**	**9.9**	**3.3**	**5.1**	0.4	0.6	**10.8**	-0.2	0.8	**5.5**	:	**1.3**	**3.4**	**17.5**

Source: OECD, PISA 2018 database.

Explanatory notes

The figure shows percentage point differences in the proportion of 15-year-old students from different socio-economic backgrounds who participated for more than year in ECEC and the overall 15-year-old student population.
The data are drawn from the PISA 2018 variable DURECEC (‘Duration in early childhood education and care’) and are based on students’ replies. The category ‘Low SES students’ refers to students from low socio-economic status families (in the 25th socio-economic status percentile) who spent more than one year in ECEC. The category ‘High SES students’ refers to students from high socio-economic status families (in the 75th socio-economic status percentile) who spent more than one year in ECEC.

Bold fonts in the table indicate that the percentage point difference between ‘All’ and ‘Low SES’ or between ‘All’ and ‘High SES’ students is statistically significant at the 5 % level.

See Tables A7-8 in Annex II: Statistical tables.

Country-specific note

North Macedonia: Data is not available for this variable.

The data shows that the socio-economic background of 15-year-olds can serve as a good indicator of whether they had previously participated in ECEC. A lower proportion of disadvantaged students than the average reported having participated in ECEC for more than a year in three quarters of the systems examined. The (statistically significant) difference in participation rates was particularly high in Croatia (14.4 pp), Poland (13.0 pp) and Bosnia and Herzegovina (12.2 pp), and in Lithuania and Turkey (about 9.0 pp). In most education systems, a higher proportion of students from high socio-economic backgrounds tend to participate in ECEC than the average. The difference is particularly marked – around 10 percentage points – in Croatia, Poland, the United Kingdom (England), Bosnia and Herzegovina; and in Turkey (17.5 pp).

The participation gap between the two groups – low and high SES students – varies across countries. It is more than 20 percentage points in Croatia, Poland, Bosnia and Herzegovina and Turkey; but there is also more than a 10 percentage point difference between these two groups in Ireland, Lithuania, Portugal, Finland, the United Kingdom (England and Wales) and Montenegro. This might demonstrate a general problem of access to ECEC 10-15 years ago in most of these education systems (see Figure C1, European Commission/Eurydice, 2014). In contrast, there are very small (and statistically not significant) differences depending on students' socio-economic background in Belgium (German-speaking and Flemish Communities), the Netherlands, the United Kingdom (Scotland) and Switzerland.

The empirical data presented above from PISA 2018 confirms again that students from different socio-economic backgrounds tend to have participated in ECEC to different degrees. Students from disadvantaged backgrounds participate less despite the broad consensus on the positive impact of ECEC attendance on educational performance. This may be due to issues of access, such as, for example, availability of places, prohibitive costs or lack of information for parents.

II.2. FUNDING FOR SCHOOL-LEVEL EDUCATION

Main findings

- School-level education in Europe is predominantly funded by public money.
- Public funding of schooling implies a redistribution of wealth in favour of families with relatively lower incomes, and it is often expected to 'level the playing field', reducing the effect of socio-economic background on student performance.
- Public funding is a necessary, but not sufficient, condition for equity in education.
- Public funding per student for primary and lower secondary education in Europe ranges between 1 940 and 13 430 purchasing power standards (PPS). The median value is 5 962 PPS.
- In a few European countries, private expenditure on school-level education is equivalent to less than 1 % of public expenditure, while in most it ranges between 2 % and 10 %. Turkey is an outlier at 19 %. The median value is 5.25 %.

The expansion of public schooling has allowed more children than ever before to have access to education. This has led to a reduction of inequality in educational attainment bringing both personal and social advantages (Roser and Ortiz-Ospina, 2016). School education can be funded by various bodies. These include the government (at local, regional or national level), the church or other religious bodies, non-governmental organisations and private organisations or persons. A fundamental distinction is between funding from public authorities and from private sources ([13]). Whereas in privately funded schools, parents (or the children's legal guardians) make their own decisions and fund the school of their choice directly, in the case of publicly funded education the payments are indirect. Parents pay their taxes which are then used by public authorities to fund schools – the authorities then decide how much to spend and how to allocate the funding to schools.

Publicly funded education involves a degree of wealth redistribution. This occurs in two main ways. The first is via the tax system: the tax paid by parents is dependent on income, consequently less well-off parents pay less tax, and therefore spend comparatively less than richer parents to send their children to a public school ([14]). This type of redistribution takes effect immediately, at the moment a child starts attending a public school.

The second is via the job market and so only comes into effect after children graduate from school. The rationale is simple. Assuming that education in public schools is available to all and is the same for all, then all students have an equal chance of succeeding and reaping the benefits of schooling. Since one of the benefits is acquiring the knowledge and skills needed to get a good job and secure a higher income in the future, students from lower socio-economic status (SES) families are therefore given an opportunity to climb the socio-economic ladder ([15]). Hence, public schooling has a wealth redistribution and equalising effect.

([13]) Of course, since public authorities rely on taxes to fund public schools, one could argue that all funding essentially derives from private sources. Even if strictly speaking this is correct, the distinction public-private sources remains valid from a social justice point of view.

([14]) Government-dependent private schools are also publicly funded to some extent (see Chapter II.3), and public schools may in certain cases receive funding (or equivalent support) from private sources. However, for the sake of the argument we simplify the distinction. Hence, by public schools we mean exclusively or predominantly publicly funded and, equally, by private we refer to exclusively or predominantly privately funded schools. As a result, the terms publicly funded and public schools are used interchangeably in this chapter as are privately funded and private schools).

([15]) However, as Atkinson (2015) maintains, the relationship between education and income is not linear. 'Educational qualifications alone are not sufficient to explain the more finely graduated pattern that we observe when we look at individual earnings' (*ibid.*, p. 104).

As a result of the promise of equal education opportunities for all children, expectations of public schools are very high. As Merry (2020, p. 21-22) argues, 'since the middle of the nineteenth century, the belief has spread around the world that schools exist to 'level the playing field' of learning and opportunity for all children' ([16]). In other words, the public school is commonly perceived as playing an important role in social mobility. If this perception is well-founded, then more public school funding should lead to more equity in education, which eventually should translate into more socio-economic equality. Empirical studies suggest that the reasoning is correct, but only in part. Busemeyer (2015) finds that public spending on education lowers income inequality. However, as explained below, the link between public funding and equity in education is not straightforward.

A quick way of assessing the importance of public funding for equity in school-level education is to conduct a thought experiment. What would be the impact on equity if there were no public funding at all, or if publicly funded schools ceased to exist? One could then imagine, as happened in the past especially in antiquity, a society where few or no schools exist and education is provided only by parents or private teachers. The schools that do exist are privately funded, accessible only to families who can afford the fees ([17]). Clearly, equity would be adversely affected. Education would again be available only to the relatively few children fortunate enough to have parents who could afford to send their children to school or who had the time and skills to do the job themselves.

The outbreak of the global health pandemic COVID-19, which coincided with the preparation of this report, offers a rare (but otherwise unwelcome) opportunity to go beyond any counterfactual scenarios. The social and economic lockdown forced schools in many European countries to close, which led European citizens and authorities to actually experience life with no or very restricted access to schools, and to begin to understand the implications this might have on equity.

Social commentators and scientists warned that the effects would be severe on the most disadvantaged children. Such children may not have access to the tools necessary for online learning, or parents who were able to support them, consequently they may be unable to keep up with their education at home ([18]). Several articles published in the press (e.g. The Guardian, 2020 and The Economist, 2020a, 2020b, 2020c) highlighted that school closures would have an adverse effect on equity in education.

> Poorer children suffer most. Zoom lessons are little use if your home lacks good Wi-Fi, or if you have to fight with three siblings over a single phone. And whereas richer families often include well-educated parents who prod their offspring to do their homework and help when they get stuck, poorer families may not. In normal times school helps level the playing field. Without it, the achievement gap between affluent and working-class children will grow […]. (The Economist, 2020c).

Without the funding of public schools therefore, it is clear that the most disadvantaged children in society would suffer most. If the absence of public funding is the equivalent of the recent school closures, which is viewed as having negative effects on equity, then the opposite must surely be good for equity? After all, without sufficient public funding it would have been impossible to invest in the necessary infrastructure or to hire teachers for either public or government-dependent private schools. It is for this reason that we look at the level of public funding per student in European education

([16]) In fact, the idea of schools providing universal and equal education opportunities was originally part of a wider political agenda. One of the first proponents of universal and equal education, the German philosopher Johann Gottlieb Fichte (1762-1814), argued in favour of equal schooling opportunities for all, aspiring that education would lead to the moral transformation of society and the moulding of the German nation (Vincent, 2013).

([17]) From a historical perspective, the education of school-aged children tended to be a private affair (Roeder, 2015) and affordable only to a fraction of children, given that mass education was only introduced in parts of Europe in the eighteenth century (Lawton and Gordon, 2002).

([18]) Although at the time of writing no scientific studies on the actual impact of COVID-19 on equity in education had yet been published, the JRC's policy brief 'Educational inequalities in Europe and physical school closures during Covid-19' provides some interesting insights (https://ec.europa.eu/jrc/en/research/crosscutting-activities/fairness).

systems in the next section (II.2.1). However, the current research literature suggests that the relationship between funding levels and equity is not linear.

On the one hand, as Roser and Ortiz-Ospina (2016) explain, education expenditure is positively correlated with student performance. On the other, 'above a certain national income level, the relationship between PISA scores and education expenditure per pupil becomes virtually non-existent' (*ibid*.). In the same vein, Schütz, Ursprun and Wößmann (2008) find that the average level of education expenditure (per student) in the OECD countries does not influence equality of opportunity, while Kyriakides (2015, p. 218) reiterates that 'increasing the amount of funding per student does not necessarily result in higher student outcomes' and Wößmann (2003) argues that student performance differences are better attributed to structural rather than resources differences.

According to Merry (2020), additional public funding can allow the pursuit of several 'justice-based strategies'. For instance, additional fiscal resources can be used for

> reducing class size; value-added measures that track minority achievement; homework reduction; after school mentoring and summer enrichment programs; bilingual instruction; optometric and audiological diagnostic services; extra staffing; school community clinics (*ibid.*, p. 69).

Although these actions (some of which are addressed in Chapters II.10-II.12) appear very promising, many of them have 'enjoyed modest success', (*ibid*.).

There are several possible reasons for this counter-intuitive (non-) relationship between additional funding and equity in education. First of all, increased public funding in itself may not be enough. Its potential positive effect may be offset by structural features of the education system, such as steering children on to differentiated pathways or tracks early in their schooling (Franck and Nicaise, 2017). Second, even though additional funding may be available, it may fail to reach the schools or students needing it most (Merry, 2020) ([19]). Third, investment in additional infrastructure or in personnel will be of little effect if disadvantaged students continue to feel alienated from the learning process (*ibid*.). Last, but certainly not least, additional expenditure on education does not address the reasons that led to inequity in education, such as area-specific poverty concentration (*ibid*.).

In conclusion, the fact that schools need funding to exist and to operate, in combination with the literature finding that higher levels of public funding do not always translate into more equity, suggests that the relationship between public funding and equity is not linear.

Another significant research finding related to funding is that 'the family-background effect [on equity] is larger in countries with a larger share of private funding' (Schütz, Ursprung and Wößmann, 2008, p. 281) ([20]). This could be for several reasons. For example, higher levels of private funding can signify that more students attend private schools, that there are more private schools, that private schools are on average more expensive or that parents have (or choose) to invest more in other forms of private education ([21]). In any case, a higher share of private funding is likely to be negatively correlated with equity in education, given that the capacity to invest in private education is unequally distributed in society. Put simply, parents with a higher socio-economic status are in a better financial position and/or more willing to spend part of their income on the education of their offspring than low SES parents. As explained above, public school funding is meant to partially offset unequal education

([19]) See also Chapter II.10.

([20]) In contrast, Busemeyer (2015) finds that higher levels of private funding are associated with higher levels of socio-economic equality.

([21]) Schütz, Ursprung and Wößmann (2008) also found that the impact of socio-economic background on equity is smaller in countries with more private schools. However, Wößmann (2003) found that competition from private schools can help improve student performance. Therefore, private schooling *per se* may not be bad for equity in education.

opportunities, but this does not preclude parents from investing privately in their children's education. Consequently, a relatively high ratio of private to public expenditure on school education may correlate to a relatively low level of equity in education.

Having examined the literature on the potential of publicly funded schooling on equity in education, the next two sections look at

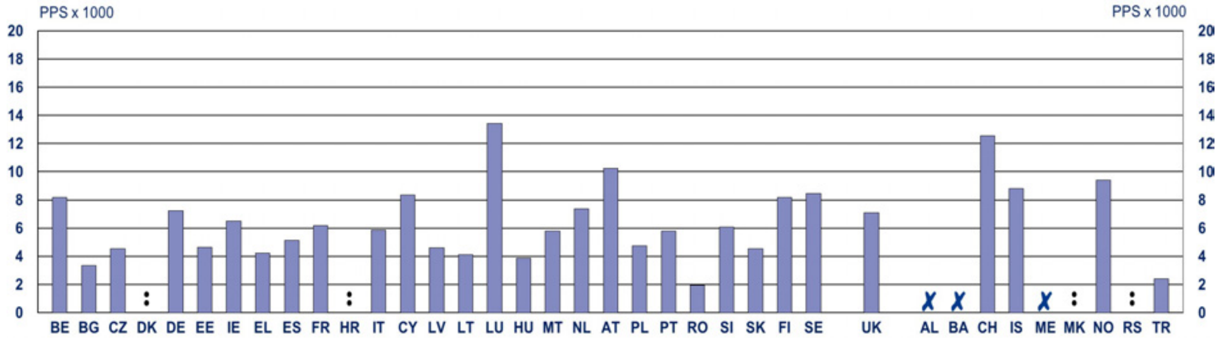
- the distribution of public expenditure on primary and secondary level education (II.2.1) and
- the ratio of private (household) to public expenditure on education in Europe (II.2.2).

II.2.1. Public funding per student

The amount of public funding for schools depends on many factors. The size of the economy and the tax revenues available to the government are important, as are the competing demands of other public services and non-school education institutions. The number of students and schools, as well as the student population and school density, also has an impact. In the end, given the competing demands and financial constraints, a political decision has to be made on the amount to be spent on schools. Obviously, richer countries have more public funds at their disposal and countries with a higher student population need to commit more funds to cover the higher level of need.

Rather than controlling for the size of economy, Figure II.2.1 examines the public expenditure in primary and lower secondary education per pupil/student ([22]). In terms of equity in education, it is more important to show the average expenditure per student, even if this indicator does not reflect the financial capacity of education systems ([23]).

Figure II.2.1: Public expenditure on education per pupil/student in full-time education in PPS (ISCED 1-2), 2016



PPS

BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
8 173	3 345	4 527	:	7 249	4 651	6 489	4 232	5 125	6 179	:	5 852	8 353	4 619	4 108	13 430	3 863	5 785	7 357
AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**		**UK**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
10 248	4 733	5 787	1 940	6 073	4 541	8 178	8 449		7 100	✗	✗	12 562	8 809	✗	:	9 409	:	2 416

Source: Eurostat [educ_uoe_fine09] (last update: 24/02/20).

Explanatory notes

To facilitate cross-system comparison, the expenditure is expressed in purchasing power standards (PPS). PPS are obtained by dividing the original value in national currency units by the respective purchasing power parity (PPP). The PPP is a currency conversion rate which converts economic indicators expressed in a national currency into an artificial common currency that equalises the purchasing power of different national currencies. PPS thus buys the same given volume of goods and services in all countries.

([22]) The data are drawn from Eurostat which provides the summated values for ISCED 1-2 but not for ISCED 1-3.

([23]) Readers interested in public educational expenditure in relation to the size of the economy may wish to consult Roser and Ortiz-Ospina (2016).

According to the latest available Eurostat data, in 2016, European government expenditure per school student was, on average, 5 962 PPS (purchasing power standards) ([24]). Given the different sizes of the European economies, it is only natural that the public spending per student differs between them. Thus, comparatively richer countries (in terms of GDP per capita) can afford to spend more public money per student than other countries, even when controlling for national price differences (Roser and Ortiz-Ospina, 2016) ([25]).

More specifically, Luxembourg, Austria and Switzerland spend more than 10 000 PPS per school student from the public purse, whereas Bulgaria, Hungary, Romania and Turkey spend below 4 000 PPS (see Figure II.2.1). Most countries, namely, Czechia, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Latvia, Malta, the Netherlands, Poland, Portugal, Slovenia, Slovakia and the United Kingdom, spend between 4 000 and 8 000 PPS per student.

In principle, higher public spending per school student should be good news for equity in education, but as explained in the previous section there are caveats. A high level of public funding in itself does not guarantee good results in terms of equity and, furthermore, the effect is unlikely to be proportionate. Consequently, differences between education systems in public funding levels do not necessarily translate into commensurate differences in equity levels (Roser and Ortiz-Ospina, 2016). This point is discussed further in Part III where the correlation between public funding and equity is assessed empirically.

II.2.2. Public versus private funding

The second Eurostat indicator presented in this chapter is (private) household expenditure as a percentage of total public expenditure on schooling (ISCED 1-3). This data is useful from the equity point of view as it reflects the reality on the ground that, in most countries, the state does not have a perfect monopoly over children's education. Thus, even where public schools make up the majority in an education system, parents can still invest in private, complementary, education services, or even substitute private for publicly funded education ([26]).

Parents who can send their children to expensive private schools or who can complement their public schooling with privately funded lessons or extracurricular activities may be boosting their children's chances of success. Since the financial capacity for private investment in education is unequally distributed, it is easy to see why a higher private to public funding ratio may be associated with lower levels of equity.

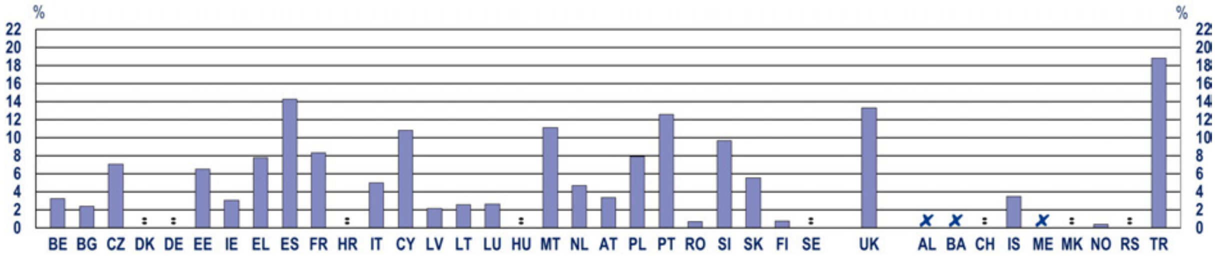
A higher percentage of (private) household funding means that relatively more private investment goes into school-level education. Since private investment in education is a function of parental income and if more private investment leads to better student performance, then children of lower SES families are comparatively disadvantaged. Hence, if publicly funded schooling is intended to make students' socio-economic background irrelevant in terms of school achievement, then, in theory, a higher percentage implies that this intention is at risk. Likewise, in countries where the percentage is high, equity in education may be low (treating all other factors as constant).

([24]) Unless otherwise stated, the average in this chapter refers to the median value. On the meaning of PPS see the explanatory notes of Figure II.2.1.

([25]) See, in particular, the figure 'Government expenditure per primary student vs GDP per capita, 2013', https://ourworldindata.org/grapher/government-expenditure-per-primary-student-vs-gdp-per-capita?country=ESP~GBR~LVA~NLD~SWE~AUT~FIN~SVK~UKR~ALB [accessed 12 June 2020].

([26]) On the relative size of the private sector see Chapter II.3.

Figure II.2.2: Private (household) expenditure as a percentage of total public expenditure on education (ISCED 1-3), 2016 (%)



BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
3.2	2.4	7.1	:	:	6.5	3.0	7.8	14.2	8.3	:	5.0	10.8	2.1	2.6	2.6	:	11.1	4.7
AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**		**UK**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
3.4	7.9	12.5	0.7	9.6	5.5	0.4	:		13.2	x	x	:	3.5	x	:	0.4	:	18.9

Source: Eurydice calculations based on Eurostat [educ_uoe_fine02] and [educ_uoe_fine03] (last update: 24/02/20).

Explanatory notes

The data are drawn from the Eurostat indicators [educ_uoe_fine03] (net payments of households on ISCED 1-3 education in millions of Euros) and [educ_uoe_fine02] (general government total expenditure on ISCED 1-3 education in millions of Euros) expressed in percentage rates.

Household expenditure on school-level education is on average equivalent to 5.25 % of public expenditure. This shows clearly that parental investment in education makes up only a small proportion of the funds committed by the state for this purpose. In other words, school education in Europe is, by and large, funded by public money.

Nevertheless, as Figure II.2.2 illustrates, there is considerable variation between countries. Whereas in most countries school-level education is largely funded from public sources, in some, private funding makes a substantial contribution, although it never matches the levels of public funding. Thus, in the majority of European countries (for which data are available) the figure is below 10 %, while in some, private expenditure on education is almost negligible. The latter is the case in Finland, Romania and Norway where (private) household expenditure is below 1 %.

In six education systems, private funding plays a greater role and is equivalent to more than 10 % of public expenditure. In ascending order, these systems are Cyprus, Malta, Portugal, the United Kingdom, Spain and Turkey. Turkey stands out as it has the highest proportion of private expenditure by far with nearly 19 % (see Figure II.2.2). At the same time, as shown in the next chapter (see Figure II.3.1), it has one of the lower percentages in terms of the student population in private schools (ranging from 4.3 % in primary education to 5.2 % in lower secondary and 8.8 % in upper secondary). As this is not the case in Spain, Cyprus, Malta, Portugal or the United Kingdom, it follows that the high proportion of private expenditure in Turkey must be due to something other than the proportion of the student population in private schools. In any case, the fact that household expenditure is relatively higher in all these countries (Turkey included) may mean that equity in education is comparatively lower. The empirical relationship between equity and the proportion of private to public expenditure on education is tested in Part III.

II.3. DIFFERENTIATION AND SCHOOL TYPES

Main findings

Examining school types from different angles contributes to understanding the degree of differentiation in European countries. While a great variety of school types can cater for the diverse needs of students, it can also increase educational inequalities. Therefore, it is important to strike the right balance between the goals of accommodating diverse needs and educational equity.

Most European education systems offer different types of school to meet the different needs of students. Differentiation may be made on the basis of governance and funding (public or private sector), curriculum (e.g. schools offering diverse specialisations or educational pathways), or structural features (different school types catering for different age groups or levels of education in parallel).

- Private schools – especially fee-paying ones – can increase social and academic segregation in an education system, and consequently, educational inequalities. However, researchers also indicate that educational inequalities could be smaller in systems with larger private sectors.
- Curricular differentiation exists in half of the education systems covered in this report. As a general pattern, if curricular differentiation commences at primary level it then continues through all school levels.
- Only nine education systems have structural differentiation. However, this form of differentiation have important consequences on other systemic features such as school choice, school admission or tracking.

Though these education system features can be independent from each other, in reality they are often interlinked. As private education institutions often have greater autonomy than public ones, public/private differentiation can contribute to greater curricular differentiation. Similar links can be found between public/private and structural differentiation as well, though to a lesser extent.

In all education systems, students differ from each other in their backgrounds, experiences, abilities and needs. Many countries try to cater for these differences by introducing differentiation into their education system. Differentiation is provided by grouping students based on their ability, interest, or other characteristics. Students may be grouped within classes, in different classes, schools or school programmes/pathways. Such groupings can be based on choice (see Chapter II.4) or selection (see Chapter II.5). Irrespective of the underlying system, however, an important effect of differentiation is that students of similar ability levels tend to congregate within the same schools or within the same classes (Parker et al., 2016, p. 12).

This chapter focuses on differentiation via a range of different school types. Introducing diversity into the educational offer through an increased number of school types rests on the assumption that education is a 'quasi-market', where increased competition can improve the performance of education providers, and ultimately students' learning outcomes, thus enhancing the effectiveness of education (Dumay and Dupriez, 2012). Different types of schools may suit different students; therefore, the diversity on offer can lead to better educational opportunities for all. However, empirical evidence also suggests that differentiation and the diversity in school types tends to increase the impact of socio-economic background on student achievement (Ammermüller, 2005; Strietholt et al., 2019). In highly differentiated systems, the gaps between the achievements of students from higher and lower socio-economic backgrounds are greater.

Against this background, this chapter discusses the availability of different school types in education systems across three dimensions ([27]):

- **Public/private differentiation**: refers to the existence of private schools alongside public schools which differ in their rules of governance.
- **Curricular differentiation**: this occurs when different types of school may follow different core curricula or certain school types may deviate from the core curricula.
- **Structural differentiation**: refers to different models of primary and secondary education existing in parallel within an education system. In the case of structural differentiation, students can enrol in different types of school at different ages, which means that different groups of students experience transitions between schools at different ages in their schooling.

II.3.1. Public/private differentiation

Public/private differentiation occurs when an education system incorporates private education institutions that have different governance structures or regulatory frameworks from those in the public sector. Public schools are controlled and managed by public education authorities or other public bodies ([28]), while the control and management of private education institutions is ensured by private bodies outside of government ([29]). Due to these differences between governance structures, there may be significant differences between these institutions in terms of the regulatory framework covering admission procedures (see Chapter II.5), teaching content, evaluation, or other areas. When private schools are not bound by the same regulations as public schools they increase educational choice. The presence of private institutions in education systems increases their 'quasi-market' features.

Besides governance, the main sources of funding represent another important difference between education institutions. Most importantly, private institutions can be either government-dependent or government independent based on whether they receive more than 50 % of their core funding from public sources ([30]). While being controlled and managed by private bodies, government-dependent private institutions receive at least 50 % of their core funding (or the salaries of their teaching personnel) from the government (UNESCO-UIS/OECD/Eurostat, 2018). Due to this financial dependence on the state, government-dependent private schools usually differ less from public schools in terms of their regulatory framework than schools which are totally independent of

([27]) A fourth dimension along which school types can be distinguished is linked to the selectivity of schools. Such **selective differentiation** exists when schools within the same sector following the same curriculum and operating within a uniform structure still differ in how they define their admission criteria. One form of selective differentiation is academic selectivity. Academically selective schools exist for example in the United Kingdom – England and Northern Ireland – (grammar schools) and Greece (model experimental gymnasiums and lyceums). Another form of selective differentiation is selection based on religious affiliation as represented by some public school types in the United Kingdom (faith schools in England and Wales and integrated schools in Northern Ireland). Selective differentiation will be discussed in Chapter II.5 on school admission policies.

([28]) An institution is classified as public if it is controlled and managed 1) directly by a public education authority or agency or 2) either by a government agency directly or by a governing body (council, committee etc.), most of whose members are either appointed by a public authority or elected by public franchise (UNESCO-UIS, 2019).

([29]) An institution is classified as private if it is controlled and managed by a private body outside of government (e.g. a church, a trade union or a business enterprise, foreign or international agency), or its Governing Board consists mostly of members not selected by a public agency (UNESCO-UIS, 2019).

([30]) The terms 'government dependent' and 'independent' refer only to the degree of a private institution's dependence on funding from government sources; they do not refer to the degree of government direction or regulation. A **government-dependent private** education institution is one that either receives at least 50 per cent of its core funding from government agencies or one whose teaching personnel are paid by a government agency – either directly or through government. A **government independent private** education institution is one that either receives less than 50 per cent of its core funding from government agencies or those whose teaching personnel are not paid by a government agency – either directly or through government (UNESCO-UIS/OECD/Eurostat, 2018, p. 26).

government. Nevertheless, some regulatory differences between public and government-dependent private schools still exist and these are discussed in the related thematic chapters of Part II.

Evidence suggests a mixed relationship between equity in education and public/private differentiation. On the one hand, the presence of private schools in an education system can increase social and academic segregation, and consequently, educational inequalities (Ammermüller, 2005; Bodovski et al., 2017; see also Chapter II.2). As Chapter II.2 highlighted, comparative research has found that the impact of socio-economic background on learning achievement tends to be greater in systems with higher levels of private expenditure as a proportion of total educational expenditure (Schütz, Ursprung, and Wößmann, 2008). In other words, the size of private contributions parents have to make (for example in the form of paying fees in private schools) can have a negative impact on equity.

On the other hand, looking at only the size of the private sector irrespective of the proportion of private contributions shows different results. Researchers have found a modest negative relationship between the impact of socio-economic background on learning achievement and the share of privately managed schools (Bodovski et al., 2017; Schlicht, Stadelmann-Steffen and Freitag, 2010; Schütz, Ursprung and Wößmann, 2008). In other words, educational inequalities could be smaller in systems with larger private sectors. One potential explanation for this relationship is that in systems where the share of private educational institutions is high, these institutions tend to be government-dependent rather than fully independent and so the differences with the public sector are less pronounced (Schlicht, Stadelmann-Steffen and Freitag, 2010).

Figure II.3.1 shows the proportion of students studying in private education institutions in primary, lower and upper secondary education (ISCED 1-3), distinguishing, where possible, between the government-dependent and the government-independent sector. As the figure depicts, less than 5 % of students in primary and lower secondary education attend private institutions in 18 education systems (13 education systems at upper secondary level). In these countries, the private sector has a negligible weight, and most often consists of government independent private schools ([31]).

The public sector is still dominant with over 80 % of pupils attending public schools in a further 14 education systems in primary education, and in 11 and 15 systems in lower and upper secondary education respectively. In these countries, the relative weight of government-dependent and government independent private institutions varies. While at primary level there are more pupils in government independent institutions within the private sector in the majority of the education systems in this group, this is not the case at secondary level ([32]).

Finally, in four countries, the proportion of pupils in public educational institutions is below 80 % in primary education. The share of the private sector is the highest in Belgium (nearly 55 %), followed by Malta (44 %), Spain (around 30 %), and the United Kingdom (around 24 %). In all four countries, government-dependent institutions predominate within the private sector; in Belgium, the share of government independent schools is below 1 %. Within this group, the proportion of pupils in government independent education institutions is the highest in Malta, above 13 %.

The relative weight of the private sector is greater in lower and upper secondary education, with seven and eight countries respectively having more than 20 % of their students in private institutions. Differences between primary and lower secondary education are less pronounced, and exceed 10 percentage points only in Denmark and the United Kingdom, with fewer students in public institutions in lower secondary education. The difference is most notable is the United Kingdom, where

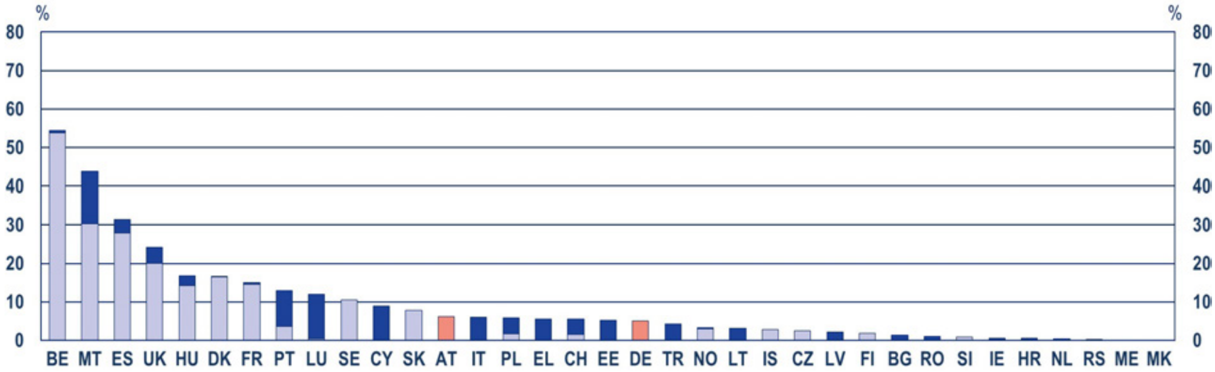
([31]) Information on the government dependency of private institutions is not available for Germany.

([32]) Information on the government dependency of private institutions is not available for Austria.

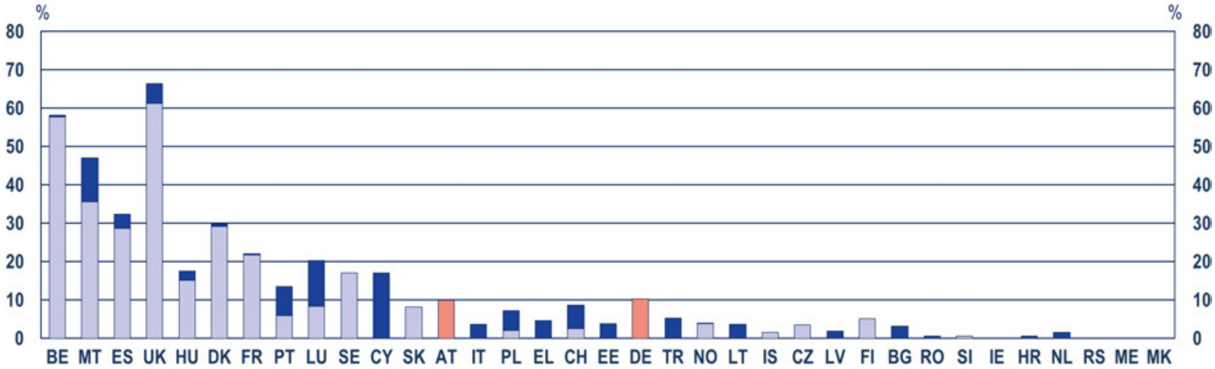
less than 25 % of pupils attend private schools at primary level, in contrast to 66 % at lower secondary level [33].

Figure II.3.1: Proportion of pupils in private education institutions (ISCED 1-3), 2017

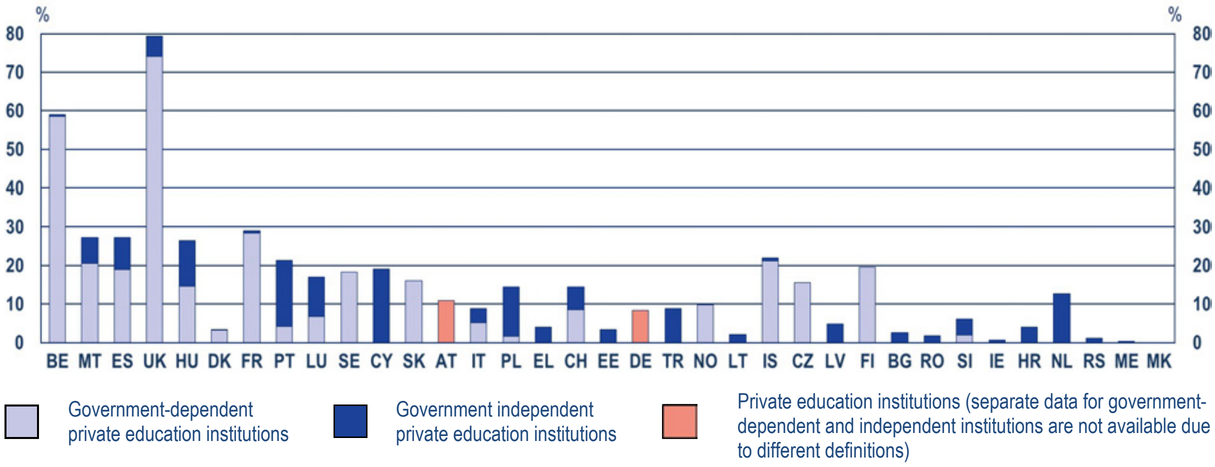
II.3.1.A: ISCED 1



II.3.1.B: ISCED 2



II.3.1.C: ISCED 3



Source: Eurostat, [educ_uoe_enra01], last updated 02.12.2019.

(33) This is mainly due to the development of academies in England, which are government-dependent private schools. The programme applied to secondary schools from 2002, and in 2010 was extended to primary schools, with numbers increasing rapidly (for academies, see also Section II.3.2).

ISCED 1	BE	MT	ES	UK	HU	DK	FR	PT	LU	SE	CY	SK	AT	IT	PL	EL	CH	EE
Govt-dependent	53.7	30.3	27.8	20.0	14.2	16.4	14.5	3.5	0.3	10.5	(-)	7.7	:	0.0	1.6	(-)	1.5	(-)
Govt independent	0.7	13.5	3.6	4.2	2.5	0.2	0.4	9.4	11.6	0.0	8.9	(-)	:	6.0	4.2	5.5	4.0	5.2
	DE	TR	NO	LT	IS	CZ	LV	FI	BG	RO	SI	IE	HR	NL	RS	ME	MK	
Govt-dependent	:	(-)	3.0	(-)	2.8	2.4	(-)	1.8	(-)	0.0	0.9	0.0	(-)	(-)	(-)	0.0	0.0	
Govt independent	:	4.3	0.4	3.2	0.0	(-)	2.1	(-)	1.3	1.1	0.0	0.6	0.5	0.4	0.2	0.0	0.0	
ISCED 2	BE	MT	ES	UK	HU	DK	FR	PT	LU	SE	CY	SK	AT	IT	PL	EL	CH	EE
Govt-dependent	57.6	35.5	28.6	61.2	15.1	29.2	21.7	5.9	8.4	17.1	(-)	8.1	:	0.0	2.1	(-)	2.6	(-)
Govt independent	0.5	11.5	3.7	5.2	2.5	0.6	0.4	7.6	11.9	0.0	17.0	(-)	:	3.6	5.1	4.6	6.0	3.8
	DE	TR	NO	LT	IS	CZ	LV	FI	BG	RO	SI	IE	HR	NL	RS	ME	MK	
Govt-dependent	:	(-)	3.8	(-)	1.6	3.5	(-)	5.1	(-)	0.0	0.6	0.0	(-)	(-)	(-)	0.0	0.0	
Govt independent	:	5.2	0.3	3.6	0.0	(-)	1.9	(-)	3.2	0.6	0.0	0.0	0.7	1.6	0.1	0.0	0.0	
ISCED 3	BE	MT	ES	UK	HU	DK	FR	PT	LU	SE	CY	SK	AT	IT	PL	EL	CH	EE
Govt-dependent	58.5	20.6	18.9	74.1	14.6	3.2	28.3	4.2	6.7	18.3	(-)	16.0	:	5.2	1.7	(-)	8.5	(-)
Govt independent	0.5	6.7	8.4	5.2	11.8	0.2	0.7	17.2	10.2	0.0	19.2	(-)	:	3.7	12.8	4.1	6.0	3.3
	DE	TR	NO	LT	IS	CZ	LV	FI	BG	RO	SI	IE	HR	NL	RS	ME	MK	
Govt-dependent	:	(-)	9.7	(-)	21.1	15.5	(-)	19.6	(-)	0.0	1.9	0.0	(-)	(-)	(-)	0.0	0.0	
Govt independent	:	8.8	0.0	2.2	0.9	(-)	4.8	(-)	2.6	1.7	4.2	0.6	4.1	12.6	1.2	0.4	0.0	

Source: Eurostat, [educ_uoe_enra01], last updated 02.12.2019.

Explanatory notes

Education systems are ordered according to the proportion of students in private education institutions at ISCED level 1.

For further information on government-dependent private education institutions, see Figure II.4.3.

Country-specific notes

Germany and **Austria**: Information on the government dependency of private institutions is not available in the UOE dataset. However, as Figure II.4.3 shows, government-dependent private schools exist in both countries.

Slovenia: The proportion of private government independent institutions varies annually due to the nature of financing of private education. All private institutions providing officially recognised programmes receive 85 % of the programme cost from the state budget. The state does not cover capital investment in private education, therefore the assessment on private institutions' dependency can vary on an annual basis depending on the size of capital investment.

Albania and **Bosnia and Herzegovina**: Not participating in the Eurostat data collection.

Regarding differences between primary and upper secondary education (ISCED 3), the picture is more mixed. As a general pattern, the percentage of students attending public education institutions tends to be lower at upper secondary than at primary or lower secondary level. Differences following this pattern exceed 10 percentage points between primary and upper secondary education in Czechia, France, Cyprus, the Netherlands, Finland, the United Kingdom and Iceland. Again the biggest difference can be found in the United Kingdom, where almost 80 % of upper secondary students attend private education institutions. At the same time, the public sector is more predominant in upper secondary than at lower levels with differences exceeding 10 percentage points between primary and upper secondary levels in Denmark and Malta.

II.3.2. Curricular differentiation

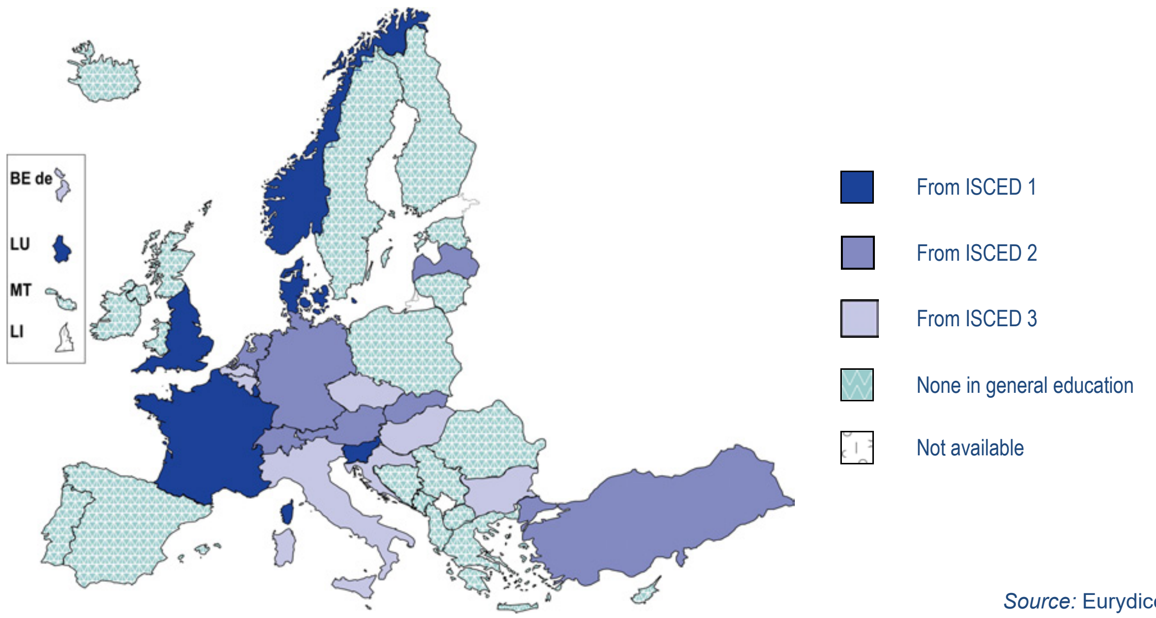
Besides differentiation between public and private institutions, education systems can also make distinctions based on teaching content. Such differences are captured by the concept of curricular differentiation.

Curricular differentiation refers to the situation where different types of school follow different curricula at the same educational level. Tracking (see Chapter II.6) is the best known form of curricular differentiation, but the concept of curricular differentiation is not limited to differentiated tracks or pathways. Most notably, it also includes distinctions between different school types within the same educational pathway if they follow different curriculum content and/or different intended (minimum) instruction time for the same curriculum content.

Given that tracking and differences between vocational and general pathways are discussed in more detail in Chapter II.6, this section is limited to presenting curricular differentiation within general education, in the public and government-dependent private sector.

Figure II.3.2 displays the use of curricular differentiation in education systems by ISCED levels. As the figure depicts, curricular differentiation exists in half of the education systems covered in this report.

Figure II.3.2: Curricular differentiation in general education (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure considers both public and government-dependent private schools.

Country-specific notes

Denmark: There is no curricular differentiation in public schools at ISCED 3.
Germany: At ISCED level 1, the *Länder* have their own curriculum, but within one *Land*, all schools have to follow the same curriculum.
United Kingdom (ENG/WLS/NIR): At Key Stage 5 of ISCED 3 (ages 16-18/19), there is no compulsory curriculum.
United Kingdom (SCT): The Curriculum for Excellence is the national curriculum from ISCED 0 to 3, which only sets guidelines on the school curriculum. The responsibility about what is taught in class rests with local councils and schools, and schools can make their own decisions on what to teach pupils, although they have to take national guidelines and advice into account.
Switzerland: At ISCED level 1, the language regions have their own curriculum, but within a language region, all schools have to follow the same curriculum.

As a general pattern, if curricular differentiation is present at a lower ISCED level, then it continues throughout school education. For example, in education systems with curricular differentiation at ISCED level 1 (primary education), curricular differentiation remains a systemic feature at ISCED levels 2 and 3 (lower and upper secondary education). Therefore, the figure shows at which ISCED level the differentiation starts. The only exception is Denmark, where although different types of schools can follow different curricula at ISCED 1 and 2, there is no curricular differentiation at ISCED level 3.

Curricular differentiation starts at primary level in six education systems: Denmark, France, Luxembourg, Slovenia, the United Kingdom (England) and Norway. In Denmark, Slovenia, England and Norway, curricular differentiation occurs between public and government-dependent private schools, as government-dependent private schools are allowed to develop their own curricula or educational programmes. Certainly, in such cases, the extent of curricular differentiation might differ depending on the relative proportion of government-dependent private institutions (see previous section).

In **Denmark**, as long as the education provided by government-dependent 'independent schools' measures up to the education in public schools and gives students the same possibilities of advancing in the education system, independent schools are free to develop their curricula independently.

In the **United Kingdom (England)**, 'academies' are government-dependent private schools that do not have to follow the National Curriculum, while having the obligation to provide a broad and balanced curriculum, including a range of compulsory subjects. Academies were first established in secondary education, but the programme was extended to primary schools in 2010.

In France and Luxembourg, the primary source of curricular differentiation is the presence of public schools (or in France, both public and government-dependent private schools) with different language regimes.

In **France**, international schools (or international sections within schools) offer education programmes with a stronger foreign language component in 17 different languages from primary to upper secondary education.

Curricular differentiation starting at ISCED levels 2 and 3 is frequently linked to tracking and therefore differences are often defined as separate education pathways (see Chapter II.6.). These differences can also be present in education systems where curricular differentiation starts at primary level. In this case, additional differences appear in lower and/or upper secondary level.

Besides the relative autonomy of government-dependent private schools, curricular differentiation in lower and upper secondary general education takes two main forms. First, in some education systems, secondary level education institutions differ mainly in their specialisation. Second, differences may lie in the level of teaching or learning requirements of the different types of education institution.

In education systems where different types of secondary school offer different specialisations, there are separate education programmes with a particular emphasis on specific subjects or curriculum areas (social sciences, languages, mathematics, etc.). This pattern of curricular differentiation exists in Belgium, Bulgaria, Czechia, Croatia, Italy, Latvia, Norway and Turkey.

In **Croatia**, upper secondary general education institutions (*gimnazije*) can be general or specialised. There are five types of general upper secondary education programmes which differ in the designated instruction time for specific subjects: general upper secondary education (basic) (*opća gimnazija*), as well as general upper secondary education with emphasis on languages (*jezična gimnazija*), on classical languages (*klasična gimnazija*), on natural sciences and mathematics (*prirodoslovno-matematička gimnazija*), and on natural sciences (*prirodoslovna gimnazija*).

Similarly, in **Italy**, there are six main types of upper secondary education institutions (*liceo*) specialising in the following areas: arts (*Liceo artistico*), classical studies (*Liceo classico*), maths and sciences (*Liceo scientifico*), languages (*Liceo linguistico*), music and dance (*Liceo musicale e coreutico*), and human sciences (*Liceo delle scienze umane*). Some of these *liceo* types have further sub-specialisations (e.g. *Liceo economico-sociale* within *Liceo delle scienze umane*).

For differences in the level of teaching or learning requirements of different types of education institution, typical examples are the hierarchically ordered general educational paths of Germany, the Netherlands, Austria or Switzerland (see also Chapter II.6.). However, other education systems also apply similar organisational principles (e.g. Czechia, France, Luxembourg, Hungary or Slovakia). The different education programmes offered by different types of school may even – though not necessarily – lead to different upper secondary qualifications in this case.

In **Germany**, at lower and upper secondary level, educational programmes offered by specific school types are linked to a certain leaving certificate. Traditionally these school types are the *Hauptschule*, the *Realschule* and the *Gymnasium*, with the latter having the highest level of learning requirements (most 'academic') in given subjects. Furthermore, cooperative or integrated secondary schools exist in most *Länder*. The cooperative secondary school (*kooperative Gesamtschule*) brings together the *Hauptschule*, *Realschule* and *Gymnasium* educational programmes under one pedagogical and organisational roof. The integrated secondary school (*integrierte Gesamtschule*) forms a pedagogical and organisational unit covering the three educational programmes of lower secondary level, i.e. students of all three educational programmes attend the same lessons. Schools offering several courses of education (*Schularten mit mehreren Bildungsgängen*) combine two or three educational programmes under one roof.

In **France**, there are two educational programmes in upper secondary general education which can be provided by different school types or within the same school (*Lycée général et technologique*).

In **Austria**, there are two main school types at lower secondary level (ISCED 2), the new secondary school (*Neue Mittelschule*) and the lower level academic secondary school (*Allgemeinbildende Höhere Schule*).

II.3.3. Structural differentiation

Structural differentiation refers to a systemic feature of education systems where students can enrol in separate types of school at different ages, though these schools do not necessarily differ in the curriculum they follow. In these cases, the transition between schools does not take place for all students at the same time (e.g. at the end of primary or of lower secondary education), but at different ages depending on the type of school in which they choose to enrol. This means that in an education system, there are different education institutions representing different models of primary and secondary education existing in parallel. For this reason, structural differentiation can also be referred to as having parallel or alternative education structures.

Structural differentiation is a term that covers quite different institutional arrangements. Figure II.3.3 depicts all education systems with parallel education structures, making distinctions between them based on the ISCED levels concerned. Structural differentiation is not common in Europe. It exists in less than a quarter of education systems covered in this report.

Three education systems have structural differentiation from ISCED levels 1 to 3: Spain, Latvia and Lithuania. In Spain, typically there are separate primary (ISCED 1) and secondary schools (ISCED 2 and ISCED 3 together), but some Autonomous Communities organise their education system differently. In addition, differences also exist within Autonomous Communities, as government-dependent private schools can offer alternative structures (e.g. a single setting from ISCED 1 to 3).

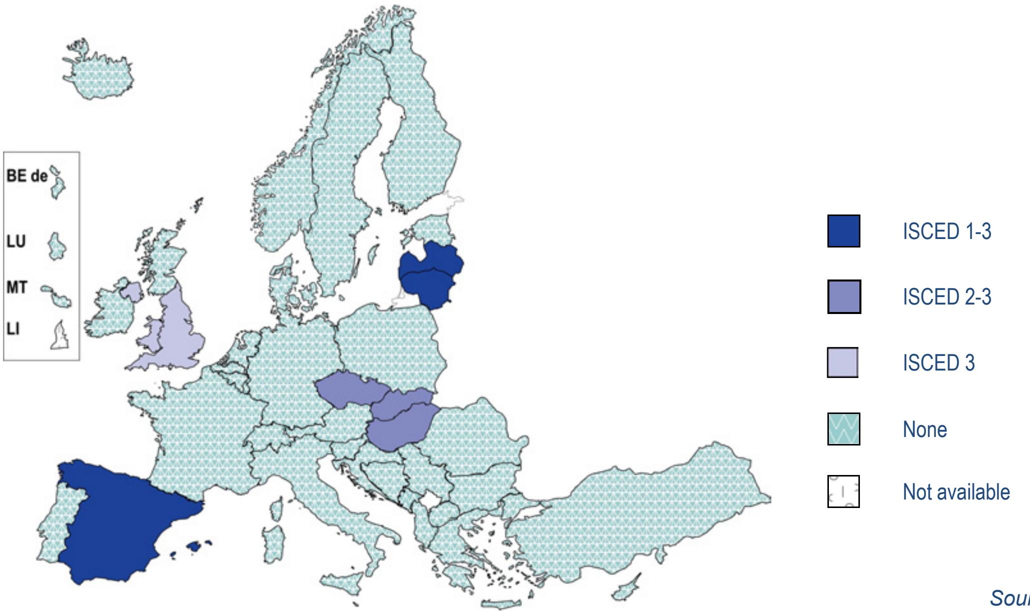
In Navarra, there are separate schools combining ISCED 1 and the first and second grades of ISCED 2, or ISCED 2 and the first grade of ISCED 3 (compulsory secondary education). In Castilla-La Mancha, there are schools that combine education in ISCED 1, ISCED 2 and the first grade of ISCED 3 (compulsory secondary education).

In Latvia and Lithuania, parallel structures also emerge from primary education onwards. In these education systems, both primary and secondary schools can offer programmes of different lengths, covering a single level of education or combining different levels or school years from ISCED 1 to 3.

In **Latvia**, the basic education programme can be implemented in two ways. Pupils may enter a six-year primary school (*sākumskola*) providing an educational programme only for ISCED 1, and then transition to a secondary school for ISCED 2 and 3 in a six-year gymnasium. Alternatively, basic education schools (*pamatskola*) are combined primary and lower secondary schools (ISCED 1 and 2), which can be followed up by three-year secondary schools (*vidusskola*).

In **Lithuania**, primary education (ISCED 1) can take place in separate primary schools (*pradinė mokykla*), in schools combining ISCED 1 with part of ISCED 2 (*progimnazija*), or in single-structure basic schools for ISCED 1 and 2 (*pagrindinė mokykla*). Students have various possibilities to transition from these schools to *gimnazija*, which provide upper secondary education usually together with lower secondary education. *Progimnazija* can be found mostly in cities, while *pagrindinė mokykla* is more common in rural areas (ŠMSM, 2019, p. 18).

Figure II.3.3: Parallel educational structures in general education (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure considers both public and government-dependent private schools.

Country-specific note

Switzerland: In a minority of Cantons, pupils can enter *Baccalauréat* schools (*gymnasiale Maturitätsschule*) at different time points either directly after completion of ISCED 1 or during ISCED 2.

Structural differentiation in lower and upper secondary education is a feature of the education systems of Czechia, Hungary and Slovakia. In these systems, while primary education takes place in single-setting schools for ISCED levels 1 and 2, secondary schools can have different organisational forms. Thus, students can leave the single-setting schools at different points either before, during or on completion of ISCED 2, depending on whether they enter eight-year, six-year or four-year secondary schools (gymnasia) ([34]).

Finally, in the United Kingdom (England, Wales and Northern Ireland), structural differentiation only takes place at upper secondary level, after the end of compulsory education. In these systems, for the second part of ISCED 3 ('Key Stage 5'), students have the choice of staying in their secondary school or leaving it and enrolling in government-dependent private institutions such as a sixth-form college (in England) or a further education college.

These patterns of structural differentiation influence other features of education systems such as school choice, admission and selectivity, or tracking. Together with other forms of differentiation, therefore, they can have an important impact on equity. The chapters that follow will provide more details on how the existence of different school types can influence the structure of education systems and in turn, the level of equity.

([34]) There are eight-year (ISCED 2+3), six-year (parts of ISCED 2 + ISCED 3) and four-year (ISCED 3) gymnasia (*gymnázium/gimnázium*) in Czechia and Hungary, while in Slovakia, the eight-year *gymnázium* (parts of ISCED 2 + ISCED 3) exist in parallel to the four-year *gymnázium* (ISCED 3).

II.4. SCHOOL CHOICE POLICIES

Main findings

The freedom to choose a particular school offers families the opportunity to secure the best education for their children. However, research demonstrates that free school choice may also lead to more socio-economic and ability stratification in schools, with consequences both on educational efficiency and equity in outcomes.

- Top-level authorities in three quarters of countries aim to limit school choice in primary education by assigning students, at least on a preliminary basis, to public schools based on their residence. In ten countries, families can opt-out from the assigned primary school only under specific conditions – for example, if after-school child care is available near another school; or if choosing another school does not have a negative impact on the social composition or the school roll of the assigned or the chosen school. Besides these, nineteen education systems allow families to choose another public primary school without any restrictions; thus allowing free choice for active and informed parents.
- In half of countries with preliminary residence-based student assignment in the public sector, different rules apply to government-dependent private schools and/or particular types of public school. These types of school either have a different catchment area; or are exempt from the residence-based student assignment, and they can typically accept applications from anywhere in the country.
- At lower secondary level, in many countries, there is more scope for school choice than at primary level; while at upper secondary level, most countries apply free school choice policies.
- In many of the countries offering universal free choice and/or a range of different school types at primary and lower secondary levels, the top-level authorities also provide centralised information to facilitate an informed choice.

Five types of school choice systems have been identified across Europe: based on similar policies at primary and lower secondary education:

1. Systems where students are assigned to a school based on their residence and there is possibility to choose another school only under certain conditions. No top-level information is available to support choosing another school.
2. Systems where students are assigned to a school based on their residence and there is possibility to choose another public school only under certain conditions, but the conditions do not apply to government-dependent private schools and certain types of public school. In most of these system, there is no top-level information to support choosing another school.
3. Systems where students are assigned to a school based on their residence, but there are no conditions to choosing another school. The same rules apply to all public and government-dependent private schools. Typically, there is no top-level information available to support school choice.
4. Systems where students are assigned to a school based on their residence, but there are no conditions to choosing another school. Government-dependent private schools and some types of public school do not need to apply residence-based assignment or they have different residence rules. Top-level information is publicly available to support school choice.
5. Systems where there is universal freedom choose a school and, in most systems, top-level authorities make information publicly available to support school choice.

School choice refers to the policies which allow families to make individual choices about which educational institution their child will attend. At one end of the school choice spectrum are education systems where there is no choice and students are required to attend the school nearest to their home; at the other end, families are free to choose any school in the education system. In reality, most education systems fall between these extremes, offering more or less freedom to families to choose an appropriate school. The degree of choice effectively depends on conditions set by education authorities, but also on a number of other factors. These include the number and types of schools available in the education system (see Chapter II.3); the information available to parents about their rights and the options on offer (see Figure II.4.4); the school admissions policies in operation (see Chapter II.5) and other policies relating to, for example, funding, educational support and transportation (see Chapters II.10-12).

One of the main arguments for offering school choice is that parents have the right to choose the best education for their children. Another is that it creates competition between schools in attracting students, and competition improves the quality of education. Improved school quality will therefore result in better educational outcomes. Advocates of school choice also highlight that it creates better opportunities for all students, as together with their families they can choose an education corresponding to their personal needs and preferences. From an equity point of view, socio-economically disadvantaged students are claimed to be liberated from residence constraints by being able to choose schools outside their own (often disadvantaged) neighbourhood. However, some contest these efficiency and equity gains said to result from school choice. They underline that not all parents and students may be able to exercise school choice to the same extent (Burgess and Briggs, 2010), which may lead to a creaming off of high-ability and socio-economically advantaged students by some schools, resulting in academic and social segregation of low-ability and socio-economically disadvantaged students (Musset, 2012; Wilson and Bridge, 2019).

Research evidence shows that when presented with the option of choosing a school, not all parents and students choose actively, and those who do so tend to belong to advantaged families who have more information on the options available. Choice only slightly increases opportunities for students who face financial, residence, transport and information constraints (Cornelisz, 2017; Echazarra and Radinger, 2019). For example, school choice may be very limited or non-existent for students living in remote areas, where there is one school or alternative schools are far away, in bigger settlements. Similarly, students living in severe socio-economic conditions may not have the resources – time or financial – to choose to study outside their local neighbourhood.

Parents tend to choose high-performing schools. In addition, parent and student behaviour also reveals the preference for choosing schools which have peers from socio-economically similar or from a more advantaged background (than the neighbourhood school peers) (Butler and van Zanten, 2007; Rowe E. and Lubienski C., 2017; Wouters et al., 2018). In this way, free school choice can foster sorting by ability (Seppanen, 2003; Soderstrom and UUsitalo, 2010) and socio-economic background (OECD, 2016b).

The effect of school choice on student sorting is also important because school composition (in particular, 'peer effect') has an impact on educational performance (Gibbons S. et al., 2006). Empirical data in PISA 2018 (OECD, 2019b) also illustrates that in education systems where schools are less socially diverse, the link between students' educational performance and their socio-economic status is stronger. Less diversity in schools tends to favour advantaged students, as less social diversity appears to correlate slightly with better performance for advantaged students and weaker performance for disadvantaged ones (OECD, 2019c). In addition, PISA 2015, as well as other academic research, indicates that creaming off high-ability and socio-economically advantaged students has a particularly negative effect on the performance of students in disadvantaged schools (OECD, 2019c) (see also Chapter II.10).

Empirical evidence on the social cohesion effects of school choice are limited. School choice, through its impact on social capital and parental involvement, can contribute to social cohesion when it brings together students and families from different socio-economic backgrounds. However, the stratified student body across schools resulting from school choice policies in reality (Philips et al., 2014) suggests that school choice is likely to add to the private benefits of education, possibly at the expense of its social objectives (Cornelisz, 2017). Sorting students into schools by ability or social status may adversely affect both the efficiency and the equity of the education system (OECD, 2019c).

The impact of school choice policies, including their sorting effects, is influenced by several factors. These include school funding and any financial incentives to support school choice; the regulations in force; and the support services available to schools (Ladd, 2002; Levin, 2009). For example, choice policies supporting disadvantaged and low-performing students can enhance equity (Hanushek, 2003). In addition, the impact of school choice is also largely influenced by associated policies such as the existence of private schools or the availability of different types of public schools (see Chapter II.3). Other significant factors are the information available to parents on school supply, the conditions and procedures involved in choosing a school, as well as policies determining whether and how schools may select students (see Chapter II.5).

This chapter aims to investigate some of these policies related to school choice in European education systems. It looks specifically at

- whether students are, at least on a preliminary basis, assigned to a school based on residence criteria or whether families are free to choose a school; and, in the case of a preliminary assignment according to residence, there is a possibility to choose a public school other than the one assigned;
- choice policies in relation to different school types, including government-dependent private schools;
- the availability of centralised information to inform school choice.

II.4.1. Free school choice and assignment based on residence criteria

Two of the factors to consider when assessing families' freedom to choose a school are whether

- students' are assigned to specific schools, and if so, whether they can opt for another school;
- families may or must express a preference for a school.

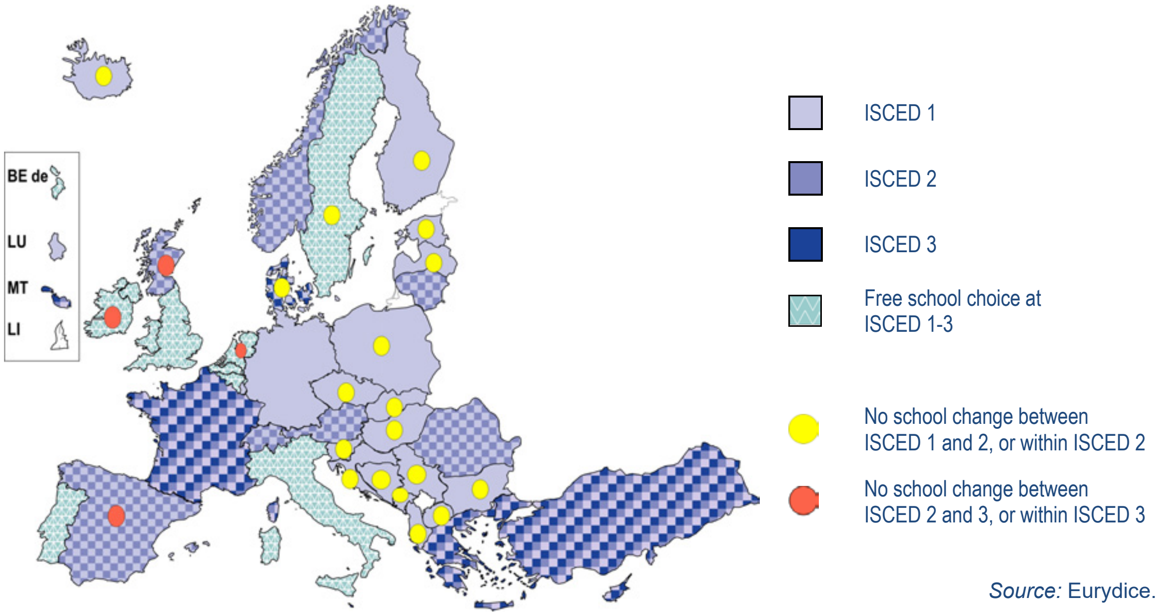
In most countries, students have long been enrolled in the school closest to their home. Assigning students to schools based on residence criteria still prevails in public education. Sometimes a school catchment area is defined for a school, which is the area within which the school must enrol or give priority admission to resident children when they first enrol in school or transfer from one education level to another. The establishment of school catchment areas may be related to resource planning of the school network, and may also aim at ensuring the socio-economic heterogeneity of the student population in schools (see Chapter II.10.1).

Research points to certain conclusions regarding residence-based student assignment:

- it results in less sorting by ability or socio-economic background. It is also widely acknowledged that establishing and adapting school catchment areas can help to ensure the socio-economic diversity of the student body in local schools;
- it does not help resolve the problem of socio-economic segregation which occurs in schools located in the segregated neighbourhoods of big cities or deprived rural settlements;
- it does not prevent affluent families from choosing their preferred school since they may move house to the desired school neighbourhood or arrange to provide a home address in the catchment area. The moving of advantaged families into such school neighbourhoods increases house prices, which over time may squeeze out less well-off families (Leech and Campos, 2003).

Figure II.4.1 shows the education systems in which students are assigned to a public school, at least initially, based on geographical/residence criteria at primary, lower and upper secondary levels. It applies only to children and young people enrolling in school for the first time or transferring to a school at the next level at the usual time, or in certain countries, when transferring from a specific grade to the next grade within an educational level. This figure presents policies applicable to the public schools enrolling the most children at a specific education level in the education system. Where different rules apply to other types of public and government-dependent private schools, they are presented in Figure II.4.3.

Figure II.4.1: Assignment of students to public schools based on geographical/residence criteria (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure presents education systems where, according to top-level regulations/recommendations, students are assigned to a public school based on residence criteria (their home address), at least on a preliminary basis. Preliminary assignment means that students are allocated to a school, but parents/students may choose another school, subject to conditions determined by the responsible body.

In the majority of education systems, students change school when they progress from primary to lower secondary education or at some point during lower secondary education, and/or progress from lower secondary to upper secondary education or during upper secondary education. However, in some countries this is not the case due to the structure of the education system, the yellow and orange dots therefore indicate when there is usually no change at a particular level.

Country-specific notes

Malta: Data refer to compulsory education at ISCED 3. Students can choose a school when they enrol in non-compulsory upper secondary education.

Czechia, Hungary, Latvia and **Slovakia**: In these countries, parallel structures (see Figure II.3.3) exist from the beginning of lower secondary education. Most students do not change school between ISCED 1 and ISCED 2 (single structure primary and lower secondary education). However, some students who choose to study in a different type of school at ISCED 2 change school. See explanation related to Figure II.4.3.

Spain: Most students do not change school when they progress from lower to upper (non-compulsory) secondary education because secondary schools offer different educational programmes/pathways. However, students can change schools. In which case, they need to go through the ordinary admissions process (see Chapter II.5).

United Kingdom (ENG/WLS/NIR): There is no transition between schools when students progress from ISCED 2 to ISCED 3. However, there may be transition between schools within ISCED 3 from Key Stage 4 to (post-compulsory) Key Stage 5.

Switzerland: At upper secondary level, free school choice is limited – with possible exceptions – to the borders of a Canton.

At primary level, students are, at least as a preliminary step, assigned to a primary school based on residence criteria in a majority of European education systems. However, there are 11 systems (all communities in Belgium, Ireland, Italy, the Netherlands, Portugal, Sweden and the United Kingdom – England, Wales and Northern Ireland) where parents have the right to or must choose a (public or a private) school at primary, lower and upper secondary levels for their children. However, school admissions criteria determine the school to which the child is eventually admitted (see Chapter II.5 on school admissions policies).

At lower secondary level, fewer countries use the residence allocation mechanism than at primary level. There are 18 education systems with single structure primary and lower secondary education, which implies that most students do not normally change school between primary and lower-secondary education or during lower secondary education (these are marked by yellow dots in Figure II.4.1). Of the 24 education systems where students usually change school, in only 12 are students assigned, as a preliminary step, to a neighbourhood school. In the remaining countries (in Germany and in Luxembourg, in addition to the systems mentioned at primary level), parents and students are free to choose their desired lower secondary school.

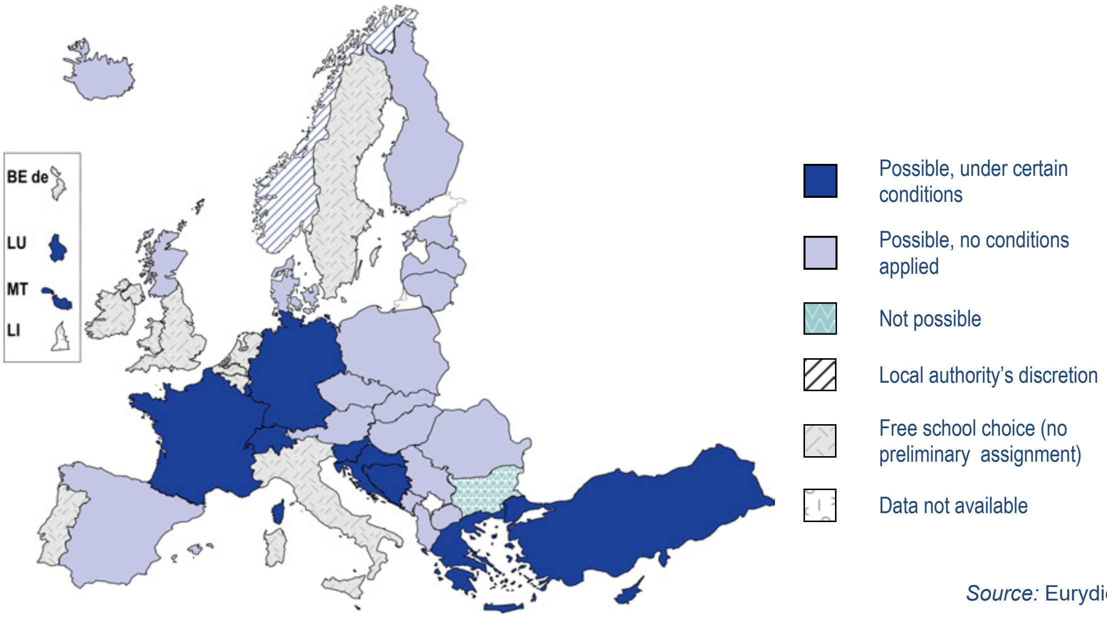
At upper secondary level, families are free to choose a school in most countries. Only six countries (Denmark, Greece, France, Cyprus, Malta and Turkey) assign students to schools on the basis of their place of residence. Free school choice at upper secondary level can probably be explained by the fact that at this level the educational offer is more diverse, with various types of schools offering different curricula. In addition, ISCED 3 is not part of compulsory education in many countries [35], consequently, authorities may not seek to ensure that all types of schools and programmes are evenly distributed across the country. It should be noted that in four systems (Spain, Ireland, the Netherlands and the United Kingdom – Scotland), students do not typically change schools between lower and upper secondary education or within upper secondary education (these are marked by orange dots in Figure II.4.1). This may be due to long programmes covering lower and upper secondary levels, and also because both lower and upper secondary programmes are offered in the same school. In Belgium – French and Flemish Communities, Spain and Luxembourg, where schools usually offer lower as well as upper secondary programmes, most students do not change school, but they may if they wish, or if their school does not offer the programme they want at upper secondary level.

When students are allocated to schools at primary and lower secondary levels based on residence criteria, in many countries this is often only a preliminary placement. In some of these countries, families are free to 'opt out', choose another school but in others this option is allowed only under certain conditions, which vary between education systems.

([35]) Czechia, Denmark, Estonia, Greece, Croatia, Latvia, Cyprus, Poland, Slovenia, Finland, Sweden, Albania, Bosnia and Herzegovina, Switzerland, Iceland, Montenegro, Norway and Serbia

Figure II.4.2 depicts whether opting for another school is possible at primary and lower secondary levels, as these are the levels at which students are generally allocated a place nearest their home. The figure deals only with public schools because top-level legislation usually allows freedom of choice with respect to private schools (government-dependent or fully independent).

Figure II.4.2: Possibility to choose a public school other than the one inially assigned (ISCED 1-2), 2018/19



Source: Eurydice.

Explanatory notes

This figure presents education systems where, according to top-level regulations/recommendations, it is possible for parents/students to choose a public school other than the one initially assigned at primary and lower secondary levels.

Country-specific notes

Germany and **Luxembourg**: Data refer to primary education. From lower secondary education, there is no allocation to schools by residence (see Figure II.4.1).
Austria: Data in the figure refer to the national framework law. Province regulations may vary.

In 11 countries, it is possible to opt for a public school other than the one initially assigned under certain conditions. These countries refer to three types of condition.

1. Where the chosen school offers a special programme not provided by the school assigned nearest the home – for example, schools with advanced or specialised classes, schools with an alternative pedagogy, or subject-specialist schools (e.g. in music, sports, etc.). This is the case in Greece, Croatia, Malta, Bosnia and Herzegovina, Switzerland as well as Turkey.

2. Where family circumstances require another school or after-school child care is available in the proximity of the alternative school, as in France, Cyprus and Malta.

   In **France**, the conditions for choosing another school are tightly restricted, and the authorities are becoming less willing to agree. However, the presence of a sibling in another school can allow derogation from the strict residence-based school assignment plan, the *carte scolaire*.

   In **Cyprus**, if students are to be cared for after school somewhere other than their own home, for example at their grandparents' house, parents can choose a school close to this address.

   Similarly, in **Malta,** parents can request to have their primary school child enrolled in a school close to where they work or where after-school child care is provided (called *Klabb* 3-16) as it is not universally available in all schools.

3. When choosing another school does not disrupt the social composition of the allocated school or catchment area; or affect the school roll to the extent that the quality of education or the existence of the school is threatened, as in Luxembourg and Slovenia.

   In **Luxembourg**, in order to preserve the social diversity in schools, municipalities may, under restrictive circumstances, allow families to choose another school at primary level. Parents always need to submit a reasoned request for the school change and prove that after-school childcare is going to be provided by a close family member or an accredited child-minder in the catchment area of the chosen school.

   In **Slovenia**, parents first need to enrol their children into the catchment area school and, once this is completed, they need to request that their child is re-enrolled in another public school. The school of their choice can accept the request if neither the catchment area school nor the chosen school will suffer from the change, namely, the reduction in the student number does not lead to a reduced number of classes, a change in the school's status, or the closure of the school.

In contrast, in 18 education systems, there are no conditions applied if families want to choose another school at primary or lower secondary level, which implies, in practice, free school choice for informed and active families. In fact, in many of these systems, the school allocated nearest the home is the school that is obliged to enrol the students living in its catchment area, but parents are not obliged to enrol their children in the catchment area school. (Admission to a school which is different from the allocated school will, however, depend on the admission policies applicable – see Chapter II.5 on school admissions policies).

It is also interesting to look at the administration or monitoring of procedures in relation to requests for enrolment to another school in the various countries. In some countries, parents must contact the chosen school and the school head decides on admission (for example, Poland and Serbia); while in other systems (for example, Austria, Germany, Spain, Malta, Iceland and Norway), the local or the top-level authorities monitor and authorise the requests for enrolment to a school other than the one allocated. In Slovenia, the allocated and the chosen schools must cooperate to ensure that all legal obligations and conditions for choosing another school are respected.

II.4.2. School choice and different school types

When examining school choice policies, it is important to assess whether the same approach is applied to all schools throughout the education system. For example, whether students are allocated, at least as a preliminary step, to the nearest public or government-dependent private schools, or whether there are some types of schools that are exempt. Or, in a system with free parental choice, whether there are some types of schools to which a more restrictive choice policy applies. This is important because different school choice policies within a system, especially increased choice in one sector of the education system, may give a greater opportunity to some families to exercise choice and allow more room for stratification in the system.

Figure II.4.3 shows whether there are differences in school choice policies at lower secondary level, on the one hand between the different school types in the public sector (see Figure II.4.3.A), and on the other hand between public and government-dependent private schools (see Figure II.4.3.B). The lower secondary level is in the spotlight here because differences in school choice policies are more prevalent at this level.

When reading together Figures II.4.1 and II.4.3, it seems clear that when free school choice applies to most public schools in an education system, it typically applies across the system as a whole and is not restricted to certain school types in the public sector or to government-dependent private schools. In contrast, in education systems where students are typically allocated to a public school based on their place of residence, not all types of public and/or government-dependent private schools are involved in the process.

Public sector schools

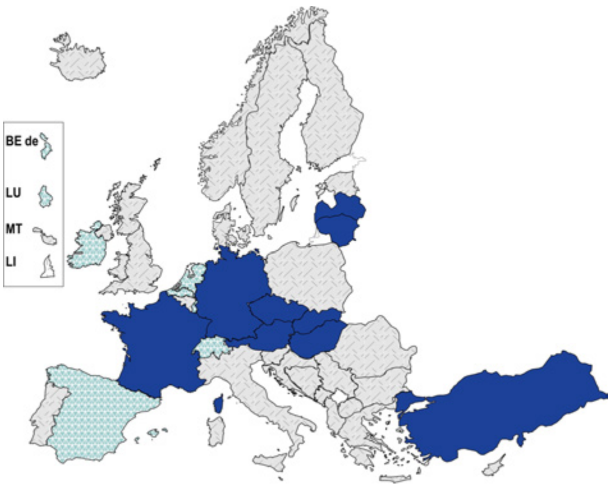
There are more types of public school the higher the level of education (see Chapter II.3). At primary level, five education systems have two or more types of public school. At lower secondary level, this figure rises to 15 systems, and at upper secondary level to 42 systems.

At primary level, school choice policies are the same for all types of public school in Spain, Latvia, Lithuania and Luxembourg. In these countries, students are initially allocated to a public school regardless of type, based on residence criteria/catchment area. However, in France, international schools, public or government-dependent schools offering different curricula at primary or secondary levels (see Figure II.3.2) do not have a catchment area.

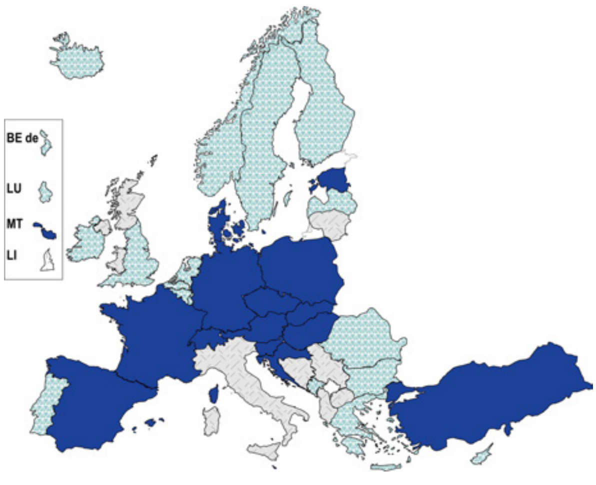
As Figure II.4.3.A shows, in seven of the 15 education systems with different types of schools in the public sector at lower secondary level, the same school choice policy applies to all public school types. In Belgium, Ireland, Luxembourg, the Netherlands, this is free school choice, while in Spain and Switzerland, the preliminary allocation is based on residence.

Figure II.4.3: Differences in school choice policies between types of school (ISCED 2), 2018/19

II.4.3.A: Between types of public school



II.4.3.B: Between public and government-dependent private schools



Different policies | Same policy | Not applicable | Data not available

Source: Eurydice.

Explanatory notes

In Figure II.4.3.A, different types of public school refer to those with different core curricula in general education (Figure II.3.2) as well as vocational education (Figure II.6.2); and to schools with the same core curriculum but organised into different structures (Figure II.3.3). While Figures II.3.2, II.3.3 and II.6.2 cover both public and government-dependent private schools, in Figure II.4.3.A only school types that exist in the public sector are considered (nevertheless, certain school types may also exist in the private sector.)

In Figure II.4.3.A, the category 'not applicable' means there is only one type of public school at lower secondary level. In Figure II.4.3.B, it means there are no government-dependent private schools at lower secondary level.

Country-specific notes

Spain: Students are assigned to government-dependent schools according to residence only if there are no free places available in the public school network.
Switzerland: School choice rules vary between the Cantons

In contrast, different policies apply to some school types in nine of the systems where, at a preliminary stage, students are usually allocated to a public school close to their home. In Czechia, Latvia, Hungary and Slovakia, these differences are related to parallel education structures (see Figure II.3.3). In these systems, most students are enrolled in single structure schools in their neighbourhood providing primary and lower secondary education (there is, at least initial, allocation by residence). At the end of primary education or during lower secondary education, however, some students choose to attend schools which provide both lower and upper secondary education. These latter schools do not have a catchment area, families may apply to them.

In France, Lithuania, Austria and Turkey, differences in school choice policies are related to curricular differentiation (see Figure II.3.2). In Austria, at ISCED 2, the lower level academic secondary school (*Allgemein Bildende Höhere Schule*) does not have school catchment area, while the *Neue Mittelschule* does. In Lithuania, there is no school catchment area for vocational schools at lower secondary level. Conversely, in Germany, where parents can usually choose their child's school at lower secondary level, students wishing to attend the *Hauptschule* must attend the local school; in addition, school choice rules may vary between *Länder*.

At upper secondary level, school choice policies are the same for all school types, including in the six countries (Denmark, Cyprus, Greece, Spain, Malta and Turkey) which have initial, residence-based student allocation. An exception is France, where the school catchment area for vocational schools is different from that of general education schools at ISCED 3, and international schools which do not have a catchment area.

Public and government-dependent private schools

Figure II.4.3.B looks at the difference between public and government-dependent private schools at lower secondary level (it should be noted, however, that the differences are the same at primary level). In 18 of the 33 education systems where government-dependent private schools exist at lower secondary level, the same school choice policies apply to both public and government-dependent private schools.

In contrast, in 15 education systems where students are allocated, at least preliminarily, to a public school based on residence criteria, this does not include the nearest government-dependent private school. Instead, parents and students are free to choose any government-dependent private school instead of the allocated public school. This also means that government-dependent private schools usually do not have a school catchment area from which they would be expected to enrol students ([36]). Further research could address the extent to which, in these 15 education systems, government-dependent private schools are taken formally into account when top-level authorities plan student places and school resource allocation across the education system.

II.4.3. School choice and information provision

When parents and students can make a choice about education, information is one of the key factors in actually being able to actively practice school choice. The location of schools, transportation, the programme on offer, the quality of education, enrolment and admissions criteria, educational support or even tuition fees are all important factors to be considered. Those who have this information or know where and how to find it are in a good position to make an informed choice (Ambler, 1994). Those who do not may not fully benefit from the school choice opportunities available; and an

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([36]) In Spain, students are assigned to government-dependent schools according to residence only if there are no free places available in the public school network.

In Hungary, some government-dependent private schools make agreements ('public education contract') with the top-level authorities to enroll at least a proportion of local students and follow some of the rules applicable to public institutions. For example, such a school will also have a catchment area (however, it is larger than the catchment area for public schools – the whole settlement or district (of Budapest), and will enroll a proportion of its students from its catchment area (at least 25 % of the school's capacity). If this government-dependent private school is the only school in the settlement, it should accept all resident students.

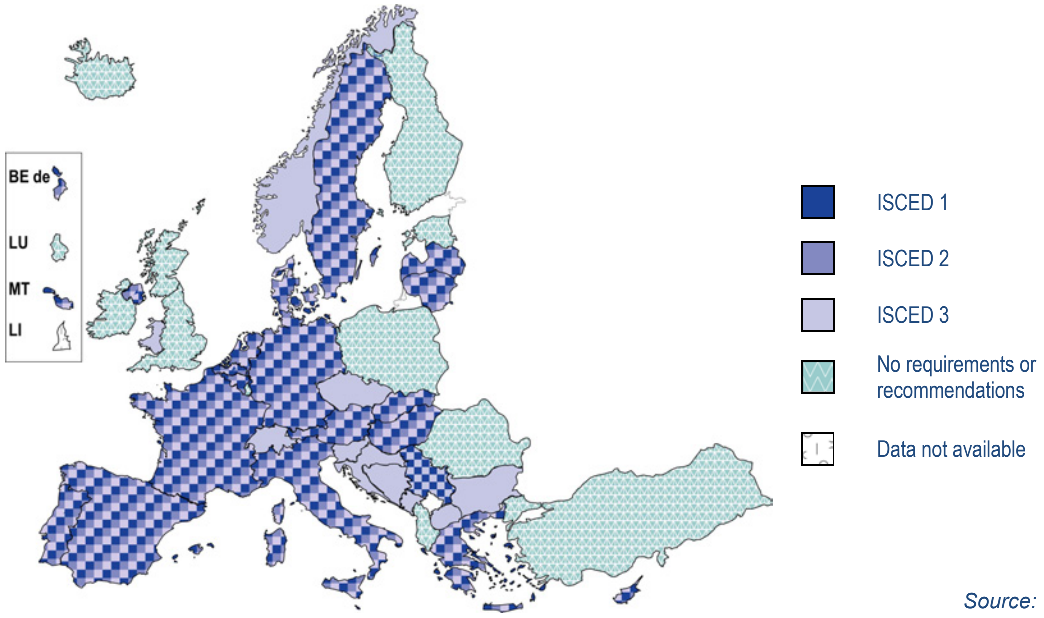
inappropriate choice or failure to choose could be detrimental to students. Top-level authorities have, therefore, an important responsibility to ensure equitable access to school information for all families.

For this reason, Figure II.4.4 shows whether top-level authorities make information available and easily accessible to all. Two methods, which have the potential to ensure that all families have access to the critical information about school choice, are considered:

- direct provision by top-level authorities such as through centralised web portals or well-known, annual printed publications listing schools, programmes, enrolment criteria, etc.;
- indirect provision by feeder schools at the request of top-level authorities at the stage when students are normally preparing to change school.

While the quality of information provided by feeder schools may vary, and thus families in one school may be better informed than in another, there is still a likelihood that information is evenly distributed to all families. When information about school choice is the local authority responsibility or individual schools decide whether and how to inform parents about educational opportunities, the information may not reach all potentially interested families or the quality of information may vary between local authorities and/or schools.

Figure II.4.4: Provision of information to families about school choices (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

This figure shows in which education systems top-level authorities provide information to help families choose a school either directly or indirectly via feeder schools. The information may include school contact details, admissions criteria, programmes, etc.

Country-specific note

Belgium (BE fr, **BE nl), Italy, Malta, Austria, Portugal,** and **Norway**: Data refers to both top-level information and information provision by feeder schools.

In three quarters of European education systems, top-level authorities make information on schools publicly available at one or more levels of education to support school choice. However, the format of the information, the level of detail provided and how accessible it is greatly varies between countries. Greece and Slovakia publish the list of schools in the top-level authorities' official journal or regulations, although this provides basic information, due to its formal legal nature and limited detail, this remains relatively difficult to use when choosing a school. In Croatia, Slovenia, Montenegro ([37]) and North Macedonia, the annual call for applications to upper secondary schools is accompanied by information on the available schools and their programmes. The Austrian provinces publish printed *Schulführer* (school guides), which provide detailed information on schools. In Cyprus ([38]) and Malta ([39]), the ministry of education publishes information on schools, including their location and enrolment criteria. Similarly, in Bulgaria, regional education administrations publish information, while in Germany and in Switzerland ([40]), the *Länder* and the cantonal ministries respectively provide lists of schools on their websites. In Denmark, school performance data is also published on the website of the ministry responsible for education.

In 17 education systems across 14 countries, searchable centralised databases of schools have been created (Belgium – French ([41]), German-speaking ([42]) and Flemish ([43]) Communities, Czechia ([44]), Croatia ([45]), France ([46]), Italy ([47]), Latvia ([48]), Lithuania ([49]), Hungary ([50]), the Netherlands ([51]), Portugal ([52]), Sweden ([53]), the United Kingdom – Wales ([54]) and Northern Ireland ([55]), Norway ([56]) and Serbia ([57])). These databases contain information on primary and secondary schools (Belgium, France, Italy, Latvia, Lithuania, Hungary, the Netherlands, Portugal, Sweden and the United Kingdom – Northern Ireland, and Serbia), or they focus on the upper secondary level where, typically, there are different types of schools and educational pathways from which students can choose depending on their interest (Czechia, Croatia, the United Kingdom – Wales and Norway). In the Netherlands and in Portugal, information on school performance is also published; and in Italy, the three-year plan of the educational offer and the school self-evaluation report are also available via a web portal. It is interesting to note that several of the countries covering both primary and secondary schools in their centralised databases are those which allow parents and students the most freedom to choose their child's school from primary level onwards, or those which have a greater variety of school types.

In the 31 education systems above, regardless of how the information is communicated or the level of detail provided, top-level information sources usually cover both public and government-dependent

([37]) http://www.mps.gov.me/vijesti/185873/KONKURS-ZA-UPIS-UcENIKA-U-I-RAZRED-SREDNJIH-sKOLA-U-CRNOJ-GORI-ZA-sKOLSKU-2018-2019-GODINU.html
([38]) http://www.moec.gov.cy
([39]) https://education.gov.mt/en/education/Pages/Colleges/Colleges.aspx
https://knisja.mt/l-arcidjocesi/skejjel-tal-knisja/
([40]) https://mba.zh.ch/internet/bildungsdirektion/mba/de/maturitaetsschulen/kantonale_mittelschulen.html
([41]) http://www.enseignement.be/index.php?page=0&navi=149; http://www.inscription.cfwb.be/
([42]) http://www.ostbelgienbildung.be/desktopdefault.aspx/tabid-2270//4284_read-31613/
([43]) https://data-onderwijs.vlaanderen.be/onderwijsaanbod/lijst.aspx?hs=311
([44]) https://www.infoabsolvent.cz/
([45]) https://www.upisi.hr/upisi/ -,
([46]) https://www.education.gouv.fr/pid24301/annuaire-accueil-recherche.html
([47]) https://cercalatuascuola.istruzione.it/cercalatuascuola/
([48]) https://www.viis.lv
([49]) https://www.aikos.smm.lt/en/Pages/Default.aspx
([50]) https://www.oktatas.hu/hivatali_ugyek/kir_intezmenykereso
([51]) https://scholenopdekaart.nl
([52]) http://infoescolas.mec.pt/l vocational schools: http://www.anqep.gov.pt/default.aspx
([53]) https://www.utbildningsinfo.se – for primary and lower secondary schools;
http://www.gymnasieinfo.se/ - general upper secondary schools
([54]) http://www.careerswales.com/en/cap/
([55]) https://www.eani.org.uk/admissions-guides/primary-schools-admission-guide/find-a-primary-school-and-read-the-published;
https://www.eani.org.uk/admissions-guides/post-primary-schools-admission-guide/find-a-post-primary-school;
https://www.nidirect.gov.uk/articles/options-after-year-12
([56]) https://utdanning.no/
([57]) www.upis.mpn.gov.rs/

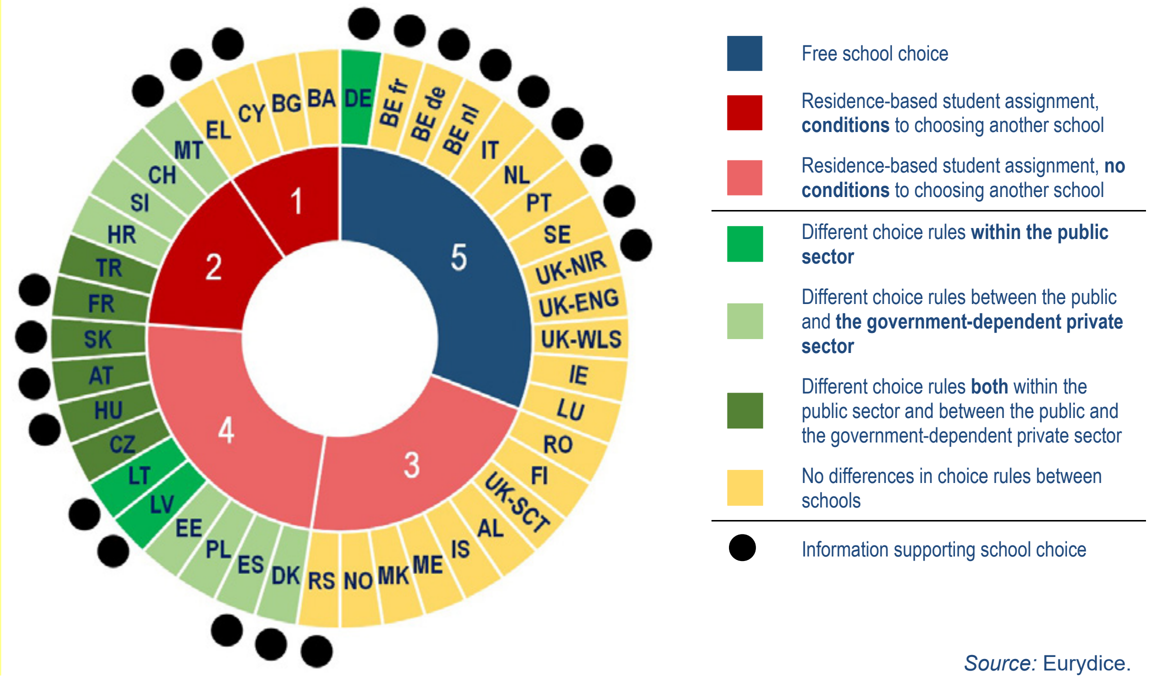
schools. Furthermore, where relevant, information on the different school types is also included. In Portugal, however, the situation is slightly different as two separate databases exist, one for general education and another for vocational education.

Relatively few countries require feeder schools at all educational levels to provide information about the institutions available at the next level. These include Belgium (French and Flemish Communities), Spain, Austria and Portugal. In Bosnia and Herzegovina and Norway only schools at lower secondary level are obliged to help students make informed choices about the next step in their education.

II.4.4. School choice policies – an overview

Sections II.4.1-3 described the different features of school choice policies across Europe. This section examines the commonalities between education systems. It focusses mainly on the education systems where similar policies operate across the primary and lower secondary levels (at upper secondary level, most education systems usually allow freedom of choice) In Figure II.4.5, five groups of education systems have been distinguished according to their shared attributes in terms of school choice policies and regulations (see Figures II.4.1-4).

Figure II.4.5: School choice policies – overview (ISCED 1-2), 2018/19



Source: Eurydice.

Explanatory notes

The figure presents mainstream school choice policies (inner layer) and regulatory differentiation (outside layer) at ISCED levels 1 and 2. Where the mainstream school choice policies differ between the two ISCED levels, the policy at the level with more freedom for parents is shown.

Country-specific notes

Germany: Data in the figure refer to the mainstream school choice policy at lower secondary level. At primary level, all students are assigned to a public school based on their residence and parents can choose another public school under certain conditions. Students are not assigned to government-dependent private schools at primary level.
Luxembourg: Data in the figure refer to the mainstream school choice policy at lower secondary level. At primary level, all students are assigned to a public school based on their residence and parents can choose another public school under certain conditions.

Group 1: Bulgaria, Greece, Cyprus and Bosnia and Herzegovina

- In these systems, students are assigned, at least on a preliminary basis, to schools based on geographical/residence criteria (usually according to home address).
- Only under specific conditions can families choose a (public or government-dependent private, where these exist) school other than the school assigned based on their residence.
- There is no top-level information provided to families about school choice (except in Greece).

Group 2: France, Croatia, Malta, Slovenia, Switzerland and Turkey

- In these systems, students are assigned, at least on a preliminary basis, to schools based on geographical/residence criteria (usually according to home address).
- Only under specific conditions can families can choose a public school other than the school assigned based on their residence.
- Different choice rules apply to government-dependent private schools, and in France and Turkey also to some public school types.
- There is no top-level information provided to families about school choice, except in France and Malta.

Group 3: Romania, Finland, the United Kingdom – Scotland, Albania, Iceland, Montenegro, North Macedonia, Norway and Serbia

- Students are assigned (on a preliminary basis) to a public school based on geographical/residence criteria (usually according to home address).
- Families can choose another school without any restrictions/conditions.
- The same rules apply to all public and government-dependent private schools, where these exist.
- There is no top-level information available to support school choice, except in Serbia.

Group 4: Czechia, Denmark, Estonia, Spain, Latvia, Lithuania, Hungary, Poland, Austria and Slovakia

- Students are assigned (on a preliminary basis) to a public school based on geographical/residence criteria (usually according to home address).
- Families can choose another school without any restrictions/conditions.
- Different choice rules apply to government-dependent private schools, where these exist, and/or certain types of public school. These schools have no catchment area. In other words, students are not assigned to these schools based on their residence; families can freely choose these schools.
- Information supporting school choice is made publicly available by top-level authorities or feeder schools, except in Czechia, Estonia and Poland.

Group 5: Belgium – French, Flemish and German-speaking Communities, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Sweden, the United Kingdom – England, Wales, and Northern Ireland

- Families can or have to choose actively among schools (public or private, including government-dependent private). Exceptions at primary level are Germany and Luxembourg, where students are assigned to a school based on their home address.
- The same rules apply to all types of school, except in Germany at lower secondary level, where some students choosing specific types of public school are assigned to a school based on their home address.
- Top-level authorities provide information to support school choice in most systems (Belgium – French, Flemish and German-speaking Communities, Germany, Italy, the Netherlands, the United Kingdom – Northern Ireland, Portugal, Sweden), but not in others (Ireland, Luxembourg, and the United Kingdom – England and Wales).

II.5. SCHOOL ADMISSIONS POLICIES

Main findings

School admissions policies play a role in determining which student is offered a place at a particular school. The more freedom parents and students have in choosing a school (whether due to the range or number of schools on offer or to the policies governing the choice of school), the more marked is the role of admissions criteria and procedures in how students are distributed across schools. Greater school autonomy in admissions may allow an increase in student stratification, and thus create less equitable education systems in terms of opportunities and outcomes for students.

- In the majority of education systems, top-level authorities establish the main principles for school admissions and determine whether schools are allowed to use admissions criteria in awarding school places to students.
- Top-level authorities across Europe also have an important role in setting or determining which specific admissions criteria are permitted; however, in more than a third of the systems, they leave schools considerable freedom to choose their own criteria or to add further criteria to those already set. In many systems, more autonomy tends to be given to government-dependent private schools or to particular types of public school.
- Admissions criteria defined by top-level authorities are typically not related to academic achievement at primary level. Academic admissions criteria become more common in secondary education when students begin to be assigned to different educational tracks or pathways based on their ability or aptitude. A third of the education systems start this academic selection process as early as lower secondary education – in a few systems, all students are subject to academic selection procedures at this level; elsewhere, these procedures are applied only to students opting for certain types of school.
- At upper secondary level, academic selection is applied in most European education systems, often with different procedures and requirements for different types of schools and programmes – general programmes having higher requirements in most countries.
- At secondary level, few systems make use of non-academic criteria, in particular socio-economic criteria, in school admission. This means that an opportunity is missed to widen the socio-economic composition of school populations in highly selective systems, or to potentially mitigate performance differences between socio-economically advantaged and disadvantaged students.
- Empirical data in PISA 2018 relating to 15-year-old students suggest that the school admissions criteria most commonly used are students' place of residence and their academic achievement, as reported by school heads. However, other criteria – such as students' interests or needs, and parental endorsement of the school's educational or religious philosophy – are also widely used in some education systems.

School admissions policies are closely related to policies on school choice. While school choice policies determine the degree to which parents and students can express a preference for a certain school, school type or educational pathway, admissions policies determine who is actually offered a place in a particular school or a programme. The more choice parents and students have (whether this is due to the range and number of schools on offer, or the policies governing the choice of school (see Chapters II.3 and II.4), the more marked is the role of admissions criteria and procedures in how students are distributed across schools.

In principle, schools can admit all applicants. This can be done when there are fewer applicants than available places in the school, or in other, probably rare cases, when the school is able to increase its capacity to meet the demand for places. When schools have a limited number of places and a higher number of applicants, there is competition for school places and some sort of selection must be made.

School admissions may be 'blind', that is, no student characteristics are considered for admission (no admission criteria are set). The students who apply to a school are admitted at random, for example, via lotteries or similar blind procedures. In contrast, student admissions may be based on criteria related to certain student characteristics. One such characteristic is student achievement or ability. However, admissions policies can also comprise other, non-academic elements, for example, socio-economic criteria, proximity of residence or order of registration. The combination of the different admissions criteria used depends on the objectives/aims of the admissions policy (Merry and Arum, 2018).

When there is higher demand than places in a school, blind procedures are claimed to be fair, and more socially accepted. This is because student characteristics are not considered at all: students are randomly selected (Musset, 2012), they have an equal chance to be 'picked', and social selection is reduced. Some researchers argue, however, that although blind procedures may guarantee equality of opportunity, they do not 'necessarily generate equality in the resources assigned' or the attention needed by individual students. For this reason, lotteries are often used in combination with admissions mechanisms which give priority to certain students. Once the priority students have been admitted, the remaining students are selected via lottery (Parrao et al., 2018).

In the research and policy literature, the admissions policies most discussed are those based on academic achievement. These are often described as selective admissions policies or academically selective systems. An argument for academically selective school admissions policies is that they are claimed to support the best match between students and schools; and thus increase the efficiency of education in terms of educational performance. Best match could be related for example, to student interest (specialist schools), ability or aptitude, or teachers (it is easier for teachers to manage classes with similar abilities, interests, etc.). Defenders of academically selective systems also argue that meritocratic systems improve opportunities for talented socio-economically disadvantaged students to become socially mobile (Coe et al., 2008).

Academic selection nevertheless poses several challenges. In systems where differences in academic performance are great between socio-economically advantaged and disadvantaged students, selection based on academic achievement may increase differences, especially if selection takes place at an early age (see Figure II.6.1). Some researchers point to this phenomenon as selection based on unearned advantages or disadvantages (Mason, 2016; Merry and Arum, 2018). They are unearned as performance differences at an early age are primarily related to parents' socio-economic background, and not (or less often) to students' own abilities. In academically selective systems, performance differences between schools are also larger than in those with less academic selection. In addition, there is also empirical evidence on the negative impact of academic selection on students who are not selected by good schools in highly selective systems, but whose academic achievement is almost as good as those selected. If they attend poorer quality schools they are deprived of the benefit of peer-group effects (see also Chapter II.10). Selection based on academic performance also tends to stigmatise those not selected – labelling them as poor performers, which can have an impact on both student and teacher motivation (Field, Kuczera and Pont, 2007). Academic selection, especially with more possibilities for school choice (see Chapter II.4), also tends to exacerbate social stratification in schools.

Research on the impact of non-academic admissions criteria on equity is not conclusive. PISA data signal overall minor differences in the performance of students enrolled in schools that apply admissions based on religious affiliation, preference for family members or proximity to residence. However, in some countries, selection based on these criteria is more strongly related to inequities in educational outcomes (OECD, 2016b). In contrast, using socio-economic criteria in the admissions process to oversubscribed schools can improve equality of opportunity for students from low socio-economic backgrounds; and due to peer effects, it can also have a positive impact on their performance (see Chapter II.10). This policy measure is often considered in the context of controlled choice systems (Musset, 2012).

Transparency regarding admissions criteria and procedures before selection, and transparency about the admissions results can significantly improve access to different (types) of schools (see Chapter II.4). More school autonomy in setting school and programme admissions criteria (no top-level regulation) can lead to more student sorting, and exacerbate between-school differences and increase social segregation (Cobb and Glass, 1999; Field, Kuczera and Pont, 2007; Wilson and Bridge, 2019). When schools can define their own admissions criteria, they tend to select certain types of students, and possibly students who are easy to teach (West et al., 2006). In addition, when schools which set their own admissions criteria are oversubscribed, even if admissions criteria are published, there is still space for covert selection on other factors (Merry and Arum, 2018). More top-level regulation and guidance, as well as some monitoring of how admissions policies are implemented can, in contrast, reduce inequitable selection mechanisms (West et al., 2006).

Keeping these issues in mind, this chapter examines the main features of admissions policies in European education systems, drawing on the admissions practices reported in PISA.2018. It will discuss in particular the:

- main policy approaches to admissions and the circumstances under which schools can apply admissions criteria and procedures;
- level at which decisions on admissions criteria and procedures are made;
- admissions criteria and procedures defined by top-level authorities.

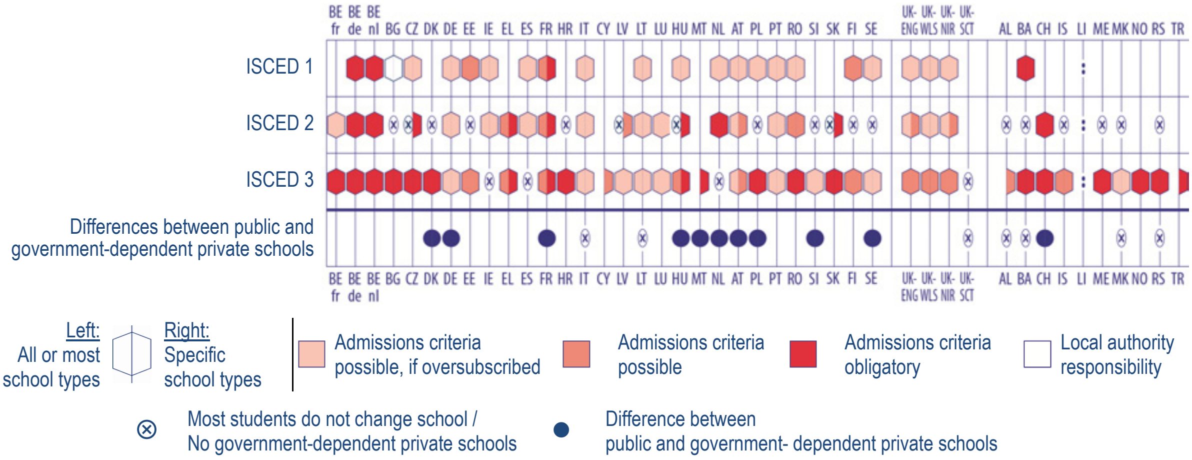
II.5.1. Main policy approaches to school admissions

The first question to address concerning admissions policies is whether top-level authorities set a framework for school admissions, or whether local authorities or schools are fully responsible for determining their own policies. A top-level framework might be expected to state whether admissions criteria can be set and if so in which circumstances. As indicated above, the existence of top-level regulations or guidance in this area can improve transparency. A top-level framework can also ensure that any unexpected impacts of some admission criteria or procedures are detected and addressed quickly.

It should be noted that this chapter primarily focusses on admissions to schools. However, the organization of schools and their educational offer vary across Europe. In some cases, a school offers one type of programme; and, thus, the admissions policy applies to both the school and its educational programme. In other cases, a school offers several types of programmes (for example, corresponding to the different tracks in secondary education – see Chapter II.6), and so different criteria may apply to each programme offered. In many countries, the two models coexist; therefore, for this report it has not always been possible to make a clear distinction between admissions to schools and admissions to programmes.

Figure II.5.1 shows that in almost all countries top-level authorities set out a framework outlining their approach to school admissions policies for primary and secondary education. In Bulgaria, there is no such framework at primary level: policy making is delegated to local authorities or schools.

Figure II.5.1: Top-level approaches to school admissions (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the top-level approaches governing school admissions policies. It indicates their approach to the setting of admissions criteria in public and government-dependent private schools and highlights where different policies apply to different school types (see Chapters II.3 and II.6).

When the same admissions policy applies to all school types in the public sector at a particular educational level, the two sides of the hexagon have the same colour. When school types in the public sector (see Figures II.3.2, II.3.3 and II.6.3) follow different policies, this is marked by different colours on each side of the hexagon: the left side shows the policy applicable to all or most school types (or the typical school type representing most schools), and the right side shows the policies applicable to specific school types. A dark blue dot marks a difference between public schools and government-dependent private schools.

The (initial) assignment of students to a school based on residence criteria (see Figure I.4.1) is not considered here to be part of the admissions process, even though it often determines which school most students attend. This issue is examined as part of school choice policies in Chapter II.4. However, the geographical proximity criterion is taken into account if it applies when parents opt out from the school initially assigned and apply to a different school, or when there is a free choice of school (see Figure II.4.2).

Country-specific notes

Belgium: After completing lower secondary education, most students continue their upper secondary education in the same school. However, they can change schools if they wish to or if their school does not offer the programme they want to take. Data presented for ISCED 3 applies to admissions to different pathways/streams within the same school or another school.
Spain: In the case of oversubscription, schools must apply admissions criteria. After completing lower secondary education, most students stay in their school to continue non-compulsory upper secondary studies, and there is no admissions process to access non-compulsory upper secondary education. However, when students wish to study at upper secondary level in another school, they need to go through an admissions process; the criteria applicable are presented in Figure II.5.6.
Ireland: In the case of oversubscription, schools must apply admissions criteria at primary and lower secondary levels. After completing lower secondary education, most students stay in their school to continue non-compulsory upper secondary studies; and therefore there is no admissions process to access upper secondary education in most cases. However, students can change schools if they wish to or if their school does not offer the programme they want to take; in this case, admissions criteria must be applied if the chosen school is oversubscribed.
Malta: Data for ISCED 3 applies for the compulsory part of upper secondary education. Admissions policies for non-compulsory upper secondary education (ISCED 3) is not depicted in Figure II.5.1. For non-compulsory upper secondary education, the use of admissions criteria is obligatory.
United Kingdom (ENG/WLS/NIR): In the case of oversubscription, most schools must apply admissions criteria. At post-compulsory upper secondary level, government dependent private schools do not need to follow the Admission Code.

In nearly half of European education systems, schools are not allowed to select students in primary and lower secondary education. While at upper secondary level, all systems permit the use of some admissions criteria; although, in Cyprus, Malta, Albania and Turkey, this is possible only in some types of school.

In education systems where top-level authorities do not allow admissions criteria to be used, three approaches to school enrolment have been identified, which apply particularly to primary education:

- students are typically assigned to schools based on their place of residence (see Figure II.4.1). In Cyprus, this assignment is quite strict and families have very limited opportunities to choose a school different from the one assigned. In some of the other countries with residence-based assignment, schools may accept students from outside their catchment area when they have free places; and they may only reject students from outside the school catchment area if they are oversubscribed (for example, at primary level, Denmark, Croatia, Slovakia, the United Kingdom – Scotland, Albania, Iceland, North Macedonia and Serbia). In addition, in Slovenia, schools may reject students from outside the catchment area if accepting them would have a negative effect on the school (see Chapter II.4);
- students are typically assigned to schools based on their place of residence. Lottery may be used only in case of oversubscription at primary level, or for admission to experimental schools (primary or secondary level) in Greece;
- schools cannot apply admissions criteria, but they can reject students if they are oversubscribed (at primary level, Belgium – French Community).

In addition, in 18 education systems, most students do not change schools during primary and secondary education because they attend single structure primary and lower secondary schools. Similarly, students typically do not change schools between lower and upper secondary education or during upper secondary education in Belgium, Ireland, Spain, the Netherlands and the United Kingdom (Scotland) (see Figure II.4.1). In Belgium, however, students usually change educational programme within their school and certain admissions criteria then apply.

In most of the education systems which allow the use of admissions criteria (36 systems), the approach varies slightly between education levels. However, in five education systems, the same approach is applied across primary and secondary education. In the German-speaking and Flemish Communities of Belgium, it is obligatory for schools (including all public and government-dependent private schools) to use admissions criteria to decide which students are awarded a place. While in Germany, Italy, Lithuania and Portugal, admissions criteria are only permitted ([58]) when schools are oversubscribed. Figure II.5.1 reflects the different circumstances across Europe.

In primary education, all schools must consider admissions criteria in Bosnia and Herzegovina and, as mentioned above, in the German-speaking and Flemish Communities of Belgium. In Ireland, Italy, the Netherlands, Sweden and the United Kingdom (England, Wales and Northern Ireland) (systems with free school choice at primary level), admissions criteria can be used only if the school is oversubscribed. In Czechia, Hungary, Poland and Romania, when the school is not the students' residence-based assigned school (see Figures II.4.1 and II.4.2), it can apply admissions criteria if it is oversubscribed. Finally, in Estonia, France and Finland, schools are generally allowed to use admissions criteria.

> For example, in **Finland**, schools with certain subject specialisations (but still following the same national curriculum) can set admissions criteria to assess students' disposition or aptitude for certain subjects.

([58]) In Spain and the United Kingdom (England, Wales and Northern Ireland), in case of oversubscription, schools must apply admission criteria.

At lower secondary level, most countries follow the same policy on school admissions as at primary level when students change school or programme ([59]). However, five education systems introduce some sort of admissions process in all or most of their (public) schools for the first time at this level or admissions become mandatory. The Netherlands and Switzerland make the use of admissions criteria obligatory at lower secondary level. Greece allows the use of admissions criteria; as do Belgium (French Community) and Luxemburg only when schools are oversubscribed.

At upper secondary level, as suggested above, the use of school admissions criteria is widespread in Europe. In 14 education systems, it is obligatory. In a further 21 systems, it is permitted; however in 10 of these it is linked to oversubscription. In Belgium, Spain, Ireland, the Netherlands and the United Kingdom (Scotland), most students typically do not change schools at upper secondary level (although they are allowed to). Therefore, there is little or no need for admissions criteria. However, admissions criteria are applied within schools where different pathways are available, for example, in Belgium (see Figure II.6.5).

Variations in admissions policies between types of school

The policies described above refer to the types of public school in which the majority of students are enrolled. There are, however, some differences in admissions policies within education systems: different policies may apply to some school types in the public sector, or to government-dependent private schools (see Figure II.5.1).

In primary education, France has a different policy only for the *école internationale* (international schools), which are public or government-dependent schools offering a specific foreign language curriculum (see Figure II.3.2). These schools should use admissions criteria (in primary as well as secondary education).

At lower secondary level, there are nine countries with different admissions policies within their system. Typically, different school types are either allowed to or obliged to use admissions criteria. In Czechia, Latvia, Hungary and Slovakia, while most students do not change school and stay in single-structure primary-lower secondary schools, some students opt for school types which start at lower secondary level and finish at the end of upper secondary education (see Section II.3.3 on structural differentiation). These students are subject to an admissions process.

Differences in admissions policies may also be linked to academically selective school types at lower secondary level. In Greece, the use of admissions criteria is obligatory in 'model schools'; in contrast, in 'experimental schools' admissions are based on a lottery process in case of oversubscription. In the United Kingdom (England and Northern Ireland), 'grammar schools' can use academic selection criteria even when they are not oversubscribed.

Finally, in Austria, policy differences are related to curricular differentiation (see Figure II.3.2). The use of admissions criteria is, in general, possible when schools are oversubscribed; however, in *Allgemeinbildende Höhere Schule*, admissions criteria – school entrance exams and previous academic criteria – may be used even when not oversubscribed.

Similar policy differences applicable to certain school types also prevail in several of the countries mentioned above at upper secondary level. In addition, in Cyprus and Albania, the use of admissions

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([59]) See Figure II.4.1 – in 18 education systems most students do not change school between primary and lower secondary education or during lower secondary education.

criteria is only permissible for vocational and 'oriented' (special or advanced programme) schools at upper secondary level; it is not allowed for other school types.

As far as government-dependent private schools are concerned, in 11 of the 36 education systems where such schools exist (Denmark, Germany, France, Hungary, Malta, the Netherlands, Austria, Poland, Slovenia, Sweden and Switzerland; see Figure II.5.1), top-level regulations allow government-dependent private schools either to apply admissions criteria when it is typically not allowed in public schools and/or they may add their own admissions criteria to those set for public schools. The types of admissions criteria they are allowed to use will be discussed below (see Section II.5.3).

II.5.2. Who defines admissions criteria and procedures?

When top-level authorities allow or make the use of admissions criteria obligatory, and thus allow some sort of selection to take place, it is important to examine at which level of administration the school admissions criteria and procedures are actually defined. This issue is also closely related to school autonomy in general (see Chapter II.8). Researchers point to the adverse effects of school autonomy in setting school admissions policies. The more discretionary power schools have in deciding admissions, the more selectivity may develop in the education system (Wilson and Bridge, 2019). In contrast, the centralisation of school admissions offers more opportunities for control and monitoring procedures, and for intervention when the school admissions dynamics prove to have a negative impact on some students.

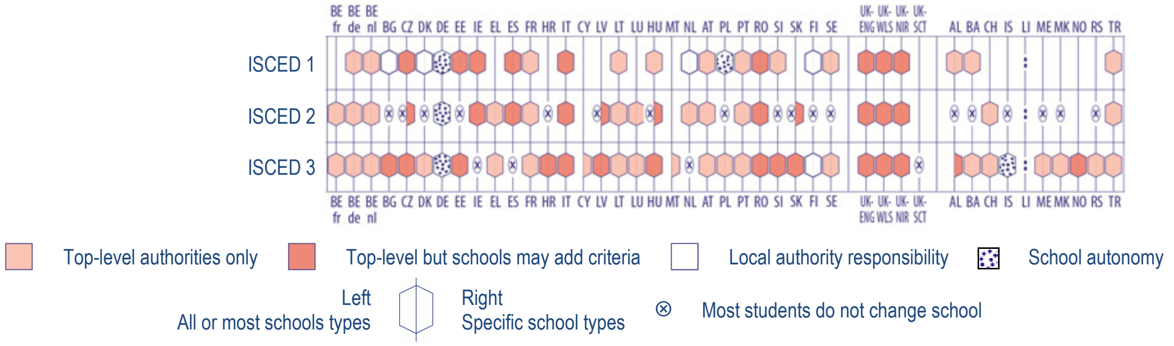
Figure II.5.2 presents the level of authority at which decisions are made on the admissions criteria that public schools are permitted or obliged to use in primary and secondary education ([60]). The figure distinguishes between four main levels of decision-making, as reported by countries:

- top-level authorities alone define admissions criteria, there is no autonomy or role for schools in defining these criteria; however, they obviously use them when admitting students;
- local authorities are responsible for establishing the admissions criteria for schools in their territory. This may help in ensuring that student numbers are evenly balanced in schools across the municipality. It also provides an opportunity to set admissions criteria within a community ([61]) in order to prevent or address academic and socio-economic segregation in schools (see Chapter II.10). Delegating decisions on school admissions criteria to local authorities may also have some drawbacks. For example, admissions criteria in one municipality may differ from those in a neighbouring municipality. Depending on the actual criteria and procedures, this may also result in student sorting between municipalities;
- top-level authorities outline the main admissions criteria, but schools can add to these according to their own priorities. This category, actually, is very close to the fourth category, school autonomy;
- full school autonomy for defining admissions criteria and procedures.

([60]) As discussed before (see Figure II.5.1), in almost half of the European countries, there is no admissions process (apart from the residence-based assignment discussed in Chapter II.4) in primary and lower secondary education; and in some countries at upper secondary level (empty fields).

([61]) A school may have two or more campuses or buildings; one of which may be in the territory of another municipality.

Figure II.5.2: Level of decision making on school admissions criteria (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the level of decision-making for schools in the public sector. Where the situation differs for some school types (see Figures II.3.2 and II.3.3), the hexagon is split, with the left side showing the situation for all or most school types (or the typical school type representing most schools), and the right side showing that for specific school types.

Country-specific notes

Belgium: After completing lower secondary education, most students continue their upper secondary education in the same school. However, students can change schools if, for example, their school does not offer the programme they want to take. Data presented for ISCED 3 applies to admissions to different pathways/streams within the same school or to another school.
Ireland: After completing lower secondary education, most students stay in their school to continue non-compulsory upper secondary studies; and therefore there is no admissions process to access upper secondary education in most cases. However, students can change schools if they wish to or if their school does not offer the programme they want to take; in this case, schools apply their own admissions criteria, if oversubscribed.
Malta: Data at upper secondary level refer to compulsory upper secondary education. Data for non-compulsory upper secondary education are not depicted in Figure II.5.2, but in this instance the top-level authorities define the admissions criteria for all school types.
Slovenia: At upper secondary level, schools can add criteria only in very rare cases, namely, where they are oversubscribed even after applying the centrally set admissions criteria and they still have students with the same number of points at the cut-off point.
Finland: Top-level authorities define the prerequisites and local authorities can add other criteria at primary and secondary levels.
United Kingdom (ENG/WLS/NIR): Top-level authorities define a list of admissions criteria. Local authorities or schools can choose from the list and/or add their own criteria.

At primary level, in 12 of the 27 education systems that allow the use of admissions criteria (see Figure II.5.1), it is the top-level authorities that define the criteria. In Bulgaria, Denmark and Finland, local authorities have a duty to set admissions criteria at primary level. Finally, there are 11 systems where schools have more autonomy in defining their admissions criteria in primary education. In Estonia, Ireland, Spain, Italy, Romania and the United Kingdom (England, Wales and Northern Ireland), top-level authorities establish some of the admissions criteria; and in Czechia, top-level authorities regulate which criteria cannot be used, but schools can add their own criteria. While in Germany and Poland ([62]), schools are free to define their own admissions criteria.

> In the **United Kingdom (England)**, admissions authorities (whether local authorities or schools) must apply their criteria in accordance with the Department for Education's 2014 School Admissions Code. The list of common admissions criteria in the Code is not meant to be exhaustive and local authorities/schools may choose from it according to local circumstances and/or apply other criteria. The Code applies also to the admissions authority for 'academies', but not to further education colleges (both government-dependent private schools).

At lower secondary level, decisions on school admissions criteria, where applicable, are taken at the same level as in primary education in most countries ([63]). In addition, in Belgium – French Community,

([62]) In Poland, this applies to out-of-school catchment area applications.

([63]) This naturally applies only to education systems where students generally change school (or programme) between primary and lower secondary education or during lower secondary education.

Greece, Luxembourg and Switzerland, where an admissions process is allowed in lower secondary education, the top-level authorities define the criteria for all schools.

At upper secondary level, in the majority of education systems, all students change schools. This may explain the tendency for decisions on admissions criteria to be centralised. Either top-level authorities set all criteria (18 systems), or they set some of the criteria leaving schools to add others (14 systems). In only a few countries do the local authorities (Finland) or schools (Germany and Iceland) set all the admissions criteria at this level of education.

Differences between types of school in decision-making levels

In most European education systems, there are no differences between the different types of public schools in the level at which decisions on admission criteria are made. The few exceptions are in Czechia, Latvia, Hungary and Slovakia at lower secondary, and in Cyprus, Malta and Albania at upper secondary level.

In **Latvia**, top-level regulations set out that if there are several 'state gymnasia' (programmes leading to an upper secondary education leaving certificate giving access to higher education) in the local government's territory, then the local government is allowed to organise common entrance tests and specify common admissions criteria. In other cases, top-level authorities define some admissions criteria and individual state gymnasia can add further criteria.

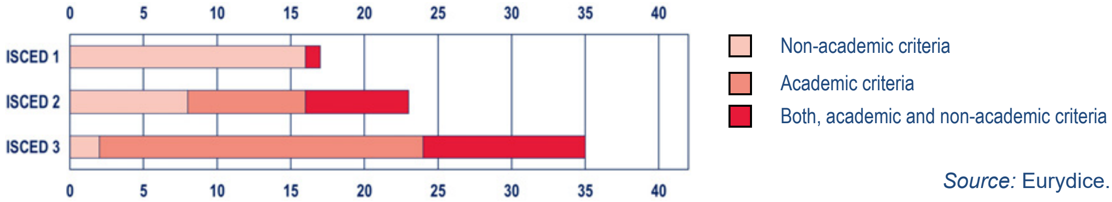
In 11 education systems (see Figure II.5.1), government-dependent private schools, or the body managing one or more such schools, can decide their own school admissions criteria. Nevertheless, in Sweden and Norway, these decisions are subject to evaluation and monitoring by top-level public bodies, for example school inspectorates or other quality assurance bodies.

In **Sweden**, government-dependent private schools can define the admissions criteria to be used in cases of oversubscription. These criteria have to be approved in advance by the Swedish School Inspectorate. In its assessment, the Inspectorate verifies whether the admissions criteria meet the requirements of 'openness' (i.e. all schools must be open to all students) as defined in the Education Act.

II.5.3. Admissions criteria most often cited by top-level authorities

This section examines the types of admissions criteria most often cited by top-level authorities regardless of the approach taken (permitted or obligatory – see Figure II.5.1). It addresses all three levels of school education – primary, lower secondary and upper secondary education. Figure II.5.3 looks broadly at the number of education systems using academic or non-academic criteria at ISCED levels 1 to 3. The specific criteria used at each level of education are examined in Figures II.5.4-II.5.6.

Figure II.5.3: Number of education systems using academic and non-academic admission criteria, as defined by top-level authorities (ISCED 1-3), 2018/19



Source: Eurydice.

Non-academic criteria include:

- **socio-economic criteria**: related to students' socio-economic background, including, for example, family income, occupation, or whether they belong to a single-parent family;

- **residential proximity**: the proximity of the student's home to the school, when parents have a free choice of school or when they opt for a school which is different from the school initially assigned on the basis of residence. (The initial assignment in 31 education systems is not referred to here (see Figure II.4.1), as this is considered to be automatic enrolment rather than an admissions process.);
- **presence of siblings**: older sister(s) and brother(s) already enrolled in the school;
- **religious affiliation**: belonging to a religious group or affiliation.

Academic criteria relate to students' academic achievement or abilities. Four types of assessment information have been identified:

- **national/standardised tests** ([64]): set by top level public authorities and carried out under their responsibility. National/standardised tests are any form of test that (a) requires all test takers to answer the same questions (or questions selected from a common bank of questions) and (b) is scored in a standard or consistent way;
- **school entrance exams**: organised by individual schools. They include written tests or oral interviews in one or more subjects. The exams are also scored and evaluated by staff in the individual school. Schools may publish the requirements in advance;
- **previous academic achievement**: may take into account school grades in one or more subjects from one or more school years at the previous educational level, or a portfolio demonstrating the learning outcomes achieved;
- **recommendation from previous schools/teachers**: written recommendations usually provided by teachers or a board from the previous school/ educational level or grade; they often include information on the student's academic achievement and sometimes information on his/her psychological, social competences. The recommendations on the most suitable type of education or track for a student may be binding or non-binding.

Only the admissions criteria required or recommended by top-level authorities are presented in Figures II.5.3-II.5.6. Local level and school level criteria fall outside the scope of these figures.

Figure II.5.3 presents the number of education systems across Europe using academic and/or non-academic admissions criteria in the admissions process. When comparing the use of the two types of admissions criteria, very obvious differences can be observed between educational levels. At primary level, about a third of top-level authorities set admissions criteria; where they do, most of them cite non-academic criteria ([65]). At lower secondary level, about half of the education systems refer to admissions criteria, including both non-academic and academic criteria. This is the educational level showing the broad diversity of approaches in Europe. In contrast, at upper secondary level, the majority of education systems usually use academic admissions criteria, and to a lesser extent, non-academic criteria.

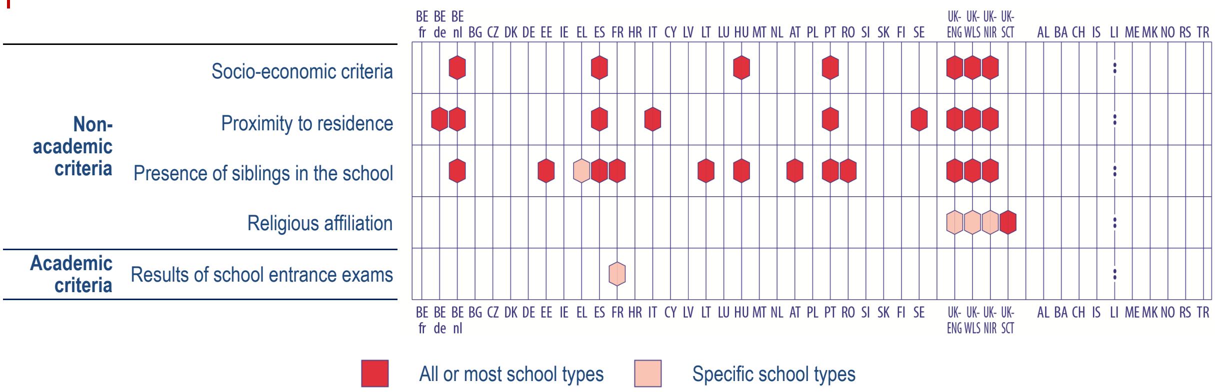
([64]) Tests designed at school level on the basis of a centrally designed framework of reference are not considered as national tests. International surveys such as PISA are not within the scope.

([65]) Here school readiness tests carried out before transition from early childhood education and care to primary education are not taken into account. See Figure D6 in European Commission/EACEA/Eurydice, 2019a.

II.5.3.1. Primary education

At primary level, schools are permitted to use some admissions criteria in 17 education systems. Figure II.5.4 shows the criteria cited most often by top-level authorities.

Figure II.5.4: Top-level admissions criteria (ISCED 1), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the most common admissions criteria cited by top-level authorities to be used in primary education. In some education systems, there are different school types at this level (see Chapters II.3 and II.6): the red category therefore shows the admissions criteria applicable to all or most school types in the public sector, while the pink category indicates the criteria which apply to specific school types in this sector.

Country-specific note

Belgium (BE fr, BE de): Students are admitted to a school if parents agree with the school project.

Figure II.5.4 shows that only seven education systems use socio-economic criteria in school admissions at primary level. The aim of these criteria is either to positively discriminate in favour of disadvantaged students, i.e., rank them for priority admission (Spain, Hungary, Portugal, the United Kingdom – England, Wales and Northern Ireland), or to create a formula which aims to reflect the socio-economic composition of the municipality in which the school is situated (Belgium – Flemish Community).

In **Belgium (Flemish Community)**, the socio-economic criteria refer to students who meet at least one of the following indicators: a) the family has received at least one type of school allowance from the Flemish Community in the preceding school year, b) the mother does not hold a diploma of secondary education or a study certificate of the second year of the third stage of secondary education or equivalent level of study. Schools have to give priority to both students meeting and those not meeting these socio-economic criteria up to a certain ratio determined in the 'double quota' system set by the school board (see details on the quota at Figure II.10.1).

In **Spain**, the following socio-economic criteria are applied by all schools: a) the per capita income of the family unit, b) the legal status of a large family, c) children in foster care, d) disabled students or disability in the family.

In **Hungary**, if a primary school has additional places after enrolling students from the school catchment area, it should first accept applications from disadvantaged students outside the school catchment area. If there are not enough places to accept all applications in the prescribed order, admissions from outside the school catchment area (to the remaining places) must be based on a lottery. Those who have submitted an application should be invited to the draw. The regulations on the maximum proportion of disadvantaged students should, however, be respected (see Figure II.10.1).

In **Portugal**, the socio-economic admissions criteria include a) beneficiaries of school social benefits whose parents/legal guardians reside in the catchment area of the intended school/school cluster, b) beneficiaries of school social benefits whose parents/legal guardians work in the catchment area of the intended school/school cluster, c) students who in the previous year attended pre-school education in private social solidarity institutions (IPSS) or the same school, in the catchment area of the intended school/school cluster.

In the **United Kingdom (England)**, schools may give priority to students eligible for the 'pupil premium', which includes disadvantaged children who are eligible for free school meals. Schools in **England** and **Wales** must also give priority to 'looked after' children (those in the care of the local authority). In **Northern Ireland** also, schools should give priority to looked after children.'

In eight of the eleven systems where there is no initial assignment by residence to schools (Belgium – Flemish and German-speaking Communities, Italy, Portugal, Sweden and the United Kingdom – England, Wales and Northern Ireland), priority is or may be given to students who live in the proximity of the school. In addition, Hungary gives priority to out-of-catchment area students who live in the proximity of the school.

About a quarter of the systems use the presence of siblings in the school as a criterion. Religious affiliation only occurs in the United Kingdom (Scotland).

Differences in admissions between public sector school types at primary level

There are no differences in the admissions criteria required/recommended by top-level authorities for the different types of public school in four education systems (Spain, Latvia, Lithuania and Luxembourg) (see Chapter II.3) at primary level. Some differences are apparent, however, in France, Greece and the United Kingdom (see Figure II.5.4). As indicated in previous figures, in France, international schools select students using the results of their own entrance exams to decide which students to admit. In Greece, experimental schools can use the presence of siblings. Finally, in the United Kingdom (England, Wales and Northern Ireland), religious affiliation can be considered for school admissions in certain school types.

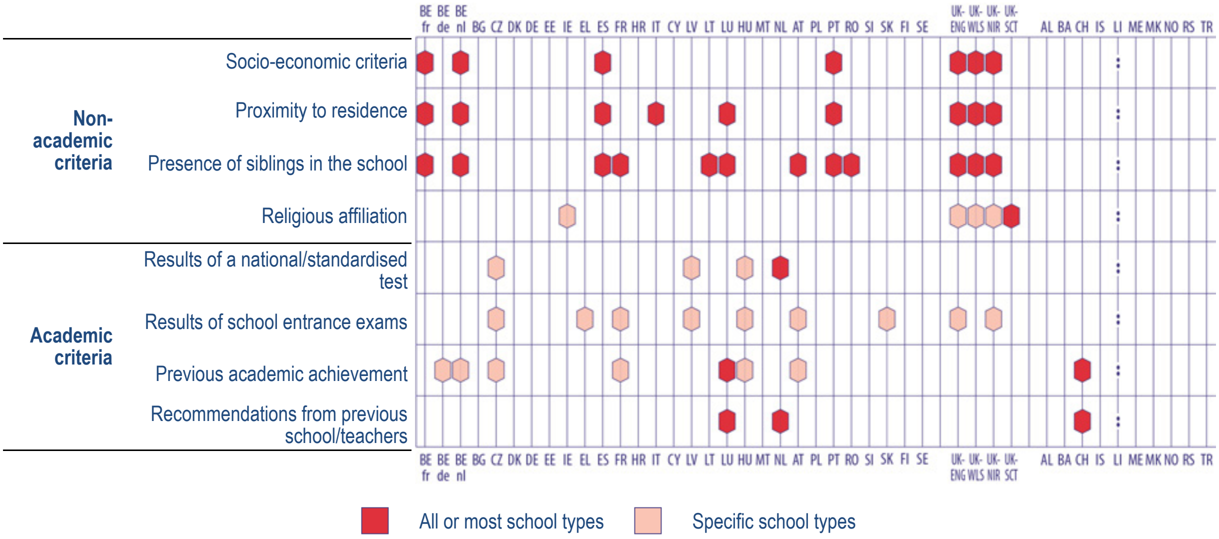
In the **United Kingdom (England and Wales),** 'faith schools', which may be both public and government-dependent private schools, are schools which are designated as having a religious character. They may give preference in their admissions arrangements to members of a particular faith or denomination, providing this does not conflict with other legislation, such as equality legislation.

In the **United Kingdom (Northern Ireland),** religious affiliation is taken into consideration only in the case of 'integrated schools'. These schools apply their admissions criteria to achieve a balance between pupils from Catholic and Protestant traditions, other faiths and none.

II.5.3.2. Lower secondary education

At lower secondary level, in half of the education systems studied, schools are permitted or obliged to use admissions criteria (see Figure II.5.5). In a quarter of the education systems, most schools use only non-academic criteria at this level. In contrast, in Belgium (German-speaking Community), the Netherlands and Switzerland typically only academic criteria are taken into account in admissions to lower secondary education. While in Belgium (Flemish Community), Luxembourg and Austria, most schools apply both academic and non-academic criteria. In addition, specific criteria are used for admission to some types of school in Czechia, Greece, France, Latvia, Hungary, Slovakia and the United Kingdom (England and Northern Ireland).

Figure II.5.5: Top-level admissions criteria (ISCED 2), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the school admissions criteria most commonly cited by top-level authorities for use at lower secondary level. In some education systems, there are different school types at this level (see Chapters II.3 and II.6); the red category therefore shows the admissions criteria applicable to all or most school types in the public sector, while the pink category indicates the criteria which apply to specific school types in this sector.

Country-specific notes

Belgium (BE fr, BE de): Students are admitted to a school if parents agree with the school project.
Belgium (BE de, BE nl): Academic admission criteria refer to admissions to certain programmes and streams in schools at lower secondary level.

Thirteen of 26 national education systems where all or most students change school or programme between primary and lower secondary education or within lower secondary education take into consideration non-academic criteria (socio-economic criteria, proximity to residence, the presence of siblings, religious affiliation). Most of these systems use the same type of criteria already at primary level. Socio-economic criteria are introduced at lower secondary level in Belgium (French Community – see Figure II.10.1); while in Luxembourg, residence and the presence of siblings are considered for admission for the first time from this level.

Fifteen systems define academic criteria for school or programme admissions at lower secondary level. This often marks the introduction of differentiated schools, pathways or tracks (see Chapter II.6). There are differences between countries in whether academic selection is universal or not (i.e., applies to all or only to some students). In almost half of these systems, all students go through some type of academic selection procedure, while in the other half, the procedure applies only to the students applying to certain types of school.

There are also differences between education systems at lower secondary level in how students' level of academic achievement is assessed for admission. Various forms of student criteria are used across Europe but usually only one or two of these are taken into account in individual education systems. Using more than one type of criteria is thought to increase the validity and reliability of educational assessment (Merry and Arum, 2018).

The results of national/standardised tests are used in four education systems, but this only applies to all students in the Netherlands where it is used in combination with the teacher recommendation from primary school.

In the **Netherlands**, all students sit a standardised test in the last year of primary school. The results of this test together with the recommendation of teachers from the previous school constitute the advice taken on the student's academic performance which influences the educational pathway to which a student can gain access. It should be emphasised that the advice from teachers has a greater weight in admissions than the results of the standardised test.

Previous academic achievement as evidenced by students' grades from the previous school is the most common criteria used. This is the case in Luxembourg, Austria and Switzerland (and for some students in Belgium – German-speaking and Flemish Communities, France, Hungary and Slovakia, see below). In Luxembourg and Switzerland, school results are considered together with recommendations from the previous school.

In **Luxembourg**, every student receives a *décision d'orientation* at the end of primary education. The lower secondary school to which the student applies considers this decision when registering the student in a class, not for admission to the school. The *décision d'orientation* is more than a recommendation, it determines the programme for which the student can apply. The student can then choose a school that offers that particular programme.

In **Switzerland**, each Canton defines the admissions criteria for the ability-based programmes at lower secondary level. The regulations vary in detail, but previous academic achievement and recommendations from previous teachers are 'applied' in most cases. Teacher recommendation can also be based on social or emotional aspects (e.g. students' willingness or readiness to achieve).

Differences in admissions between public sector school types at lower secondary level

As indicated in Figure II.5.5, in seven education systems, some school admissions criteria apply only to specific school types (or programmes) at lower secondary level.

As regards, non-academic criteria, only Ireland, Hungary and the United Kingdom (England, Wales and Northern Ireland) take a different approach at this level depending on the type of school. In Hungary, most students are enrolled in single-structure primary and lower secondary schools, where socio-economic criteria and the presence of siblings are considered on admission. However, some students choose to attend a six- or eight-year *gimnázium* (see Figure II.3.3) at the end of primary education where non-academic admissions criteria are not considered. In Ireland, religious affiliation can only be used by 'denominational schools' in cases of oversubscription. Similarly, in the three education systems of the United Kingdom, religious affiliation can be taken into account by certain types of school (see in section II.5.3.1).

Differences between school types mainly appear in relation to academic criteria. In Czechia, Hungary, Slovakia and Latvia, these are linked to structural differentiation (see Figure II.3.3), which starts at lower secondary level. In France and Austria, the differences are related to curricular differentiation (see Figure II.3.2). While in Greece and the United Kingdom (England and Northern Ireland), selective schools use academic criteria.

In Czechia, Hungary and Latvia, the results of national/standardised tests are used. These tests, however, appear to be different from the national/standardised test used in the Netherlands at lower secondary level as they have been developed by top-level authorities to assess the academic performance of students who wish to enrol in certain types of schools. Consequently, they can be more accurately described as 'standardised national entrance exams'. Students are ranked according to their test results, and those with the best results are admitted to academic secondary level programmes (8-year or 6-year *gymnasia* in Czechia, 8-year or 6-year *gimnázium* in Hungary and state *gymnasia* in Latvia). The programmes starting at lower secondary level in these schools lead to an upper secondary school leaving qualification which gives access to higher education. In these countries, national test results are part of an admissions package which also includes previous academic achievement and/or optional school entrance examinations.

In addition to Czechia and Hungary, the results of school entrance examinations may also be used to select students for some lower secondary schools in Greece, France, Latvia, Austria, Slovakia and the United Kingdom (England and Northern Ireland).

In **Austria,** students are allocated to a *Neue Mittelschule* based on their residence; but for students choosing an *Allgemeinbildende Höhere Schule* (lower level academic secondary school) the results of school entrance exams and previous academic achievement may be used.

In the **United Kingdom (England and Northern Ireland)**, 'grammar schools' can apply academic admissions criteria, usually through entrance exams, at lower secondary level. .

In Belgium (German-speaking and Flemish Communities), previous academic achievement is taken into account only for admission to certain lower secondary programmes. Minimum requirements are set for admission to general education programmes; while admission to others is more or less automatic.

In **Belgium (German-speaking Community)**, in order to have access to the general track in secondary education (ISED 2+3), pupils must have achieved the *Abschlusszeugnis der Grundschule* or GAZ (primary school leaving certificate). This is not required for vocational programmes at ISCED 2 and 3. Students who do not have this certificate can obtain it at ISCED level 2. Students can automatically be admitted to vocational programmes at ISCED 2 if they have either attended the 6th year of primary education (ISCED 1) or attained the age of 12 years.

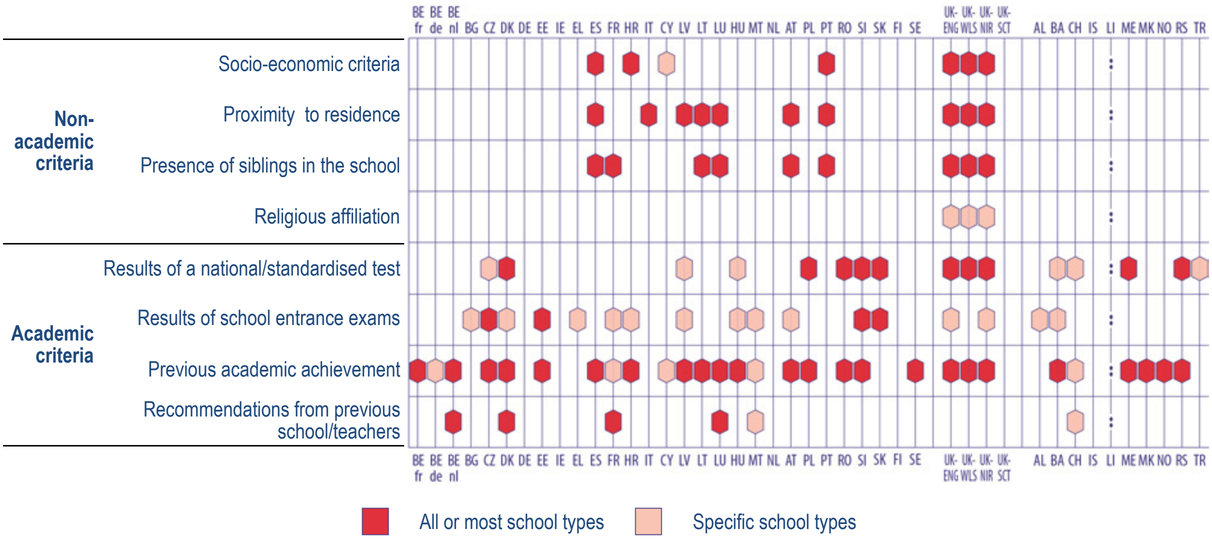
In **Belgium (Flemish Community)**, students need to have acquired the primary education certificate to be admitted to the A-stream of lower secondary education. However, this certificate is not a requirement for admissions to the B-stream.

II.5.3.3. Upper secondary education

At upper secondary level, top-level authorities define admissions criteria in the majority of education systems (see Figure II.5.6). In almost all systems, these are academic criteria, and only a quarter of systems set non-academic criteria at this level. The tendency to set largely academic criteria at this level is significant because in 24 education systems ([66]) this marks the start of non-compulsory education.

([66]) Czechia, Denmark, Estonia, Greece, Croatia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Slovenia, Finland, Sweden, the United Kingdom, Albania, Bosnia and Herzegovina, Switzerland, Iceland, Montenegro, Norway and Serbia

Figure II.5.6: Top-level admissions criteria (ISCED 3), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the school admissions criteria most commonly cited by top-level authorities for use at upper secondary level. There are different school types in all educations systems at this level (see Chapters II.3 and II.6): the red category therefore shows the admissions criteria applicable to all or most school types in the public sector, while the pink category indicates the criteria which apply to specific school types in this sector.

Country-specific notes

Belgium: After completing lower secondary education, most students continue their upper secondary education in the same school. However, they can change schools if they wish, for example, if their school does not offer the programme they want to take. Data presented for ISCED 3 applies to admissions to different pathways/streams within the same school or another school.

Belgium (BE fr, BE de): Students are admitted to a school if parents agree with the school project.

Ireland: After completing lower secondary education, most students do not change school for non-compulsory upper secondary studies and therefore in most cases there is no admissions process at upper secondary level.

Spain: Admissions criteria apply only when students choose a school different from the one they attended during compulsory education, and only if the chosen school is oversubscribed.

Malta: Data in the figure applies to compulsory upper secondary education. Non-compulsory education is not depicted in Figure II.5.6. For all programmes and school types in non-compulsory upper secondary education, the results of standardised test are required for admissions.

Slovenia: Optional entrance interviews or other school based criteria can be used by schools, only if there is no possibility to select among students by using previous academic achievement and results of national assessment, when the schools is oversubscribed.

United Kingdom (ENG/WLS/NIR): Data refer to admission to non-compulsory upper secondary education (Key Stage 5). There is no school change when students progress from ISCED 2 to ISCED 3.

Switzerland: Cantonal regulations vary. The category 'Results of standardised national tests' refers to cantonal standardised tests.

Looking closely at the non-academic admissions criteria, the top-level authorities in only six education systems (Spain, Croatia, Portugal and the United Kingdom – England, Wales and Northern Ireland) refer to socio-economic admissions criteria. In all six systems, these criteria positively discriminate in favour of candidates from disadvantaged backgrounds.

> In **Croatia**, students receive additional points in the upper secondary school admissions procedure if they live in difficult socio-economic conditions, if one their parents lives with a long-term serious illness, is long-term unemployed, etc.

Proximity to the school and the presence of siblings are taken into account in less than a quarter of education systems ([67]).

Across Europe, more education systems use academic admissions criteria at upper secondary than at lower secondary level. The number of assessment procedures used to gather evidence of students'

([67]) In the United Kingdom (England, Wales and Northern Ireland), these criteria may still be used, but with academic criteria now being permissible, are used less frequently.

academic achievement is also higher, showing the importance attached to academic performance in school admissions at this level. Furthermore, there are also more systems which differentiate between schools not only in terms of curricula, but also in terms of academic admissions criteria and procedures (see section below on Differences).

Previous academic achievement is the evidence most widely used to assess academic performance for school admission. All schools (regardless of the type of school or programmes offered) gather this evidence in two-thirds of the education systems. However, the detail varies, for example, in the number of subjects or the number of previous grades taken into account. Within-country differences also appear in subject matter requirements for admission to different types of school (see below).

In addition to using evidence of academic achievement from previous schools or grades, in some systems all schools are allowed to hold school entrance exams or interviews (Czechia, Estonia, Slovenia and Slovakia). This is usually optional for schools.

Ten education systems consider the results of national standardised tests in upper secondary school admissions. In Denmark, Poland, Romania, Slovenia, Slovakia and the United Kingdom (England, Wales and Northern Ireland), Bosnia and Herzegovina (in some cantons), Montenegro and Serbia, these national tests have been developed to measure and monitor student performance. While the test results count towards admissions in all eleven education systems, they do not all use the results in the same way. In most systems, the use of the test results is universal (applies to all students). In contrast, in Slovenia, students applying to oversubscribed schools may choose to have the test results taken into account, but only when admission on the basis of prior academic achievement is not possible.

The results of standardised tests are one element of a combined package of academic admissions criteria; they are usually considered alongside a student's previous academic performance (Denmark, Poland, Romania, Slovakia, Montenegro and Serbia), as well as with the results of school entrance exams (Bosnia and Herzegovina).

In **Romania**, in the admissions procedure applicable for all pathways and schools, the results of the standardised test account for 80 % and lower secondary grades for 20 % of the final admissions score. Students' applications are ranked based on their admission scores; and those with better scores have better chances to be admitted to their chosen school. Nevertheless, those who do not pass or take the national exam are automatically admitted to upper secondary level (vocational, dual vocational education or the first two years of high school) in order to complete compulsory education by the end of 10th grade. This admission is granted in schools where available places are left after the allocation based on national evaluation results.

Differences in admissions between public sector school types at upper secondary level

Differences in admissions criteria and procedures between different school types are most visible at upper secondary level. There are twenty education systems in which top-level admissions criteria, procedures or requirements differ between certain school types or programmes.

The only countries where there are differences in non-academic admissions criteria are Cyprus and the United Kingdom (England, Wales and Northern Ireland – see Section II.5.3.1).

In **Cyprus**, for admission in some very popular vocational specialisations, such as car mechanics, hairdressing or cooks-waiters, special admission criteria may be applied in case of oversubscription. These include academic achievement and the socio-economic situation of the students' family (e.g. low income). When there is no oversubscription, the only admission criteria to general and vocational upper secondary schools is a lower secondary school certificate

In all the other systems, the differences relate to academic achievement. Students wishing to apply to schools offering general educational programmes usually have to give proof of their academic achievement in various forms.

In five countries (Czechia, Latvia, Hungary, Switzerland and Turkey), the results of standardised national tests are used only by some school types and/or in relation to some types of programme. Standardised national tests need only be taken by those who wish to be admitted to schools offering certain, most commonly general, programmes. These tests are similar to the 'standardised national entrance exams' at lower secondary level discussed in section II.5.3.2.

In **Czechia**, this is the only additional requirement for students applying to the 4-year *gymnázia* and upper secondary vocational programmes leading to a school leaving qualification giving access to higher education (*maturita*), while all students are assessed based on their previous education achievement, and may be tested in school entrance exams, depending on the decision of the school head.

In 13 education systems, school entrance exams or interviews are not a universal feature of the admissions system, but are required or may be used in certain types of schools. These are usually schools offering general programmes or specific curricula, or rarely vocational schools.

In **Malta**, applicants for the Alternative Learning Programme (ALP) are interviewed and their previous academic achievement and the previous school's/teachers' recommendations are taken into account during the admissions process. However, most schools in compulsory upper secondary education cannot apply admissions criteria.

As mentioned above many countries require information on previous academic achievement from students. Some specify achievement in one or more specific subjects (for example, Croatia, Montenegro and North Macedonia) and the requirements may vary depending on the type of school or programme: a distinction is often made between general and vocational programmes. In some cases an admissions threshold is set (Croatia and North Macedonia).

In **Croatia**, grade point averages in the last four school grades as well as grades in specific subjects from the last two years of elementary education are examined for admissions to both upper secondary general and vocational programmes. The subjects are the Croatian language, mathematics and the first foreign language. However, in addition, for gymnasiums and 4- and 5-year vocational programmes, the previous grades of three subjects relevant to the upper secondary programme are required. One of the three additional subjects is defined by the school. In addition, these schools can also define a minimum threshold of academic performance for admissions but this is not allowed for schools offering less than a 4-year programme.

In **Montenegro**, all students applying for upper secondary education must provide proof of their general performance in the last cycle of primary school; and performance in the standardised national test at the end of primary education. For the *gymnasium*, however, performance in Montenegrin or the mother tongue, mathematics and other important subjects are considered. For vocational schools, two important subjects are considered.

In contrast, in some countries, the requirements related to previous academic achievement play a role not only in ranking students who compete for school places (for admissions), but they actually function as eligibility criteria for access. In other words: students not meeting the criteria cannot be considered for admission to some types of (usually general upper secondary) school or programmes, but they are eligible for others.

In **Denmark**, to be eligible for certain upper secondary programmes, students need to be declared 'ready for education' and have obtained a minimum grade average of five for three programmes (Upper Secondary School Leaving Examination programme – STX, Higher Commercial Examination programme – HHX and Higher Technical Examination programme – HTX), or a grade average of four for a fourth educational programme (Higher Preparatory Examination programme – HF). For admission to vocational schools (EUX and EUD), the pupil has to have a grade average of two.

In **Slovenia**, short upper secondary vocational education is open to students who have fulfilled the basic school obligation by successfully completing year 7 of the basic school programme, or to those who have completed an educational programme adapted to students with special needs. To enrol in any other upper secondary programmes students have to successfully complete the 9-year basic school programme.

II.5.3.4. Differences between public and government-dependent private schools in primary and secondary education

Figures II.5.1 and II.5.2 have already highlighted that government-dependent private schools tend to have more freedom than public schools in determining who receives a place in their schools.

In 21 education systems, government-dependent private schools are required to use the same types of admissions criteria as public schools (see Figures II.5.4-5.6). However, in 14 systems there may be differences at all levels of education (Belgium – German-speaking Community, France, Germany, Croatia, Hungary, Malta, Austria, Poland, Slovenia, the United Kingdom – England, Wales and Northern Ireland, Switzerland and Turkey). In Denmark such differences occur at secondary level.

Two main differences can be found. On the one hand, government-dependent private schools usually do not use residence criteria for school admissions. On the other hand, they can either use their own admissions criteria rather than those set by top-level authorities for public schools, or they can add their own criteria to those already set. These criteria are mainly religious affiliation – for schools maintained by churches; ideological criteria – schools managed by foundations or private entities; and gender – in Austria. In Malta, the presence of siblings is an admissions criteria applied only in government-dependent private schools at primary level.

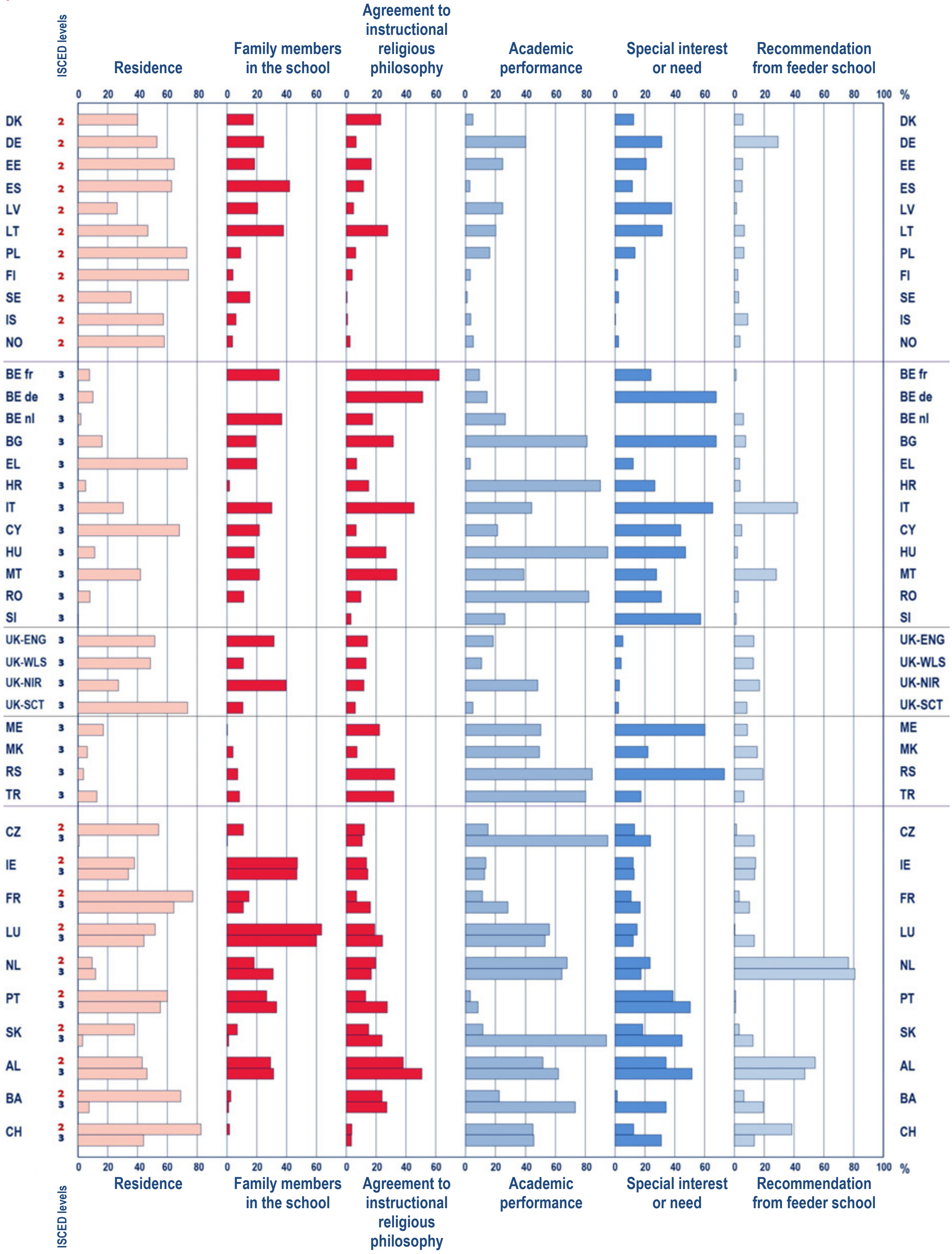
In **Belgium (French and German-speaking Communities),** students are admitted to a school if parents agree with the school project. In schools run by churches, it usually refers to religious affiliation. This is the case in primary and secondary education.

II.5.4. Admissions practices – evidence from PISA

Following the discussion of top-level policies on admissions to schools and programmes, this section examines the actual admissions practices in schools enrolling 15-year-olds based on the responses to the school heads questionnaire for PISA 2018.

Figure II.5.7 shows the range of criteria taken into account in school admissions, as reported by school heads.

Figure II.5.7: Percentage of 15-year-old students in schools where certain admission criteria are *always* used, as reported by school heads, by ISCED level, 2018



Source: OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated on the basis of school principals' responses to the following question in the School Questionnaire for PISA 2018: 'How often are the following factors considered when students are admitted to your school?' Only the answer 'Always and the following variables were considered'.

SC012Q01TA (Student's record of academic performance (including placement tests))
SC012Q02TA (Recommendation of feeder schools)
SC012Q03TA (Parents' endorsement of the instructional or religious philosophy of the school)
SC012Q04TA (Whether the student requires or is interested in a special programme)
SC012Q05TA (Preference given to family members of current or former students)
SC012Q06TA (Residence in a particular area)

This means that the figure shows the percentage of 15-year-olds who are in schools where the principal stated that the specific criterion is always used for admission to the school.

Due to the characteristics of national education systems, 15-year-olds may be in either lower (ISCED 2) or upper secondary (ISCED 3). When a single bar appears this means that more than 90 % of the 15-year-olds participating in PISA 2018 are enrolled in the education level indicated ([68]). (The sample size for the other ISCED level is usually too small to show significant/meaningful results.) When two bars appear for an education system (Czechia, Ireland, France, Luxembourg, the Netherlands, Portugal, Slovakia, Albania, Bosnia and Herzegovina and Switzerland), this means that relatively high proportions of the PISA 2018 student sample participate in lower and in upper secondary education, and it is possible to compare school admissions practices between the two levels of education.

See Table A9 in Annex II: Statistical tables.

Country-specific notes

Austria: Data is not broken down by ISCED levels.
Poland: In 2018, when the PISA survey was carried out 15 year olds were enrolled in *gimnazjum*, lower secondary school. Students were admitted to *gimnazjum* based on place of residence (catchment areas). From the 2018/19 school year, 15 year olds study in single structure primary and lower secondary schools. All figures on top-level education policies in this report reflect this new structure applicable in 2018/19.

Depending on the structure and other features of national education systems, the 15-year-olds participating in PISA may be enrolled in lower (ISCED 2) or upper secondary (ISCED 3) education. In most European countries, the overwhelming majority of the sample is enrolled in one or other of these levels. However, there are some countries where large proportions of the student sample are studying at both education levels ([69]). For this reason, the figure presents education systems according to the educational level the students are in. First, systems where 15 year-old students are typically enrolled in lower secondary education (ISCED 2) are depicted. Second, systems where 15 year-old students are typically in upper secondary education (ISCED 3) are shown. Third, systems where large proportions of students are enrolled in both lower and upper secondary education are presented, with two bars.

The two criteria most often considered are students' place of residence and academic performance. Figure II.5.7 suggests that the higher the percentage of students admitted on the basis of residence, the lower the proportion admitted on academic performance, and vice versa, particularly when the proportion covers the majority of students. Thus in the education systems where residence is an admissions criterion for the majority of 15-year-olds, academic performance is typically considered to a lesser degree. This is the case for example in Greece, Spain, Cyprus, Poland, and the United Kingdom – Scotland. In contrast, where academic performance is the main consideration for admissions for the great majority of students, their place of residence is taken into account to a much lesser degree (for example, in Bulgaria, Croatia, Romania, Serbia and Turkey).

([68]) OECD uses the concept of 'modal ISCED level' (see Explanatory notes under Figure II.6.7) to distinguish the dominant ISCED level where students are enrolled in. There is no ISCED modal level (or both levels are modal) in Czechia, Ireland, Luxembourg, Slovakia and Albania.

([69]) In Denmark, Germany, Estonia, Spain, Latvia, Lithuania, Poland, Finland, Sweden, Iceland and Norway, 15-year-olds are typically in lower secondary education. While in Belgium, Bulgaria, Greece, Croatia, Italy, Cyprus, Hungary, Malta, Romania, Slovenia, the United Kingdom, Montenegro, North Macedonia, Serbia and Turkey, 15-year-olds are commonly in upper secondary education. High proportions of the PISA 2018 sample in Czechia, Ireland, France, Luxembourg, the Netherlands, Portugal, Slovakia, Albania, Bosnia and Herzegovina and Switzerland are in both lower and upper secondary education.

Besides residence and academic performance, there are other criteria which appear to be important in schools admissions in some European education systems. One such criterion is whether the student requires or is interested in a specific programme. In more than half of the education systems, this criterion is taken into account for at least one fifth of students. In some education systems, according to school heads, the majority of students are admitted on this basis (Belgium – German-speaking Community, Italy, Slovenia, Montenegro and Serbia).

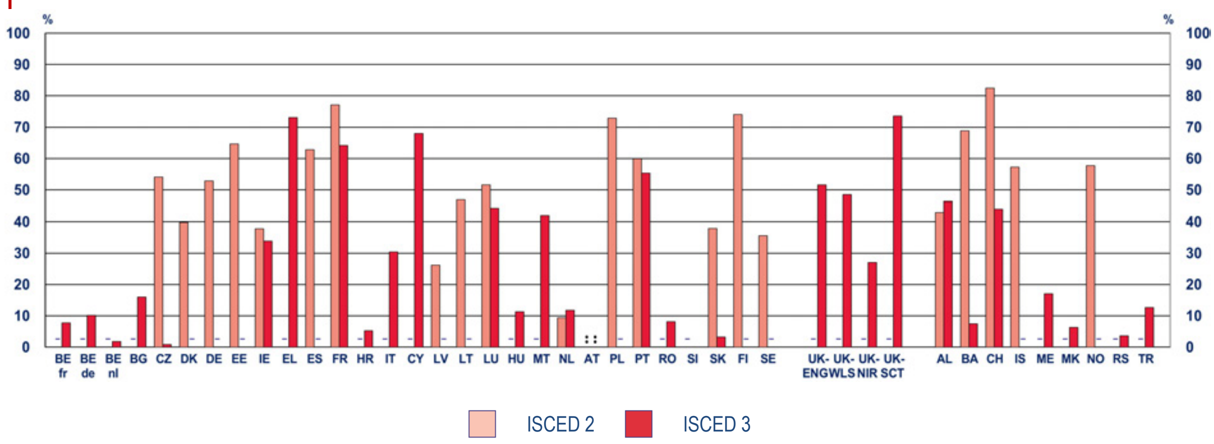
Another admission criterion, which relates to performance, is the recommendation from the feeder (previous) school. This is less common across Europe, but in the Netherlands and Albania it is reported as the main consideration.

In about a half of the education systems, non-academic criteria other than residence are always taken into account in school admissions for at least twenty percent of the 15-year-old participants, as reported by school heads. These criteria include the past or current attendance of family members at the school and/or parents' endorsement of the schools' instructional or religious philosophy. In Luxembourg, the attendance of family members is the most often used admission criterion by school heads; while in Belgium (French and German-speaking Communities), it is support for the school's philosophy.

However, as already mentioned above, the criteria most commonly used in school admissions across Europe, as reported by school heads, are students' place of residence and academic performance. Therefore, Figures II.5.8 and II.5.9 focus these two main criteria, breaking down the data by ISCED level where possible.

Figure II.5.8 shows that in a third of European education systems, about half or more of the participating 15-year-old students are in schools in which the place of residence is always considered in the admissions process, according to school heads. Residence is considered more often in systems where 15-year-olds (or at least some of the students in PISA) are in lower secondary education, and to a significantly lesser extent in upper secondary education. There are, however, some exceptions: in Greece, France, Cyprus, Portugal and the United Kingdom (England and Scotland), half or more than half of students in upper secondary education are admitted to a school taking into account the proximity of their home.

Figure II.5.8: Percentage of 15 year-old students in schools where residence is *always* considered in admissions, as reported by school heads, by ISCED level, 2018



Data (Figure II.5.8)

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
ISCED 2	-:	-	-	-	54.1	39.8	52.8	64.6	37.8	-	62.9	77.1	-	-	-	26.2	46.9	51.6	-	-	-
ISCED 3	7.7	10.1	1.8	16.0	0.9	-	-	-	33.8	73.1	-	64.1	5.2	30.4	68.0	-	-	44.3	11.3	42.0	11.8
	AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	**UK-ENG**	**UK-WLS**	**UK-NIR**	**UK-SCT**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
ISCED 2	:	72.9	60.0	-	-	37.9	74.0	35.6	-	-	-	-	43.0	68.9	82.5	57.2	-	-	57.7	-	-
ISCED 3	:	-	55.4	8.1	0.1	3.2	-	-	51.6	48.5	27.1	73.6	46.4	7.4	44.0	-	17.1	6.3	-	3.6	12.6

Source: OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated on the basis of variable SC012Q06TA (Residence in a particular area) of the school principals' questionnaire. Only the answer 'Always' is considered. This means that the figure shows the percentage of 15-year-olds who are in schools where the principal stated that the students' residence is always used for admission to the school.

On the educational levels presented in the figure, please see the explanatory notes under Figure II.5.7.

See Table A9 in Annex II: Statistical tables.

Country-specific notes

Austria: Data is not broken down by ISCED levels.
Poland: In 2018, when the PISA survey was carried out 15 year olds were enrolled in *gimnazjum*, lower secondary school. Students were admitted to *gimnazjum* based on place of residence (catchment areas). From the 2018/19 school year, 15 year olds study in single structure primary and lower secondary schools. All figures on top-level education policies in this report reflect this new structure applicable in 2018/19.

At lower secondary level, the education systems in which more than half of the participating 15-year-old students are admitted to a school based on residence are mostly those which have top-level policies on residence-based assignment to schools (and school catchment areas) (see Figure II.4.1). These include, on the one hand, many single structure systems, in which students are (at least as a preliminary step) assigned a school at primary level and stay there until the end of the lower secondary level (Czechia, Estonia, Finland, Bosnia and Herzegovina, and Iceland). On the other hand, these also include systems where students are assigned to a school near their home when they change school at lower secondary level (Spain, France, Cyprus, Switzerland and Norway).

In some education systems where families have a free choice of schools at lower secondary level (see Figure II.4.1), but top-level authorities require or recommend schools to consider the proximity of students' residence in school admissions (see Figure II.5.5), a relatively higher proportion of students are therefore in schools which, in practice, according to the PISA 2018 data, always consider students' residence in admissions (Luxembourg and Portugal).

The pattern is very similar at upper secondary level. In the education systems where students are initially assigned to a nearby school (Greece, France, Cyprus, Malta and the United Kingdom – Scotland) (see Figure II.4.1) and in systems where top-level authorities require or recommended that students' residence is considered in the school admissions process (Luxembourg, Portugal and the United Kingdom – England and Wales) (see Figure II.5.6), there is a higher percentage of 15-year-old students in the category 'residence always considered in the admissions process'. It should be noted that in the United Kingdom (England, Wales and Northern Ireland) all 15-year-olds, and in Luxembourg those who study in general programmes, typically continue to study in the school to which they were admitted at lower secondary level; thus, the top-level policies relevant for admissions at lower secondary level would mostly apply.

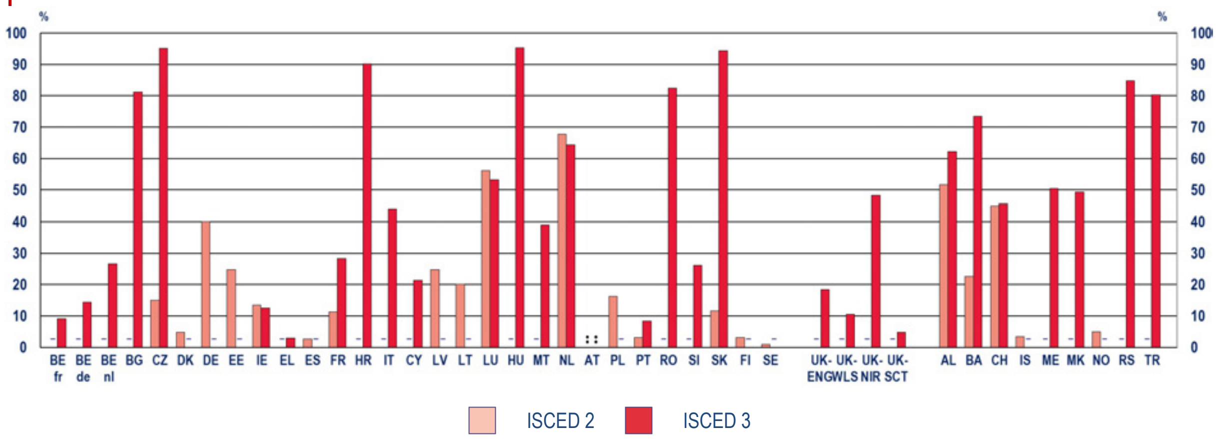
At upper secondary level, in most systems, top-level policies do not require or recommend that students should be allocated or admitted to schools based on their residence. This is demonstrated, in more than a third of the education systems, by the low percentage of 15-year-olds at ISCED 3 whose school head reports that residence is taken into account for admission.

However, there are education systems where the empirical evidence from PISA 2018 does not seem to match the top-level policy applicable to most schools. In these systems, the top-level policies applicable to (most) public schools would imply that students are allocated to schools based on their residence at lower secondary level (see Figure II.4.1); however, the school heads of less than half of the 15-year-old participants state that residence is always considered in school admissions (Denmark, Lithuania, Latvia, Slovakia, Albania and Switzerland). This may be related to the fact that different school choice and admissions policies are applicable to the different types of schools in the public sector or to government dependent private schools at lower secondary level (particularly important in systems where a large proportion of students are enrolled in government-dependent private schools) (see Figures II.3.1, II.4.3 and II.5.5).

From an equity and efficiency point of view, in systems where the majority of students are enrolled in schools which admit students based (only) on their residence, it would be expected that the socio-economic composition of the school population reflects the population of the school neighbourhood. The more heterogeneous the local population, the more varied the school's socio-economic composition; and vice versa.

Figure II.5.9 presents the proportion of students whose school heads report that students' academic performance is always considered in school admissions. The figure shows clearly that academic performance is more often used for admissions at upper secondary level than at lower secondary level. This is in line with the top-level policies presented in Figures II.5.5 and II.5.6 in most education systems. In some education systems (Bulgaria, Czechia, Croatia, Hungary, Romania, Slovakia, Serbia and Turkey), the overwhelming majority of students are admitted to upper secondary schools based on their academic achievement. In Germany, Luxembourg, the Netherlands, and Switzerland, the high percentage of students admitted to schools based on their achievement at lower secondary level also confirms early academic selection in these systems (see Figure II.6.1)

Figure II.5.9: Percentage of 15-year-old students in schools where academic performance is *always* considered in admissions, as reported by school heads, by ISCED level, 2018



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
ISCED 2	-	-	-	-	15.0	4.9	40.1	24.7	13.5	-	2.7	11.3	-	-	-	24.7	20.2	56.2	-	-	67.8
ISCED 3	9.2	14.3	26.6	81.2	95.1	-	-	-	12.5	2.9	-	28.4	90.2	44.2	21.3	-	-	53.3	95.2	39.0	64.4

	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
ISCED 2	:	16.2	3.1	-	-	11.6	3.2	1.0	-	-	-	-	51.8	22.6	45.1	3.4	-	-	4.9	-	-
ISCED 3	:	-	8.4	82.4	26.2	94.4	-	-	18.5	10.5	48.4	4.9	62.2	73.5	45.6	-	50.4	49.3	-	84.8	80.4

Source: OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated on the basis of variable SC012Q01TA of the school principals' questionnaire (Student's record of academic performance (including placement tests)). Only the answer 'Always' is considered. This means that the figure shows the percentage of 15-year-olds who are in schools where the principal stated that the students' academic performance is always used for admission to the school.

On the educational levels presented in the figure, please see the explanatory notes under Figure II.5.7.

See Table A9 in Annex II: Statistical tables.

Country-specific notes

Austria: Data is not broken down by ISCED levels.
Poland: In 2018, when the PISA survey was carried out 15 year olds were enrolled in *gimnazjum*, lower secondary school. Students were admitted to *gimnazjum* based on place of residence (catchment areas). From the 2018/19 school year, 15 year olds study in single structure primary and lower secondary schools. All figures on top-level education policies in this report reflect this new structure applicable in 2018/19.

In Czechia, Latvia and Slovakia, academic performance is being used for admissions at lower secondary level may reflect the start of some parallel education structures at this level (see Figures II.3.3 and II.5.5). Similarly, in Estonia and Lithuania, top-level authorities do not require or recommend the use of academic performance for school admissions at lower secondary level (and at primary level in Estonia, because of the single structure school system), but school heads report using academic performance in practice, in this case it may reflect the relatively high level autonomy schools have to determine their own admissions criteria (see Figure II.5.2).

From an equity and efficiency point of view, in systems where the majority of students are admitted to schools based on their academic performance, it is expected that there will be differences in the academic composition of the school population. High-achieving students may attend different schools from low achievers. If no other factors play a role in school admissions, the between-school differences would only be explained by students' academic performance, and students' residence or socio-economic factors would not play a role. However, if student performance is closely related to their socio-economic background, we may expect that admissions based on academic performance do not only lead to the stratification of students by ability, but also to a stratification by socio-economic background. These relationships are examined in more detail in Part III of the report.

II.6. TRACKING

Main findings

Tracking, or the assigning of students to different educational tracks or pathways, has been found to influence equity in education to a considerable extent. However, the effects of tracking vary depending on how it is organised.

- The earliest age at which students are assigned to tracks is 10, but more than half of the education systems start the process at or after 15. All education systems introduce some form of tracking by the age of 16 at the latest.
- The number of tracks in the school system depends on the degree of differentiation in general and vocational pathways and the number of different qualifications available.
- The relative proportion of upper secondary students in vocationally oriented programmes differs widely between European countries, from around 15 % to 75 %.
- The great majority of European countries rely on some form of academic selection when assigning students to different tracks, most commonly based on evaluation coming from the previous educational level. Yet, in many countries, students also have to pass or perform well on standardised examinations in order to enter general or more demanding academic tracks.
- Permeability between tracks allows students to change track mid-studies. Not all education systems allow this, especially when it comes to transitioning from vocational to general tracks. Where it is allowed, conditions may be set, often by schools themselves.
- The practice of course-by-course tracking, where students are placed into 'sets' or 'streams' for specific subjects is more widespread in secondary than in primary education.

Five types of tracking system have been identified across Europe:

1. systems where tracking starts early (between ages 10 and 13), often with hierarchically ordered general tracks;
2. systems where tracking starts at around age 14/15 with a high degree of differentiation predominantly among vocational tracks;
3. systems where tracking starts between ages 14 and 16 with a high degree of differentiation predominantly among general pathways;
4. systems where tracking starts late (age 15/16) with few tracks, limited academic selection and relatively high permeability; and
5. systems where tracking is mainly carried out on a course-by-course basis.

Tracking refers to the practice of separating students into different tracks, streams or pathways that have different curricula (Checchi et al., 2014). This normally occurs in secondary education. As such, tracking is one form of curricular differentiation (see Section II.3.2). Typically, distinctions are made between general and vocational tracks, but these can be further divided according to subject specialisation or qualification. In addition, 'informal internal differentiation' (Triventi et al., 2016) or 'ability stratification' (Parker et al., 2016) can also be regarded as a form of tracking. In this case, tracking occurs on a course-by-course basis, with students of different ability or performance levels ending up in different classes, even within comprehensive school systems (Chmielewski, 2014).

In this report, study programmes are regarded as differentiated educational pathways if either 1) they lead to different types of qualification, or 2) they have a distinct curriculum specialisation or orientation which can be offered by separate, dedicated types of school.

Tracking is introduced at some point during secondary education in all education systems. According to proponents of tracking, if students with similar ability levels can learn together in relatively homogeneous classrooms, then the pace of instruction can be better adapted to their level. In turn, the level of learning and student performance can be maximised (Hanushek and Wößmann, 2006). In other words, by separating students into differentiated pathways, students can receive a level of education tailored to their abilities and needs. This reduces the risk of students underperforming or even leaving school early as a result of the school's failure to adapt learning requirements to students' ability levels. According to this logic, there is a trade-off between performance (or as it is often referred to, the 'efficiency' of an education system) and equity in education systems: while tracking increases inequalities between higher and lower achieving students, it maximises performance through differentiation.

However, there is no robust empirical evidence on the success of tracking in increasing average performance, or on the assumed trade-off between efficiency and equity (see also Chapter I.1). Researchers point out that classrooms with students of different ability levels can also achieve high average performance levels. Classroom composition can have an important impact on individual performance: this is referred to as the educational 'peer effect'. In heterogeneous groups, the performance of low-ability students is found to be impacted the most by classroom composition and the interaction with higher ability students (Hanushek and Wößmann, 2006; Zimmer, 2000; Zimmer and Toma, 2000). This means that comprehensive education (thus the absence of tracking) may contribute to both efficiency and equity gains.

Yet, these dynamics depend on how tracking is organised within education systems. Empirical evidence shows that the effects of tracking depend on many factors such as:

- the age of first tracking;
- the number of tracks and the degree of differentiation;
- the labour-market orientation and size of vocational tracks;
- selection procedures;
- the permeability between tracks; and
- the prevalence of course-by-course tracking.

These factors are discussed in turn. The final section of this chapter then presents a preliminary grouping of education systems based on the different aspects of tracking.

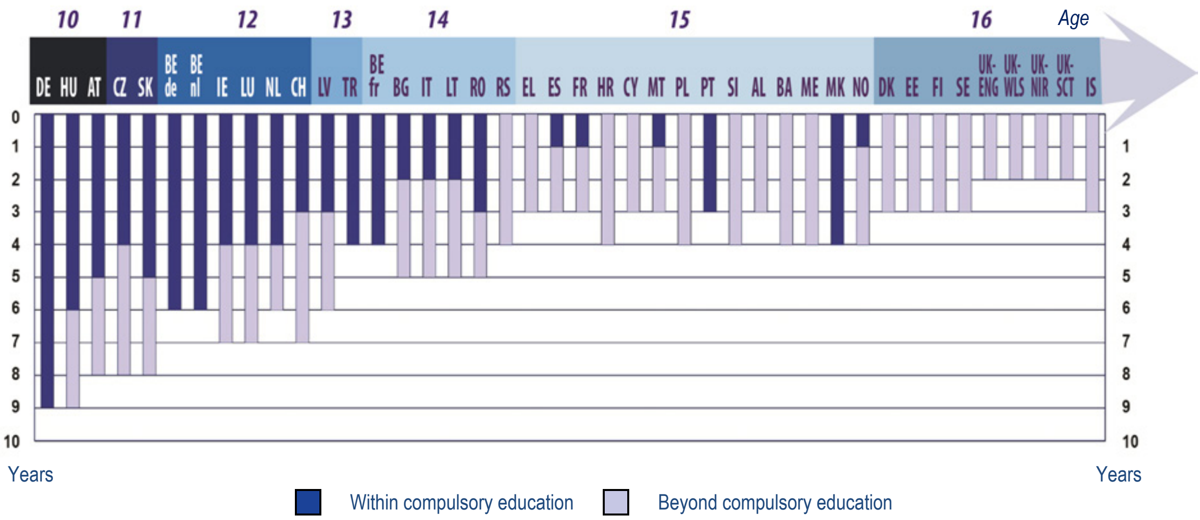
II.6.1. Age of first tracking

The effect of the age at which students are first assigned to a differentiated track of education has been the subject of much empirical research. Many studies have found that the earlier tracking is introduced, the wider the learning differences between students (Hanushek and Wößmann, 2006; OECD, 2012). Thus, there seems to be an adverse relationship between equity and the age at which students are channelled down different pathways. Early tracking influences equity in both dimensions, inclusion as well as fairness. As such, early tracking is found to both widen the gap between low and high performers, and increase the impact of socio-economic background on performance (Contini and

Cugnata, 2018; Horn, 2009; Schütz, Ursprung, and Wößmann, 2008). Early tracking magnifies early achievement, which is more influenced by socio-economic background than achievement in later years. This not only reinforces the parental background effect, but also contributes to reducing the educational expectations of less privileged students (Buchmann and Park, 2009; Dupriez et al., 2012; Parker et al., 2016). Reduced educational expectation and aspiration influences educational choices, thereby further decreasing the equity of educational outcomes.

Figure II.6.1 depicts European education systems according to the de facto (theoretical) starting ages of the tracking process, that is the age at which students are assigned to a school providing differentiated education, although the differentiated curriculum might not start immediately. It also shows the number of school years spent in these differentiated school settings both within and beyond compulsory education.

Figure II.6.1: De facto starting ages of tracking and total years of schooling covered in a differentiated setting, 2018/19



Source: Eurydice.

Explanatory notes

The Figure shows the de facto starting ages of tracking in European education systems. Countries are in order of the earliest age at which students are assigned to different types of school, whether or not this is the age at which the differentiated curriculum or programme actually starts. Where the length of programmes differs, the length of the longest general programme is taken into account (see also Figure II.3.3 on structural differentiation).

Country-specific notes

Czechia, Latvia and **Hungary**: The figure shows the length of 8-year (CZ and HU) and 6-year (LV) gymnasia programmes, as students entering these schools do not face any further selection. Nevertheless, tracking is introduced for all students at a later stage, at the start of ISCED 3.
Malta: The figure shows the length of the alternative learning programme (ALP), which students can opt for at the age of 15. Otherwise tracking starts at age 16 (at the end of compulsory education) for all other students.
United Kingdom (ENG/WLS/NIR): Study programmes are not discrete pathways, as they can contain a mix of general and vocational qualifications.

As the figure illustrates, all European education systems introduce some form of tracking by the age of 16 at the latest. More than half of the education systems start this process from or after the age of 15. The earliest age of first tracking is 10, which occurs in three countries (Germany, Hungary and Austria). At the other extreme, Nordic countries (Denmark, Estonia, Finland, Sweden and Iceland) as well as the United Kingdom ([70]) introduce differentiated educational pathways at the age of 16.

([70]) In the United Kingdom (ENG/WLS/NIR), study programmes are not discrete pathways the same way as in the other countries.

In around half of the education systems, tracking starts at the end or shortly after the end of compulsory education.

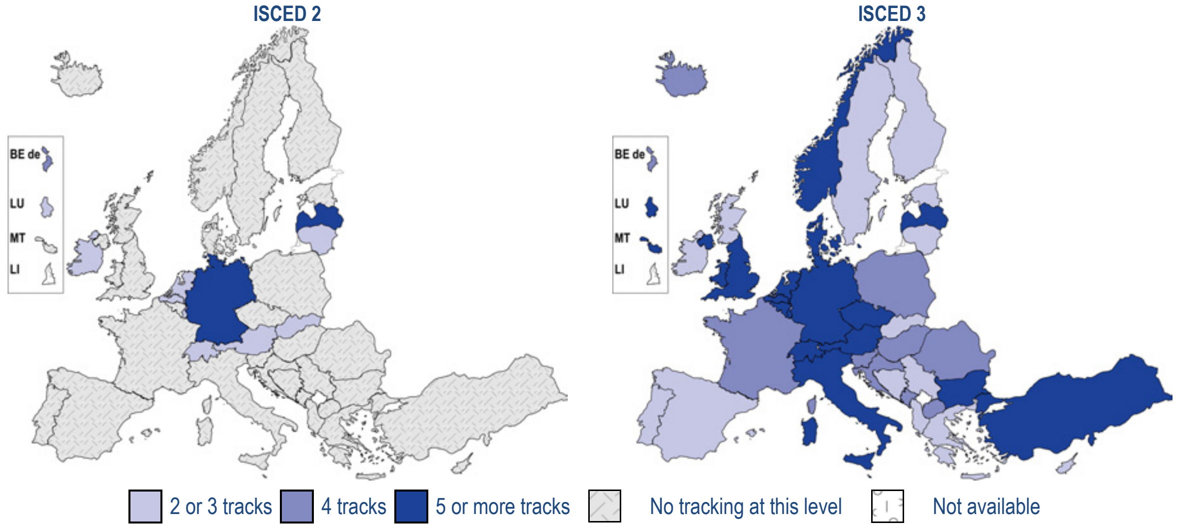
The earliest age at which students are assigned to different types of school and the official start of differentiated curriculum programmes do not always coincide. In systems with parallel education structures (see Section II.3.3), students may have the opportunity to enter different types of school (from which they eventually receive their school leaving qualifications) at different ages. For example, in Czechia and Hungary, students may enter eight-year gymnasia at age 11 and 10 respectively, at the start of lower secondary education. So some students stay in lower secondary education in single structure primary and lower secondary schools until age 14/15, while others are allocated to single structure lower and upper secondary schools on a competitive basis earlier (see also Figure II.5.5). De facto tracking – at least for some students – therefore starts at an early age even if differentiated curricula or pathways are not introduced until upper secondary level. Similarly, in Latvia, students can leave single structure *pamatskola* at the age of 13 (at the end of primary education), while others stay until the age of 16 (until the end of lower secondary education).

II.6.2. Number of tracks and the degree of differentiation

The number of tracks and the degree of differentiation between them is another factor influencing the differences between student outcomes and the level of educational inequalities. The higher the number of school types and/or pathways in an education system, the larger the impact of socio-economic background on educational performance (Ammermüller, 2005; Horn, 2009; Marks, 2005).

Figure II.6.2 depicts the number of tracks or educational pathways in lower secondary (ISCED 2) and upper secondary education (ISCED 3). Only 11 education systems begin the tracking process at ISCED level 2, while all the remaining education systems introduce it at the start of, or some time during ISCED 3. In countries where tracking starts in ISCED level 2 (lower secondary education), there tend to be fewer tracks than in ISCED 3, mostly because there are fewer or no vocationally oriented tracks at the lower level.

Figure II.6.2: Number of differentiated tracks (ISCED 2 and 3), 2018/19



Source: Eurydice.

Explanatory notes

Only the tracks leading to upper secondary qualifications are taken into account. Students not entering upper secondary education (thus obtaining only a lower secondary qualification in systems where such qualifications exist) are not regarded as being on a separate track.

Educational pathways are listed in the Annex for all education systems.

Country-specific notes

France: The *Baccalauréat général* and the *Baccalauréat technologique* are both classified at ISCED level 34 (and the first year is common to both of them). In vocational education, both the *Certificat d'aptitude professionnelle* (CAP) and the *Baccalauréat professionel* are classified at ISCED level 35. However, even though most students take the CAP before taking the *Baccalauréat professionnel*, the former does not give direct access to higher education.

Portugal: There is some vocational provision during basic education (ISCED 2), but this is exceptional, and is limited to students from age 15 onwards or to those who are at the risk of dropout.

The total number of tracks in an education system differs considerably between countries. In some cases this is due to the existence of several different tracks within general education. In Germany, the Netherlands, Austria and Switzerland, for example, several types of general education are offered from the end of primary education. These are often hierarchically ordered (according to the level of student ability or learning requirements) and are often linked to specific school types (see also Chapter II.3). Students following these different tracks often receive different qualifications at the end of their upper secondary studies.

In the **Netherlands**, there are three separate educational pathways starting at ISCED level 2 (at age 12): pre-university general secondary education (VWO), preparing students for university; general secondary education (HAVO), preparing students for higher professional education or universities of applied sciences; and pre-vocational secondary education (VMBO).

In other education systems (e.g. in Bulgaria, Latvia or Norway), the different tracks in general education are based on curricular specialisations (e.g. in mathematics or humanities). In this case, the curricular differences between general tracks might be smaller than in hierarchically ordered systems.

In **Latvia**, four general education pathways are distinguished at both lower and upper secondary level: 1) a general education pathway, 2) a mathematics, sciences and technical pathway, 3) a humanities and social sciences pathway, and 4) a vocational pathway which is included in the general education system. This last pathway will cease to exist from the 2019/20 academic year.

In **Norway**, besides general studies at upper secondary level, four specialised education programmes are available: 1) music, 2) dance and drama; 3) sport; 4) media and communication; and 5) art, design and architecture.

The number of tracks (and also the degree of differentiation between them) also depends on how vocational education is organised. Where several different vocational qualifications are available, the number of vocational tracks can be higher. Education systems often have vocationally oriented pathways providing the same upper secondary qualification as general pathways. In addition, some vocational tracks may lead to a lower level qualification that offers no direct access to tertiary education. In these cases, the differences between the separate vocational tracks could be more substantial than between the general and vocational tracks that lead to the same qualification.

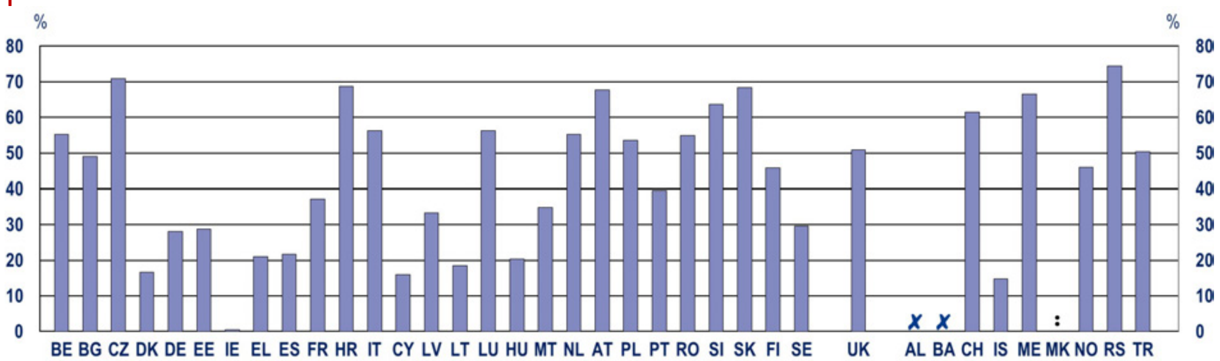
In **Czechia**, there are two general (*gymnázium* and *lyceum*) and one vocational pathway all providing students with the same upper secondary school leaving qualification (*maturita*) giving access to tertiary education. At the same time, there are two more vocationally oriented tracks leading to lower level qualifications that do not provide access to tertiary education.

II.6.3 The size and orientation of the vocational sector

This last point also leads to an important defining feature of tracking systems in Europe: the size of the vocational education sector and whether students are oriented towards higher education or directly into the labour market. Research suggests that separating students into general and vocational tracks can have multiple effects on educational inequalities, sometimes negative and sometimes positive. On the one hand, assigning students – especially at an early age – into lower-level vocational tracks can both increase educational inequalities and negatively influence educational attainment levels. This is mainly due to the level of vocational qualifications, as some students are prevented from progressing to tertiary education without obtaining additional qualifications. This is labelled as the 'diversion effect' of educational tracking (Brunello and Checchi, 2007). On the other hand, vocational schools with a strong labour-market orientation can be more effective in promoting the specialist skills that can be translated into advantages in the labour market. This 'specialisation effect' of vocational education is greater in education systems with a strong vocational sector (Brunello and Checchi, 2007; Checchi et al., 2014). In this sense, vocational education can mean an easier transition to the world of work for many, which can have a positive effect on equity, especially if the option of entering tertiary education is kept open (Field, Kuczera and Pont, 2007).

Figure II.6.3 depicts the percentage of upper secondary students enrolled in vocational programmes in European countries. As the picture reveals, this percentage ranges from 16 % in Cyprus to 74.4 % in Serbia ([71]). Apart from Serbia, the countries with the largest vocational education sector at upper secondary level are Czechia, Croatia, Austria and Slovakia, with close to 70 % of students participating in these pathways.

Figure II.6.3: Percentage of 17-year-old students in vocationally oriented programmes (ISCED 3), 2017



BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
55.2	49.1	70.9	16.6	28.1	28.8	0.5	21.1	21.7	37.2	68.8	56.3	16.0	33.3	18.6	56.3	20.4	34.8	55.2
AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**		**UK**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
67.7	53.5	39.6	54.8	63.7	68.4	45.9	29.5		50.8	✗	✗	61.5	14.8	66.5	:	46.0	74.4	50.3

Source: Eurostat, UOE data collection [educ_uoe_enrs05] (last update: 21/01/2020).

Explanatory notes

The age of 17 was selected because, by this age, all countries have already introduced vocational pathways, but usually students have not yet finished upper secondary education.

II.6.4. Selection procedures

What determines which students can enter which tracks? The assigning of students to educational pathways is, in effect, based on a selection process. Systems differ in how much room they provide in this process for student (and parent) choice, and how strongly any choice is constrained by the student's academic performance (see Chapters II.4 and II.5 for more details on school choice and school admissions policies). The weaker the choice element, the more academically selective the system (Jackson and Jonsson, 2013).

([71]) Ireland is depicted as having very few students in vocational education. This is due to the ISCED classification of vocationally oriented programmes as general education.

As already described in Chapter II.5, academic selectivity has an ambiguous relationship with educational equity. On the one hand, researchers argue that where selection for the different tracks is purely based on performance, the process should not increase the impact of socio-economic background (and therefore educational inequalities), as the more advantaged groups cannot gain access to the more academic tracks if they do not reach the required performance level (Jackson and Jonsson, 2013; Marks, 2005). In this sense, assigning students to different tracks only promotes socio-economic inequality if 'social class contaminates the selection process' (Marks, 2005). On the other hand, in systems where socio-economic inequality already exists in the lower levels of schooling (see Chapter I.2), academic selectivity is likely to reinforce socio-economic differences.

Almost all education systems rely on some form of performance-based selection when assigning students to different tracks. As already discussed in Chapter II.5, academic selection is based on three main forms of evaluation.

1. Standardised tests or examinations are uniform, standardised tests or entrance examinations that all students – or all students aspiring to enter general/academic tracks – need to complete. These can be used either to rank students based on their performance, or to help define the minimum requirements needed for a specific track.
2. Entrance examinations or interviews organised by schools are designed to test students' knowledge and/or their motivation or aspirations. Schools are responsible for the content of such examinations or interviews, as well as for the ranking of students.
3. Evaluation by the sending institution (or achievement preceding track selection) may take account of school grades in one or more subjects, a portfolio demonstrating the learning outcomes achieved, or can take the form of recommendations from teachers or educational institutions. Students may be assigned to an educational pathway based on such evaluation with or without additional testing or interview.

Figure II.6.4 groups education systems according to the forms of evaluation used when assigning students to the highest or most academically oriented educational tracks.

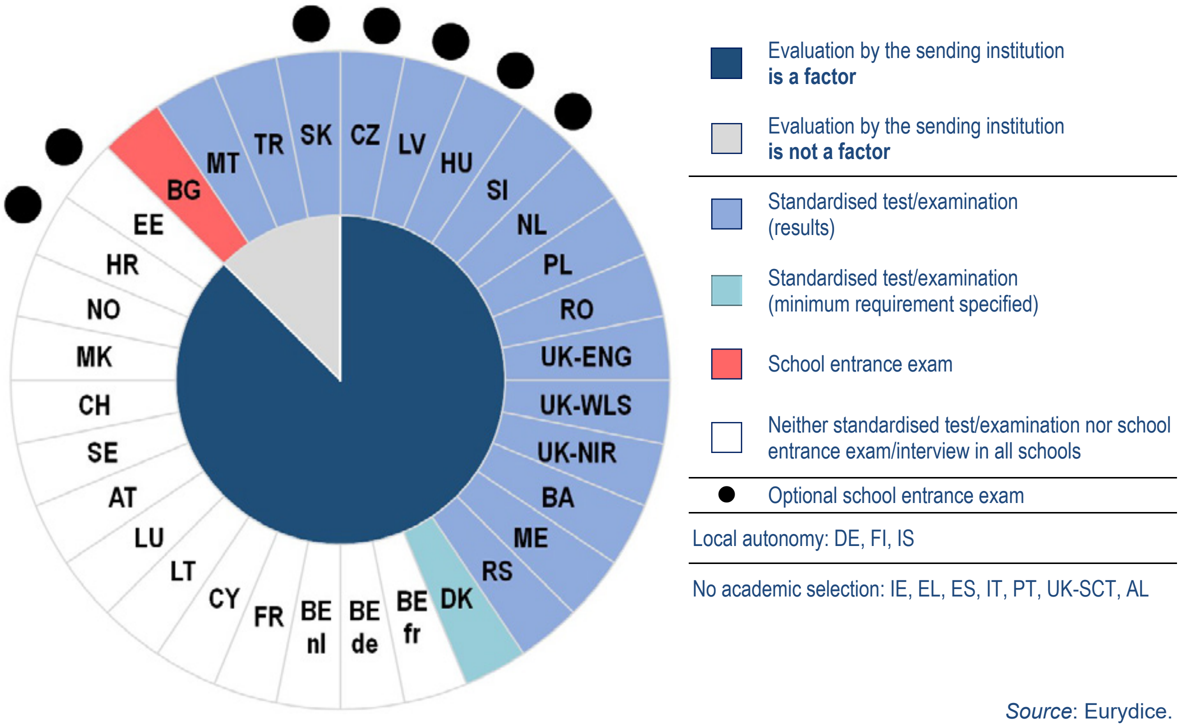
The inner circle of the figure depicts the most common way of evaluating performance when assigning students to differentiated educational programmes: evaluation by the sending institution, which is most often made on the basis of achievement preceding track selection. This type of evaluation informs decisions in the large majority of education systems (28), and is the only type used in 12. There might be differences, however, in how strongly such evaluation influences track choices.

In **Sweden**, for example, while students can make a choice between educational programmes (and schools), they have to compete for the places based on their 'merit rating value' (*meritvärde*) that is based on their achievement at ISCED level 2.

In **Luxembourg**, the 'orientation decision' (*décision d'orientation*) pupils receive from their primary school is binding, and defines the educational pathway pupils can enter at lower secondary level.

Nonetheless, evaluation by the sending institution or on the basis of achievement preceding track selection is often coupled with additional tests, examinations or interviews conducted prior to assigning students to a track (in 16 systems). The blue- and pink-coloured slices of the second layer of the figure show the education systems where all students (or all students aspiring to enter general/academic education programmes) must undergo this additional test/exam/interview. As the figure shows, students need to do so in the majority of education systems with academic selection criteria. In four education systems (Bulgaria, Malta, Slovakia and Turkey), the result of tests, exams or interviews are the only basis of evaluation, previous achievement is not considered.

Figure II.6.4: Evaluation of academic attainment in assigning students to higher level tracks, 2018/19



Source: Eurydice.

Explanatory notes

In some cases, it is difficult to disentangle school admission requirements from track selection, especially where students have to change school before they enter a tracked setting. For this reason, systems with no explicit track selection criteria are included on the figure if schools offering general education pathways can include academic performance as one of their admission criteria.

Slices in the second layer of the figure are coloured in blue if standardised tests/examinations need to be taken by all students wishing to enter higher level tracks, and they are coloured in pink if school entrance exams are applied by all schools offering such higher level tracks.

Country-specific notes

Greece: While in general academic attainment is not used in assigning students to different tracks, specific types of school organise school-based entrance exams.

Denmark: In order to be admitted to the STX, HHX or HTX programmes, students are required to obtain a minimum average of five in the compulsory exams of the primary and lower secondary school's final examination (*Folkeskolens lovbundne prøver*). However, if they receive lower marks (but still above an average of two), they can still ask to be admitted to these programmes upon consultation with the principal at the desired upper secondary school.

Lithuania: Academic attainment is considered by schools if they are oversubscribed. In this case, previous academic achievement is usually taken into account.

Slovenia: Academic attainment is considered by schools if they are oversubscribed. In this case, previous academic achievement is usually taken into account. If selection is not possible by previous academic achievement, results of standardised tests can be used to enable selection among students with the same number of points received on the basis of previous academic achievement. Optional entrance interviews or other school-based criteria can be used by schools only if there is no possibility to select among students by using previous academic achievement and the results of standardised tests.

Slovakia: There is no standardised examination organised for students wishing to enter the 8-year *gymnázium* but there is one at the beginning of ISCED 3.

United Kingdom (ENG/WLS/NIR): Study programmes are not discrete pathways, as they can contain a mix of general and vocational qualifications.

Bosnia and Herzegovina: Varies between cantons: some organise standardised tests/examinations, while school-based entry exams are used to evaluate students' performance in others.

Switzerland: Varies between cantons. Previous academic achievement and recommendations from previous teachers are applied in most cases. Standardised tests/examinations also exist in some cantons.

School-leaving or entrance tests can be either standardised (uniform for all students) or school-based. Standardised tests or examinations can inform track assignment in two main ways. First, as in the majority of education systems (16), when students apply to schools (or general programmes within schools), their performance is evaluated based on national tests or examinations and schools can select the best performing students. Second, as in Denmark, based on national examinations, top-level authorities can set minimum thresholds or requirements to be reached for students to be able to enter specific tracks. There are no standardised tests or examinations in Bulgaria, but students are selected on the basis of school entrance exams.

In addition to these main forms of performance evaluation, in seven education systems (Czechia, Estonia, Croatia, Latvia, Hungary, Slovakia and Slovenia), schools are also allowed to organise additional school-based exams or interviews that inform student ranking (see black dots in the outer circle on Figure II.6.4). However, not all schools take this option, or they use it only in exceptional cases.

> For example, in **Estonia**, schools are allowed to arrange school-based tests, but these are optional. Most of the schools select students based on previous academic results and hold interviews with student candidates to establish their interests, attitudes and learning motivation.

There is no academic selection in seven education systems: Ireland, Greece, Spain, Italy, Portugal, the United Kingdom (Scotland) and Albania. In these systems, students and their parents are free to choose between education pathways, and schools do not apply academic criteria when selecting students for general educational pathways.

II.6.5. Permeability between tracks

Students might want to change the educational track they are enrolled in for a variety of reasons. Permeability between tracks (or horizontal permeability) allows this change to take place before students have completed the programme. Permeability between tracks is an essential feature of tracking systems, especially where tracking begins at a relatively early age. In such cases, allowing for inter-track transition in a permeable system could work as a possible correction mechanism for an initial allocation that proves to be inappropriate for the student (Jacob and Tieben, 2019). As discussed above, track assignment at an early stage is more heavily influenced by the socio-economic background of parents and therefore can increase educational inequalities. Inter-track transition could partially offset the unequal nature of this initial assignment.

For this reason, academic research has focused on the conditions for moving to a higher level track. Transition to a lower track or from general to vocational tracks is normally possible in all education systems. However, the conditions for moving up are different, and they also depend on the degree of academic selectivity in the initial process (see previous section). According to OECD data – available for a limited number of countries only (OECD, 2017b, p. 163) – while a small proportion of students who start general education tracks end up completing a vocational track, the proportion moving in the opposite direction is close to zero in almost all systems with data ([72]). This points towards very low levels of permeability from vocational to general tracks in European countries.

In addition, even where inter-track transition does occur, it might not benefit students from low socio-economic backgrounds. Researchers note that students from higher socio-economic backgrounds are more likely to change pathways during their schooling, especially when it comes to moving upwards (Backes and Hadjar, 2017; Bernardi, 2012). This might be due to the fact that for less affluent families the potential risk of failing a higher educational pathway does not outweigh the potential benefits (ibid.). This cost-benefit calculation is also influenced by the conditions under which track mobility is allowed. For example, requiring students to repeat a school year in the pathway they wish to join implies even higher opportunity costs, especially for students from lower socio-economic backgrounds (Jacob and Tieben, 2019).

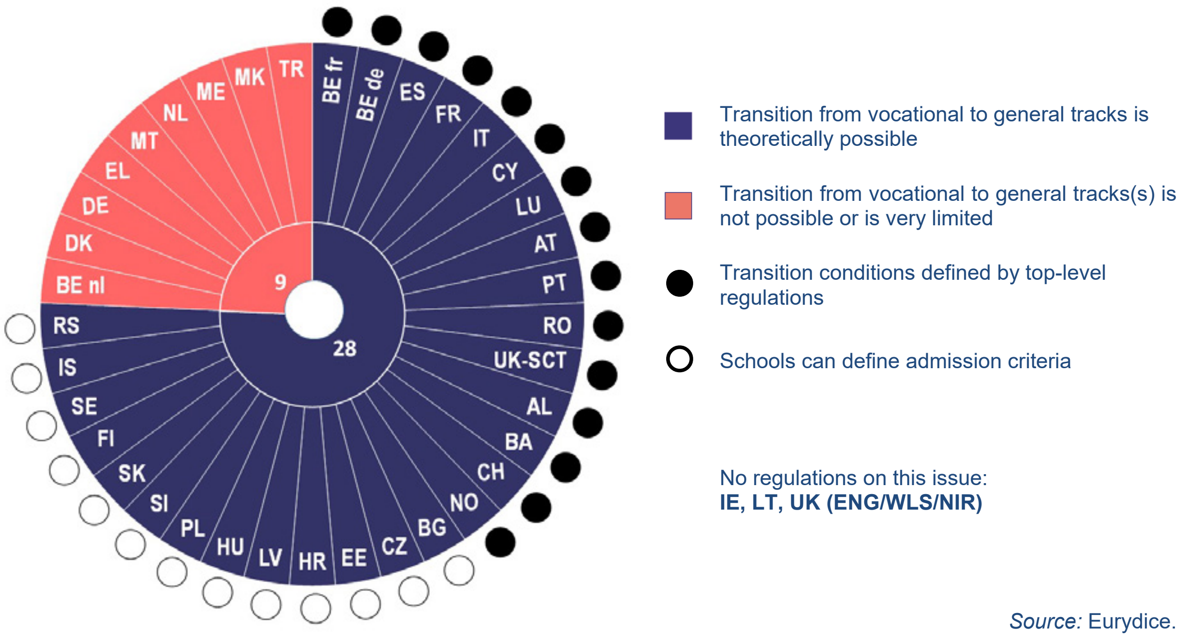
([72]) The OECD's Education at a Glance 2017 includes data on the Flemish Community of Belgium, Estonia, France, Latvia, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and Norway (OECD, 2017b, p. 163). The only country from this list with high levels of mobility from vocational to general tracks is Norway.

For this reason, it is important to examine the conditions for inter-track transition. Two types of transition are explored: 1) between general tracks in hierarchically ordered tracking systems (see Section II.6.2); and 2) from vocational to general education pathways. In these cases, the track placement strongly influences the content of studies, as well as the qualifications students obtain at the end of their upper secondary schooling. In turn, this also has an impact on opportunities to enter tertiary education directly after finishing secondary education.

Almost all education systems with several general education pathways allow students to change between these. Inter-track transition is not possible without completing the original pathway in Turkey (both at lower and upper secondary level) and Malta (at upper secondary level). Nevertheless, even in systems that allow transitions between general tracks, students often have to meet certain conditions. Where these conditions are determined by top-level authorities, the condition reported most often at lower secondary level is high academic achievement (in Germany, Austria and Switzerland), but students might also need to pass an additional exam in order to enter a pathway with higher requirements (Germany). At upper secondary level, additional examinations are required more often.

Figure II.6.5 illustrates the diversity of the regulatory frameworks applying to students making the transition from vocational to general pathways. The figure focuses on upper secondary education, as very few countries introduce vocational tracks at lower secondary level.

Figure II.6.5: Inter-track transition from vocational to general educational pathways (ISCED 3), 2018/19



Source: Eurydice.

Explanatory notes

When several vocational tracks exist and transition to general education is not allowed in all cases, education systems are included in the category 'Transition from vocational to general tracks(s) is not possible or is very limited'. Nevertheless, in these cases, transition might still be possible from the highest vocational track as this often leads to the same qualification as (one of) the general tracks.

Country-specific notes

Slovakia: While changes are possible between the 4-year *gymnázium* and vocational schools, students from other types of schools cannot enter the 8-year *gymnázium* mid-studies (thus later than the beginning of the first year).
Serbia: While changing between tracks is possible under conditions defined by schools, enrolment mid-studies in specialist schools such as art schools, schools for students with exceptional abilities (the Mathematical Grammar School, the Philological High School of Belgrade, the Sports High School, the Grammar School for students with exceptional abilities for physics and IT) or schools with a foreign language specialisation is not possible.

Top-level regulations allow for the transition of students from vocational to general education pathways mid-studies – thus without completing the original pathway first – in 28 education systems. This is not possible in nine other education systems, where students have to finish their original vocational pathway before starting general or supplementary programmes. There are no top-level regulations on this issue in five education systems.

In the systems that allow inter-track transition from vocational to general pathways, the conditions for transition may differ. These are defined by top-level regulations in 15 education systems. Top-level authorities usually require these students to pass an additional exam. High academic achievement in the original track is also a regular prerequisite of change. In addition, five education systems (the French and German-speaking Communities of Belgium, Austria, Romania and Bosnia and Herzegovina) also indicate that students might be required to enrol at a lower grade (thus practically repeating a year) in the pathway they wish to join. In 13 education systems, although top-level regulations make inter-track transition possible, schools have the autonomy to define the admission criteria.

Some education systems note that facilitating the permeability of educational pathways is an explicit aim of top-level authorities. The introduction of regulations in this area may ease these transitions. First, they can create transparency by prescribing in detail the conditions for changing between all possible educational tracks (e.g. in the German-speaking Community of Belgium, Cyprus, and Bosnia and Herzegovina). Second, curricular harmonisation across the different educational pathways can be introduced to facilitate transitions (e.g. in Austria (between general educational pathways), Portugal and Norway).

Top-level authorities in **Austria** have introduced differentiated teaching in ISCED 2 in lower level secondary schools (*Neue Mittelschule*), distinguishing between in-depth and basic general education in certain subjects. Students following the in-depth curricular content can transition to academically oriented secondary schools (*Allgemeinbildende höhere Schule*) more easily.

In **Norway**, students in vocational pathways wishing to transfer to general education can take supplementary courses in the main curriculum subjects where they had fewer teaching hours in their original track.

II.6.6. Course-by-course tracking

Discussions on educational tracking most often presume the presence of differentiated educational pathways. However, some form of tracking might also occur on a course-by-course basis. Even within comprehensive school systems, students with different ability or performance levels may be placed in different classes or 'sets' or 'streams' for specific subjects (Chmielewski, 2014; Parker et al., 2016). This phenomenon can be referred to as 'course-by-course tracking' (Chmielewski, 2014), 'informal internal differentiation' (Triventi et al., 2016) or 'ability stratification' within schools (Parker et al., 2016). This report uses the term course-by-course tracking.

Course-by-course tracking differs in three important respects from the other forms of tracking described above. First, course-by-course tracking always occurs within schools. Second, in course-by-course tracking, it is the courses that are differentiated, not the students (so a student can be in a lower track on one course and in a higher track on another). Third, course-by-course tracking does not influence eligibility for tertiary education access (Chmielewski, 2014). Despite these differences, researchers have found similarities with the other forms of tracking. Most importantly, socio-economic differences are also found to be reinforced by course-by-course tracking, even though such systems keep these differences within the same schools (ibid.).

Top-level regulations rarely address course-by-course tracking. The grouping of students into classes or temporary ‘sets’ or ‘streams’ is a matter for school autonomy in most cases. Nevertheless, where regulations or recommendations do exist they may differ depending, for example, on the level of education or school type.

At primary level, course-by-course tracking is not usually a recommended practice. In fact it is often the opposite – top-level authorities are more likely to recommend the formation of heterogeneous mixed-ability classes (e.g. some *Länder* in Germany, France, Luxembourg, Portugal, Romania and Montenegro).

Where applicable, course-by-course tracking is usually introduced at lower or upper secondary level. Creating temporary groups or ‘sets’ of students in certain subjects is the recommended practice for example in some German *Länder* and in Malta. In Austria, this is a recommended practice for some school types where it serves to ease the transition between the different school types within general education (see Section II.6.5).

> In **Malta**, at ISCED 2 and 3 in compulsory education, with regards to core curriculum subjects (Maths, Maltese, English), a 'banding' system is adopted so as to narrow the possibility of an extreme range of abilities. As for other subjects, a mixed-ability system is adopted whereby students with a range of abilities follow the same lesson.

Only Norway and Portugal report that stratifying students based on ability is explicitly discouraged by top-level regulations. Yet, in the absence of top-level regulations, some authorities try to dissuade schools from introducing ability groupings using other methods, for example by making research results on the impact of course-by-course tracking public, as in Sweden or the United Kingdom ([73]).

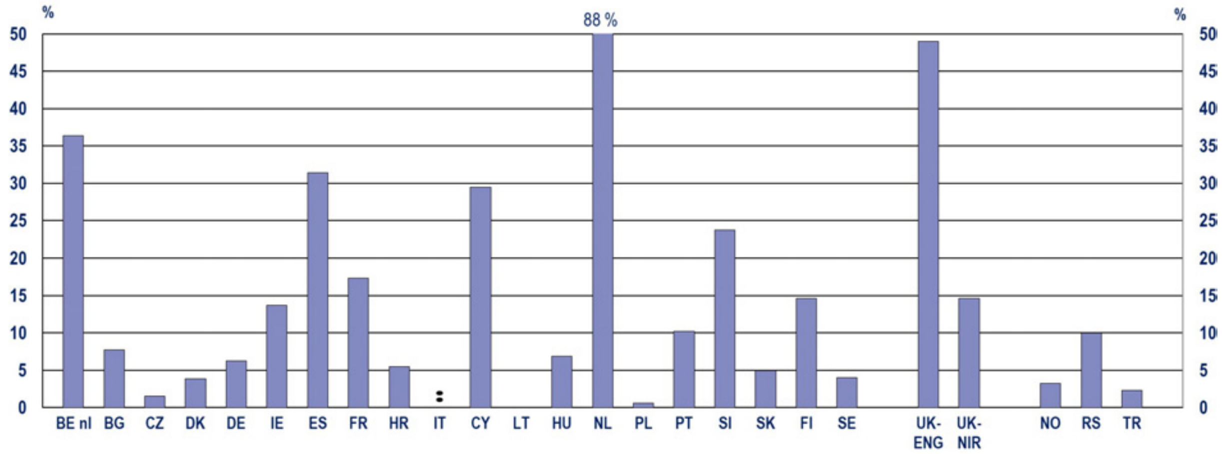
Given the high degree of school autonomy in this area, looking at school practices instead of regulations can provide a more complete picture of course-by-course tracking in European countries. Such data is available from international assessment surveys such as TIMSS 2015 and PISA 2018.

Given that no education system starts the formal tracking of students before the fourth grade, results of the TIMSS 2015 survey can more clearly show course-by-course tracking practices than PISA 2018 (see also below). Figure II.6.6 therefore depicts the percentage of fourth-grade students who attend schools where student achievement is used to assign students to classes in mathematics.

As the figure depicts, among the 25 participating European education systems, grouping by ability, streaming, or – as defined in this report – course-by-course tracking, is the dominant practice for fourth graders only in the Netherlands, where the overwhelming majority of students attend schools in which student achievement is used as the basis for assigning students to classes. Nevertheless, nearly half of fourth-grade students attend schools with such practices in the United Kingdom (England), and around one third of students are involved in the Flemish Community of Belgium, Spain and Cyprus. Streaming or setting in the fourth grade is practised least in Czechia, Lithuania and Poland.

([73]) See for example studies from the Swedish National Agency for Education or the entry on 'Setting or Streaming' of the Learning and Teaching Toolkit published by the Education Endowment Foundation in the United Kingdom (https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/).

Figure II.6.6: Percentage of fourth-grade students in schools where student achievement is used to assign students to classes in mathematics, 2015



BE nl	BG	CZ	DK	DE	IE	ES	FR	HR	IT	CY	LT	HU	NL	PL	PT	SI	SK	FI	SE	UK-ENG	UK-NIR	NO	RS	TR
36.3	7.7	1.5	3.8	6.3	13.7	31.4	17.3	5.5	:	29.5	0.0	6.9	88.4	0.6	10.2	23.7	5.0	14.6	4.0	49.0	14.7	3.2	10.0	2.3

Source: IEA, TIMSS 2015 database.

Explanatory notes

Fourth-grade students are in primary education (ISCED 1) in all participating education systems.

Percentages reflect the proportion of students whose school gave a 'yes' answer to the following question in the TIMSS 2015 school questionnaire: 'As a general school policy, is student achievement used to assign <fourth grade> students to classes (e.g., streaming, tracking, setting)?' (Variable ACBG10A).

Only European education systems participating in the TIMSS 2015 survey are depicted on the figure.

Country-specific note

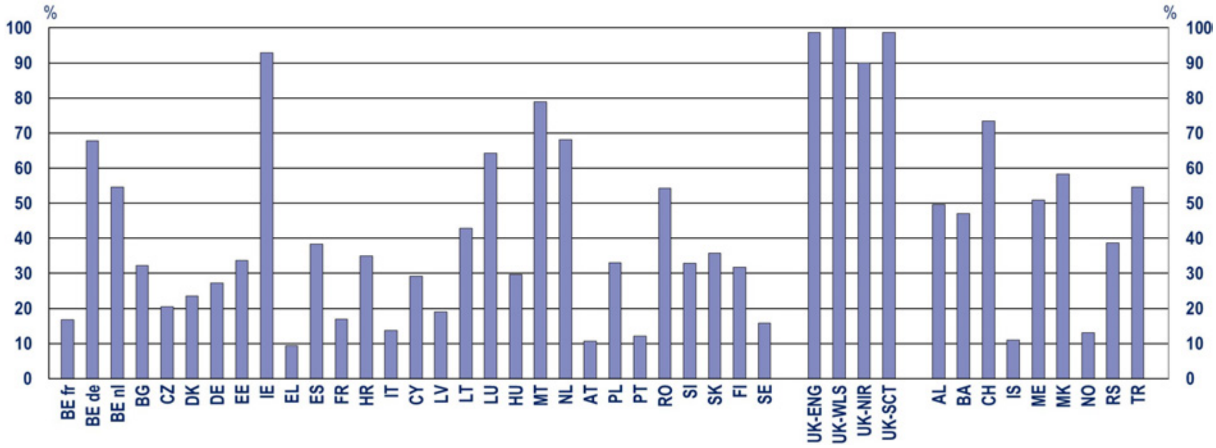
Norway: The target grade is grade 5 instead of grade 4 for better comparability with other participating education systems.

In comparison, course-by-course tracking is much more widespread in secondary education. Based on PISA 2018, Figure II.6.7 depicts the percentage of 15-year-olds who attend schools where students are grouped by ability into different classes, at least for some subjects ([74]). Yet, it is important to note that the figure does not only include the practice of course-by-course tracking, it also shows students in schools that assign students to different tracks (and thus group students formally into different classes according to the tracks to which they are assigned). Based on the information in previous sections of this chapter, this latter is the most likely scenario in systems with early tracking and several hierarchically ordered tracks.

According to the PISA 2018 survey, grouping students by ability into different classes is the predominant practice in Ireland and the United Kingdom, with more than 90 % of students attending schools where this is practiced. Besides Ireland and the United Kingdom, the majority of 15-year-old students are also in schools that group students by ability in different classes in the German and Flemish Communities of Belgium, Luxembourg, Malta, the Netherlands, Romania, Switzerland, Montenegro, North Macedonia and Turkey. However, in some of these countries (e.g. in Luxembourg, the Netherlands and Switzerland), these percentages most likely represent – at least in part – forms of tracking other than the course-by-course variety.

([74]) The sample is limited to the 'modal ISCED level' in all education systems (see OECD, 2019b).

Figure II.6.7: Percentage of 15-year-olds in schools in the modal ISCED level that group students by ability into different classes at least for some subjects, 2018



BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
16.8	67.8	54.7	32.2	20.5	23.5	27.2	33.7	92.8	9.4	38.4	16.9	35.0	13.7	29.1	19.0	42.9	64.3	29.7	78.9	68.1
AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**	**UK-ENG**	**UK-WLS**	**UK-NIR**	**UK-SCT**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
10.7	33.0	12.2	54.4	32.8	35.7	31.8	15.9	98.7	100.0	90.1	98.8	49.6	47.0	73.4	11.0	50.8	58.3	13.1	38.8	54.5

Source: OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated on the basis of variable SC042Q01TA (School's policy for <national modal grade for 15-year-olds>: Students are grouped by ability into different classes) of the school principals' questionnaire. Answers 'for all subjects' and 'for some subjects' were merged. This means that the figure shows the percentage of 15-year-olds who are in schools where the principal stated that students are grouped by ability to different classes at least for some subjects.

PISA 2018 samples students by age, and not by grade. This means that depending on their structural features, education systems may differ in how 15-year-olds are distributed across different schools, tracks or grades. Therefore, the analysis of school-level variables in this figure is restricted to schools with the 'modal ISCED level' for 15-year-old students. Practically, the modal ISCED level is the level at which the large majority of students in the sample are enrolled. The modal ISCED level may be either lower secondary (ISCED level 2), either upper secondary (ISCED level 3), or both (as in Czechia, Ireland, Luxembourg, Slovakia and Albania). In several countries, lower and upper secondary education are provided in the same school. As the restriction is made at the school level, some students from an ISCED level other than the modal one in the country were also included in the analysis (OECD, 2019b, p. 247). As ISCED levels are not available for Austria, the whole sample was used here. See Table II.C.1 in OECD (2019b, pp. 365-366) for the list of modal ISCED levels per country.

II.6.7. Tracking: differences and similarities between systems

The sections above illustrate the different types of tracking system in operation in European countries and how these might influence educational equity. While all education systems differ to some degree in their processes and procedures they do share some organisational features.

Group 1: the German-speaking and Flemish Communities of Belgium, Czechia, Germany, Latvia, Luxembourg, Hungary, the Netherlands, Austria, Slovakia, Switzerland and Turkey.

- These systems are characterised by early tracking and a relatively high number of tracks.
- There are several, mostly hierarchically ordered general tracks. All systems apply academic selection procedures when assigning students to the different tracks, although different evaluation methods are used.
- With the exception of Germany, Latvia and Hungary, they have a large vocational sector ([75]).

([75]) Data on the percentage of students in vocational programmes are not available separately for the three Communities of Belgium.

- Within this group, differences exist in how they facilitate permeability between tracks. One third allow for transition between the vocational and general pathways based on clear conditions defined by top-level authorities (the German-speaking Community of Belgium, Luxembourg, Austria and Switzerland). Another third give schools the autonomy to decide on the conditions for transition (Czechia, Latvia, Hungary and Slovakia). Permeability is very limited in the final third (in the Flemish Community of Belgium, Germany, the Netherlands and Turkey).

Group 2: Bulgaria, Croatia, Italy, Poland, Portugal, Romania, Slovenia, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia.

- Tracking starts around age 14 or 15, with a high proportion of upper secondary students in vocational education ([76]). The vocational sector is also highly differentiated, with a number of separate vocational or professionally-oriented tracks resulting in different qualifications.
- Most of these education systems apply academic selection criteria for the initial assignment of students, though this is limited to schools which are oversubscribed in Slovenia. There is no academic selection in Italy and Portugal.
- With the exception of Montenegro and North Macedonia, these education systems allow students to change from vocational to general pathways mid-studies.

Group 3: French Community of Belgium, Denmark, France, Lithuania and Norway.

- Tracking also starts between age 14 and 16, with a relatively high number of tracks. However, in these systems, differentiation at least partly lies between general tracks.
- With the exception of Denmark, in these education systems the assignment to the appropriate track is based only on previous academic achievement.
- There is a relatively high degree of permeability between tracks.

Group 4: Estonia, Greece, Spain, Cyprus, Finland, Sweden, Albania and Iceland.

- Tracking is introduced later with few tracks and relatively high permeability.
- Only Iceland has more than three educational pathways in this group.
- Nearly all allow transition from vocational to general tracks mid-studies. There are limitations on inter-track transitions in Greece; however, no academic criteria are applied during the initial assignment process there.
- Estonia is the only education system in this group where schools can organise entrance interviews or school-based tests when selecting students; the others only rely on previous academic achievement (Cyprus and Sweden), with a lot of autonomy given to local authorities (Finland and Iceland), or there is no academic selection at all (Greece, Spain and Albania).

([76]) Data on the percentage of students in vocational programmes are not available for Bosnia and Herzegovina and North Macedonia.

Group 5: Ireland, Malta and the four education systems of the United Kingdom.

- These systems rely more heavily on course-by-course tracking than other education systems. This partly stems from the absence of formal tracking in the system in the strict sense (in the United Kingdom – England, Wales and Northern Ireland – study programmes are not discrete pathways, as they can contain a mix of general and vocational qualifications), and partly from a practice that already exists in earlier levels of education (see Figure II.6.6 for England).
- In Ireland and the United Kingdom (England, Wales and Northern Ireland), there are no regulations on the permeability between tracks, and there is no academic selection in Ireland and the United Kingdom (Scotland).

While tracking is certainly a systemic feature that affects equity in education, education systems with similar tracking practices might differ in levels of educational equity due to other structural factors. As tracking is only one systemic factor among many, it cannot therefore be evaluated in isolation. Part III of this report therefore helps to complete the picture by examining the interrelationships between a range of structural features underlying European education systems and equity.

II.7. GRADE REPETITION

Main findings

- On average (median), 4 % of students repeat a school grade at least once. However, in individual education systems, the grade repetition rate can exceed 30 %.
- Compared to 2009/10, fewer European education systems allow grade repetition. The number of education systems where grade progression is automatic has increased from four to six in primary education (ISCED 1) and from two to four in lower secondary (ISCED 2).
- Overall, grade repetition remains a widespread practice. Where top-level restrictions are imposed, these tend to apply to primary schools. In nine countries, grade repetition is not allowed in some years of primary education, usually grades 1 to 3.
- Teachers' judgement plays a central role in deciding whether a student should repeat a grade. However, it is not common for the class teacher to make the decision alone. In the majority of European education systems, decision-making is shared, often with other teachers, the school head, experts or occasionally with parents.
- To help students avoid grade repetition, most education systems have mechanisms in place to give students a second chance. This often takes the form of an exam before the new school year starts. Furthermore, in about a quarter of education systems, students are allowed to progress to the next grade subject to meeting certain conditions in the following school year.
- In general, the same rules apply to public and (government-dependent) private schools.

Grade repetition (or grade retention), as the term suggests, refers to the practice whereby, for various reasons, a student may be required to repeat a school year. Usually this is related to their perceived performance (cognitive or behavioural) during the year. If a student is deemed not to have reached an expected minimum performance level, he or she may be asked to repeat the grade. The rationale behind this practice is relatively straightforward, but its implications are less so.

The underlying pedagogical principles behind the grade repetition rationale can be punitive or supportive in outlook (Donné, 2014). The former is more likely to characterise earlier pedagogical approaches whereby transition to the next grade is perceived as a prize that has to be earned. According to this outlook, students who fail to reach an expected minimum level of performance do not deserve to progress to the next grade, or worse they are punished by being refused grade transition ([77]). The supportive outlook is more benevolent. Grade repetition is not seen as a punishment, but as a means to help the student cope with the demands of the next grade. It is assumed that because the student has underperformed in the current grade, they will be unable to meet the demands of the next and consequently they will struggle even more. From this point of view, grade repetition is seen as giving students another chance to learn what is necessary, in order not to lag behind in the next grade and to ensure they will eventually graduate.

In either outlook the end result is the same. A student repeating a grade has to stay at least one year longer in school, in order to graduate. This implies costs. For the affected student, it means that they have to spend more time in school before they can enter the job market or continue their education. It also means that they are cut off from their cohort and their friends and they are likely to be

([77]) For instance, Välijärvi and Sahlberg (2008) maintain that in Finland, prior to the 1972 reform introducing a comprehensive school system, it was not uncommon for a teacher to use the prospect of grade repetition as a threat to force students to change their behaviour or to constrain their personality.

disappointed with their school experience ([78]). For the students' families there is both a psychological and financial cost, while for the school, and ultimately for the education system as a whole, it also means an extra financial burden.

The number of studies examining the effectiveness of grade repetition is large enough to include meta-studies. That is, studies reviewing the results of previous empirical studies. The picture that emerges from these studies is that grade repetition by and large fails to deliver benefits to students with academic or school adjustment difficulties (e.g. Jimerson, 2001), but there is no universal consensus. Thus, several empirical studies find that grade repetition does more harm than good to the affected students (e.g. Hwang and Cappella, 2018; Manacorda, 2012; Tingle et al., 2012; Bonvin, 2008; and Reynolds, 1992). Some find that grade repetition can have a modest positive impact on student performance, but it appears to be temporary, disappearing after a few years (Alet, 2011). However, there are also studies that find no negative impact of grade repetition (Vandenberge, 2006). Other studies also take into account the timing of grade repetition. Ikeda and García (2014) showing that students who have never repeated a grade perform better than those who have, but those who repeated in secondary school tend to perform better than those who repeated during primary school. In other words, grade repetition does greater damage when it happens in primary schools.

Most studies tend to look at the association between grade repetition and student performance, but relatively few test the causal direction and even fewer examine the impact of grade repetition on equity ([79]). With regard to the latter, the evidence is limited and shows mixed results. Donné (2014) does not find any support for the hypothesis that grade repetition is associated with greater socio-economic inequalities in relation to cognitive competences ([80]). However, Ikeda and García (2014) argue that socio-economic background matters. In particular, they find that 'the performance difference between non-repeaters and secondary-school repeaters is greater for socio-economically advantaged students than for socio-economically disadvantaged students' (p. 292). We also know that grade repetition is associated with school drop-out (Manacorda, 2012; Blanchard and Sinthon, 2011) and that students from a working-class background are more likely to leave school early (Blanchard and Sinthon, 2011). Even though correlation does not amount to causation, this is an indication that socio-economically disadvantaged students are more likely to be grade-repeaters than their peers from a more advantaged background, which in turn means that school drop-out is more likely among the former than the latter group. The OECD finding (2014b, p. 1) that 'among students with similar performance [levels], the likelihood of repeating a grade is one-and-a-half times greater for disadvantaged students than for advantaged students' also points in this direction.

Based on this brief literature review, it is obvious that grade repetition is an educational practice that must be taken seriously. It is likely to have an adverse effect on student performance (and behaviour) and may contribute to students leaving school early. This means no access to higher education, which in turn may lead to a lower income later in life and a series of related problems ([81]). Given that students from disadvantaged family backgrounds are more likely to repeat a year, then they are also more likely to find themselves in an educationally disadvantaged position with all the consequences

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([78]) OECD (2018, p. 41) argues that 'grade repetition tends to stigmatise repeaters, undermining their self-esteem and sense of belonging at school, and reinforcing their disengagement from the learning process'.

([79]) Martorell and Mariano (2018) try to capture the causal relation between grade repetition and student behaviour rather than performance. They find only sporadic and not sustained effects of grade repetition on behavioural outcomes.

([80]) In terms of the effect of grade repetition on the association between socio-economic background and cognitive competences.

([81]) For an overview of the literature on parental background, educational inequalities and inter-generational mobility, see, for instance, Jerrim et al. (2019). Note, however, that Busemeyer (2015) argues that there is no direct relationship between educational and socio-economic inequality. Instead, what is more important, according to Busemayer (2015), is the higher level institutional choices, such as the level of public funding of education (see Chapter II.2) and the presence of a well-established vocational education and training system.

this entails. In this light, determining when and where in Europe grade repetition is allowed, who decides if a student must repeat a grade and whether students are able to avoid grade repetition (i.e. a second chance) are important questions. The remaining sub-sections of this chapter deal with each of these questions.

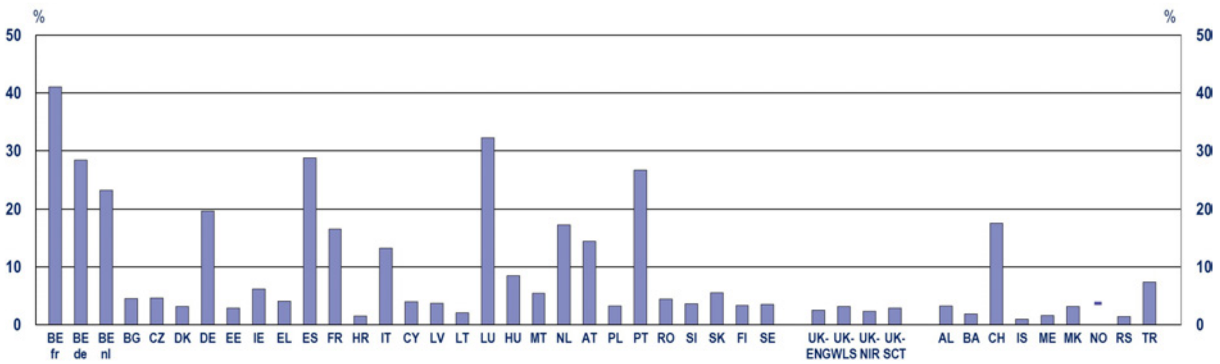
This chapter updates some of the indicators originally appearing in *Grade retention during compulsory education in Europe* (EACEA/Eurydice, 2011) and also adds some new ones. It provides information on the:

- grade repetition rates per education system, according to the PISA 2018 results;
- the education systems and levels at which grade repetition is still allowed;
- the participants in the grade repetition decision-making process;
- the mechanisms in place which allow students to avoid repeating a grade.

II.7.1. Grade repetition rates

According to the latest PISA data (OECD, 2019), grade repetition continues to be a well-established practice in some education systems. On average (median), 4 % of students in the education systems examined here have repeated a grade at least once during primary or secondary schooling (see Figure II.7.1). Whereas twelve education systems have a grade repetition rate far above 10 %, the majority fall below.

Figure II.7.1: Percentage of 15-year-old students having repeated a grade at least once (ISCED 1-3), 2018



Me-dian	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
4	41.1	28.4	23.2	4.5	4.6	3.2	19.6	2.9	6.1	4.0	28.7	16.6	1.5	13.2	3.9	3.7	2.0	32.2	8.5	5.5	17.3
AT	**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**		**UK-ENG**	**UK-WLS**	**UK-NIR**	**UK-SCT**	**AL**	**BA**	**CH**	**IS**	**ME**	**MK**	**NO**	**RS**	**TR**
14.4	3.3	26.6	4.5	3.6	5.5	3.3	3.5		2.5	3.2	2.3	2.9	3.3	1.9	17.6	0.9	1.6	3.2	(-)	1.4	7.4

Source: OECD, PISA 2018 database.

Explanatory notes

The PISA data are based on students' self-assessment on whether they have repeated a grade at least once at ISCED 1, 2 or 3. The sample percentages have been weighted to reflect the whole student population.

Country-specific notes

Liechtenstein: Liechtenstein did not participate in the PISA 2018 survey.
Norway: There is no grade repetition in Norway.

Figure II.7.1 shows clearly that grade repetition is far more widespread in some education systems than in others. Thus, the French Community of Belgium ranks highest with an aggregate rate of 41 %. Luxembourg (32 %), Spain (29 %), the German-speaking Community of Belgium and Portugal (27 %)

complete the top five positions, while the Flemish Community of Belgium also has a grade repetition rate above 20 %. It is interesting to note that the grade repetition rate is generally low among the non-EU countries, no more than 3 %, with the exception of Switzerland (18 %) and Turkey (7 %).

As already noted, six education systems with a grade repetition rate of 20 % or higher really stand out, which implies that grade repetition may have a different story to tell (in terms of causes and effects) depending on the particularities of each education system. More importantly, at least for the purposes of this report, if grade repetition is indeed bad for equity, then we should see in the education systems demonstrating high repetition rates a stronger relationship between students' socio-economic background and academic performance. These are topics dealt with in Part III. The following sections present some of the key institutional particularities related to grade repetition, thus paving the way for the bivariate and multivariate analysis in Part III.

II.7.2. Where and when is grade repetition allowed?

The EACEA/Eurydice (2011) study found that in 2009 very few European countries allowed automatic grade progression. Leaving aside countries where school or local authority autonomy applies (Denmark, Netherlands and the United Kingdom), the 2011 study reported only four countries where grade repetition was not allowed in ISCED 1 (Bulgaria, Iceland, Liechtenstein and Norway) ([82]). For ISCED 2, the number was even lower: just two countries (Iceland and Norway) ([83]). In a few more countries (Germany, Greece, Hungary, Austria, Poland and Portugal), grade repetition was not allowed in some grades of primary education, a variation that did not apply in lower secondary education.

Given the growing evidence over the years that grade repetition does not really help student performance, but rather damages it, educational reforms in this area might be expected. This is in fact the case, although the reasoning behind these reforms is not known.

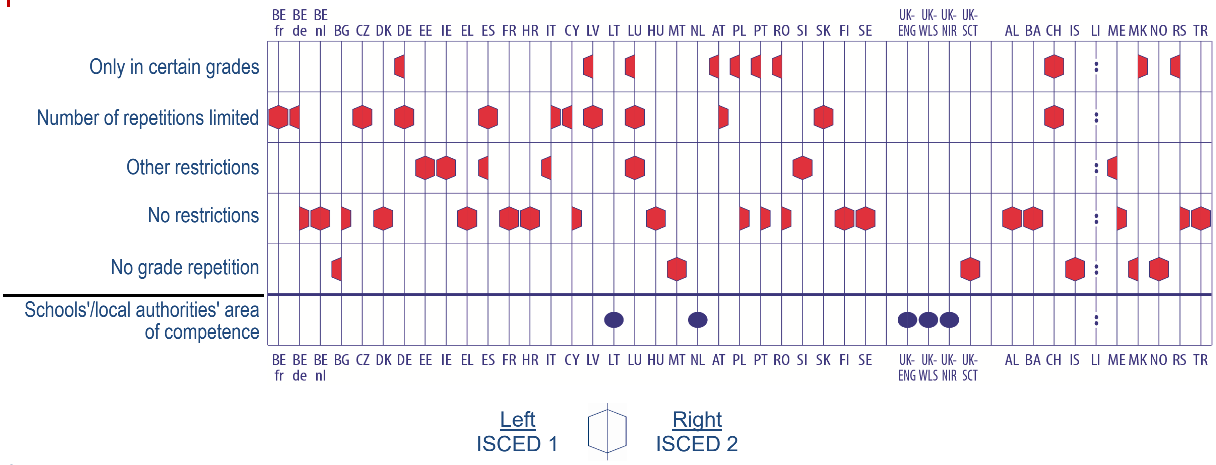
At ISCED 1, there are now six education systems (Bulgaria, Malta, the United Kingdom – Scotland, Iceland, North Macedonia and Norway) where grade progression is automatic (see Figure II.7.2). At ISCED 2, the countries where grade progression is automatic are Malta, the United Kingdom – Scotland, Iceland and Norway, that is two more education systems compared to 2009/10. Since data for the current report was also collected for ISCED 3, it can be confirmed for the first time that grade progression is also automatic at this level in Finland, the United Kingdom – Scotland and in a part of ISCED 3 in Malta ([84]).

([82]) Even though North Macedonia did not participate in the EACEA/Eurydice (2011) study, we can confirm that there was no grade repetition at ISCED 1 in 2009/10. In Albania, which did not participate in the EACEA/Eurydice (2011) study either, grade repetition was allowed (without any restrictions) in all ISCED levels.

([83]) No data were collected for ISCED 3.

([84]) In Malta, ISCED 3 is divided into a compulsory and non-compulsory phase. In the non-compulsory education phase, grade repetition is allowed in some general education schools (e.g. Junior College) and in some vocational schools (e.g. Malta College of Arts, Sciences and Technology).

Figure II.7.2: Grade repetition in European education systems (ISCED 1 and 2), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows grade repetition at ISCED 1 and 2. Where ISCED 3 practice differs from ISCED 2 it is indicated in the country-specific notes.

Country-specific notes

Czechia: At ISCED 3, grade repetition is allowed with other restrictions.
Germany: At ISCED 3, grade repetition is allowed with other restrictions. There is no grade repetition in vocational education schools; if necessary, a training period may be extended.
Estonia: At ISCED 3, school autonomy applies.
Spain: At ISCED 1, grade repetition is an exceptional measure adopted once the learning support measures available have been applied and only if they proved to be insufficient.
Croatia: At ISCED 3, grade repetition is allowed for a limited number of times.
Italy: At ISCED 2, the student cannot attend more than twice the same grade, except if he/she has to complete the years of compulsory education. At ISCED 3, the student cannot attend more than twice the same grade, except if there is a reasoned decision of the teachers' council.
Latvia: At ISCED 3, grade repetition is normally not allowed.
Lithuania: Grade repetition is not allowed in other types of schools, such as art or sports schools. Similarly, it is not allowed in vocational education schools. As a result, subject failure can lead to removal from such schools.
Romania: Different rules apply to private schools where grade repetition is used only in exceptional cases.
Slovenia: At ISCED 3, grade repetition is allowed for a limited number of times.
Slovakia: At ISCED 3, school autonomy applies.
Finland: At ISCED 3, there is no grade repetition.
Bosnia and Herzegovina: At ISCED 3, grade repetition is allowed for limited number of times.
Switzerland: At ISCED 3, grade repetition is *only* allowed for a limited number of times.
Iceland: At ISCED 3, school autonomy applies.
Montenegro: At ISCED 3, grade repetition is allowed for a limited number of times.
North Macedonia: At ISCED 3, grade repetition is allowed without restrictions.
Norway: At ISCED 3, grade repetition falls within the local authorities' area of competence.
Serbia: At ISCED 3, grade repetition is allowed for a limited number of times.

Some of the findings reported in Figure II.7.2 appear to contradict those of Figure II.7.1. Thus, Figure II.7.1 shows that the repetition rate for Bulgaria is 4 %, for Malta 5 %, for the United Kingdom – Scotland 3 %, for Iceland 1 % and for North Macedonia 3 %, even though grade repetition in these education systems is in principle not allowed. There are, however, some exceptions. For example, while transition to the next grade is normally an automatic process, and not dependent on performance, a student who has been absent for a very long period may need to repeat a grade. Another reason for the anomalies is that while grade repetition may not be allowed in the majority of schools, in some types of school it is permitted, as is the case in Malta ([85]).

Figure II.7.2 also shows that in some countries although grade repetition is possible, some limitations apply. In other words, the grade repetition landscape is not a perfect dichotomy where grade repetition is either allowed or not. Several countries have opted for a mixed approach where grade repetition is allowed in certain grades only, or for a limited number of times, or is subject to other constraints. As a

([85]) See previous footnote.

result, only 11 education systems allow grade repetition without any restrictions in primary education and 19 in lower secondary (see Figure II.7.2). In upper secondary education, the number is smaller than in lower secondary, 15 education systems ([86]).

The last finding hints at an interesting pattern. Grade repetition is more likely to be limited in primary education rather than in secondary. Thus, we see in Figure II.7.2 that in nine education systems grade repetition is not allowed in all grades of primary education, but only in some. In particular, there is no grade repetition at ISCED 1 in certain grades in the following countries:

- **Germany**: grade 1
- **Croatia**: grades 1-3 (If the student performance does not meet expectations in no more than one subject)
- **Latvia**: grades 1-3 (If the student performance does not meet expectations in no more than one subject)
- **Poland**: grades 1-3
- **Portugal**: grade 1
- **Romania**: grade 0 (preparatory grade) and grade 1 ([87])
- **Serbia**: grades 1-3
- **Luxembourg:** progression is automatic within each of the four learning cycles of primary education
- **Austria**: progression in grades 1-3 is generally automatic but a student's legal guardians can ask for a grade to be repeated or skipped.

In addition to the restrictions on the grades at which repetition can take place, ten education systems put a cap on how many times a student can repeat a grade, and seven education systems have some other kind of grade repetition limitation in place in primary education.

In lower secondary education, the picture changes considerably. In addition to Malta, the United Kingdom – Scotland, Iceland and Norway, which have automatic grade progression in both ISCED 1 and ISCED 2, only two countries exclude some lower secondary level grades from grade repetition. These are Switzerland and North Macedonia. Ten countries allow grade repetition, but only for a limited number of times, and four apply another type of restriction.

Finally, in upper secondary education, there are no countries with restrictions on the ISCED 3 grades that can be repeated. In other words, grade repetition is allowed throughout ISCED 3. However, as many as eleven education systems (Belgium – French Community, Spain, Croatia, Italy, Luxembourg, Austria, Slovenia, Bosnia and Herzegovina, Switzerland, Montenegro and Serbia) limit the number of times grade repetition can occur, and in four (Czechia, Germany, Ireland and Luxembourg) other limitations apply ([88]).

Overall, the picture that emerges shows that education authorities choose to be more restrained and cautious regarding grade repetition in primary education than in secondary education. As indicated previously, grade repetition has a disproportionately adverse effect if it takes place earlier, which may explain why some education authorities have chosen to make grade repetition more difficult during primary education or even exclude the practice altogether in the first few grades.

([86]) Belgium (German-speaking and Flemish Communities), Bulgaria, Denmark, Greece, France, Cyprus, Hungary, Poland, Portugal, Romania, Sweden, Albania, North Macedonia and Turkey.

([87]) Grade 0 and 1 are the first two years of ISCED 1 in Romania.

([88]) In Croatia, students in upper secondary education can repeat the same grade twice, but there are exceptions: those enrolled in educational programmes leading to lower level vocational qualifications can normally repeat the grade only once.

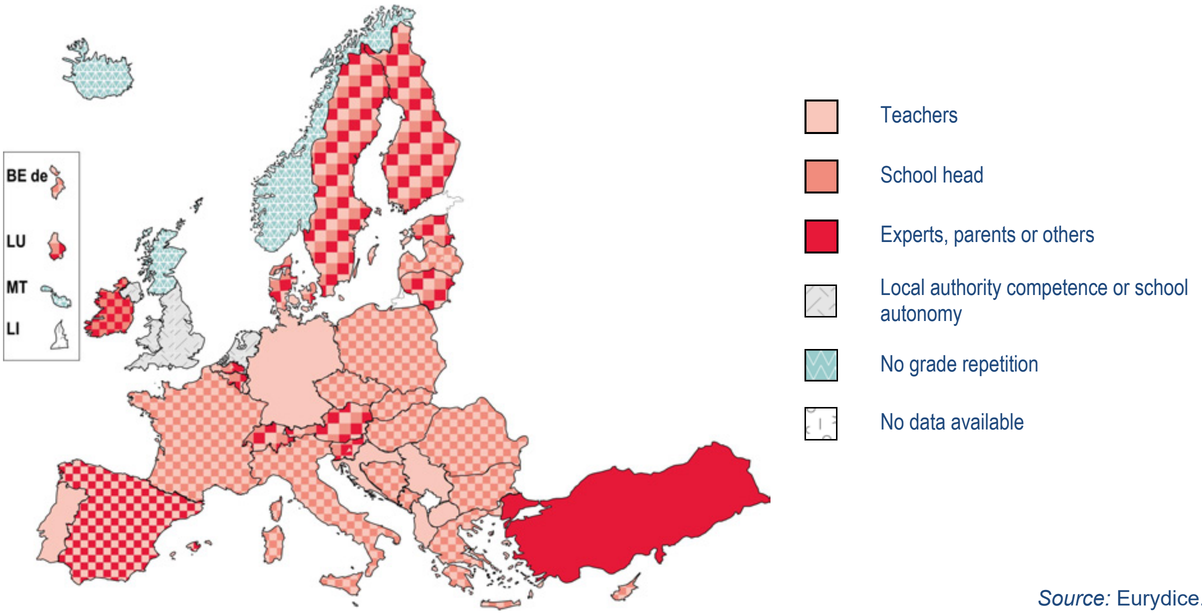
II.7.3. Who decides if a student should repeat a grade?

Who decides whether a student repeats a grade is not a mere formality. Given the grave implications of grade repetition, it is not a decision that is taken lightly and it may put the decision-maker(s) in a difficult position. Equally, those who are directly affected by grade repetition, namely the student and their family, need to be reassured that the decision protects the interests of the student.

It is for this reason that in all education systems where grade repetition is allowed, the decision is the outcome of a formal process where one or more stakeholders are involved. Of course, this procedure varies from one country to the next, as the EACEA/Eurydice (2011) report has shown. The present chapter cannot go into the same level of detail, but it does examine one key parameter, namely, who is involved in the grade repetition decision.

As with all decision-making processes, there is a trade-off between efficiency and effectiveness. Efficiency means how quickly a decision can be reached, and effectiveness means ensuring that the right decision has been reached for the right reasons. The former favours fewer decision-makers, whereas the latter favours more. Put differently, the grade-repetition procedure can be administratively easier and faster if only one person is involved, but it can be safer, and therefore more effective, if there are checks and balances in the process.

Figure II.7.3: Grade repetition decision-makers (ISCED 2), 2018/19



Source: Eurydice.

Explanatory notes

'Teachers' refers to both class and other teachers, except in Croatia, Italy, Cyprus, Austria, Romania, Slovakia, Finland, Albania, Switzerland and Serbia, where it refers only to class teachers.

Figure II.7.3 summarises who is involved in the grade-repetition decision-making process in ISCED 2. This level has been chosen not only to make the figure easier to follow, but also, and more importantly, because there are fewer restrictions on grade repetition at ISCED 2, as the analysis above has shown.

While the detailed information on exactly how grade repetition is decided is not available, we know that teachers play a central role in deciding who repeats a grade. The explanation is obvious. More often than not, grade repetition is linked to student under-performance and the class teachers are in a privileged position to assess whether and to what extent a student is under-performing. This is reflected in Figure II.7.3, which shows that in all countries but Ireland and Turkey, class and/or other teachers participate in decision-making. In other words, in virtually all countries teachers decide on their own, or with others, whether a student should repeat a grade.

In education systems where the responsibility lies solely with the class teacher, there may be concerns that this teacher has too much power or that they are not adequately trained to handle students at risk of grade repetition (Välijärvi and Sahlberg, 2008). Another problem with relying only on the class teacher's decision is that a teacher may be biased (Bonvin, 2008). For instance, a student's performance may be compared to his or her peers', rather than to a national average or to another extra-class benchmark (Brophy 2006).

This is perhaps why in most European countries class teachers do not generally make these decisions on their own. In secondary education, only three education systems (Croatia, Albania and Serbia) rely solely on the class teacher. In the great majority of education systems, there are multiple actors contributing to this important decision.

The most common pattern is that both the class teacher (and usually also other teachers) and the school head are involved in the decision-making process. This is the case in 25 education systems (see Figure II.7.3). In eight education systems there are even more stakeholders. Thus, in Belgium (French and Flemish Communities), Denmark, Estonia, Lithuania, Luxembourg, Slovenia and Sweden, teachers and school heads are joined by experts such as psychologists and school inspectors or even by the parents.

It is noteworthy that in eleven countries (Denmark, Estonia, Ireland, Spain, Lithuania, Luxembourg, Austria, Slovenia, Finland, Sweden and Switzerland), parents (or legal guardians) are involved in the decision-making process. The examples below illustrate this point, again focusing mainly on lower secondary education.

In **Denmark**, the final decision on grade-repetition in ISCED 1 and ISCED 2 is taken by the school head, but the school head takes into account the opinion of both the parents and the student. In addition, the school head can also rely on the report of teachers and school psychologists. The parents are not consulted in ISCED 3.

In **Lithuania** too, the final decision is approved by the school head, but effectively the decision is taken by the teachers. However, it is possible that additional actors are involved (psychologists or other experts), including the student's parents.

In **Luxembourg**, the 'class council' decides on grade repetition and they may seek the advice of psychologists (or other experts) and a school support centre. In ISCED 1 parents can request the extension of a learning cycle (see footnote 9) and in ISCED 2 parents can request grade repetition for their child.

In **Austria**, at all school education levels, parents have the right in to request that their children repeats a grade. Otherwise, it is the 'class conference' that takes the decision. In cases where the class conference is equally divided, the school head has the casting vote.

In **Finland**, grade repetition is a step of last resort, preceded by support to the affected student. Any decision for grade repetition is the outcome of a joint decision by the school and the parents.

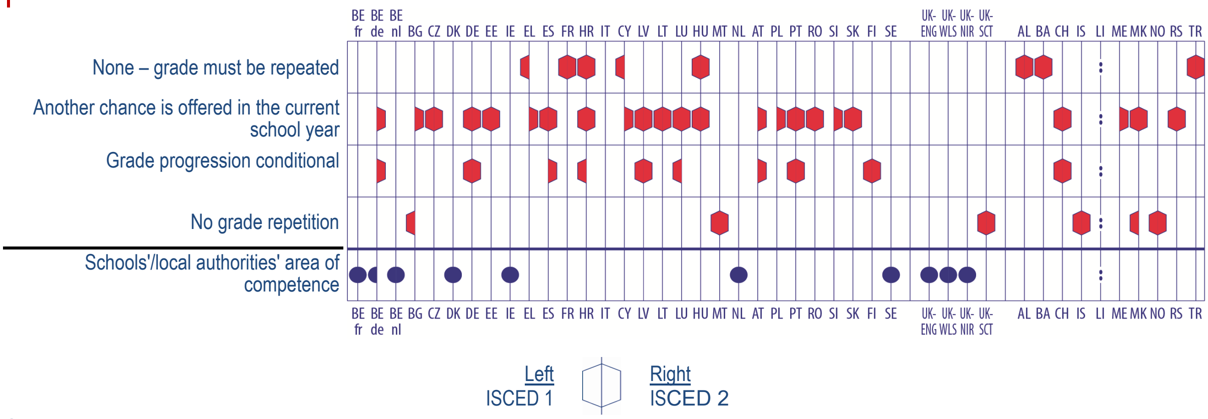
To sum up, in the great majority of European countries, the decision on grade repetition is one which usually involves several stakeholders, mainly the class or other school teachers, but often the school head as well. As already suggested, a greater number of decision-makers implies that the decision is not biased or arbitrary. In countries where one teacher is the sole decision maker, there may, of course, be measures in place to protect students as well as measures to ensure that teachers are held accountable. Nevertheless, grade repetition decisions are more likely to be fairer and more reliable when more decision-makers are involved.

II.7.4. Mechanisms for avoiding grade repetition

Thus far, this chapter has concentrated on grade repetition practices – where, when and how grade repetition takes place. The last section looks at whether students who have been identified as underperforming can avoid grade repetition, that is, whether there are mechanisms in place to help these students progress to the next class.

In a handful of European countries, there are no such mechanisms. If students have underperformed they have to repeat the grade. In primary education, this applies in nine education systems and in lower secondary in seven (see Figure II.7.4). For upper secondary education, which is not depicted in Figure II.7.4, it is the same countries as for lower secondary education.

Figure II.7.4: Mechanisms for avoiding grade repetition (ISCED 1 and 2), 2018/19



Source: Eurydice.

Country-specific notes

Spain: In ISCED 1, grade repetition is an exceptional measure adopted once the learning support measures available have been applied and only if the proved to be insufficient. In ISCED 2 and the first grade of ISCED 3, students are allowed to progress to the next grade if they have failed no more than two subjects. In exceptional cases, a student failing three subjects can progress provided that these subjects do not include Spanish Language and Literature (or the corresponding co-official language) or Mathematics. Students are also allowed to progress if the teaching team believe that the subjects failed do not prevent the student from successfully following the next grade, that the progression benefits his/her academic development and that there are good reasons to expect the student to catch up.
Croatia: Students may avoid grade repetition depending on the number of subjects in which their performance has been graded as unsatisfactory. If it is three or more subjects, then students have to repeat the grade. If it is one or two subjects, they have to receive additional instruction. If they are still found to be underperforming, they have to sit exams at the end of the year. Failing the exams results in grade repetition. In ISCED 1 grades 1-3, the student can progress to the next grade if they underperform in one subject, even after having received additional instruction.
Italy: In ISCED 1 and 2, students may carry out remedial work under the supervision of a teacher or on their own.
Hungary: Students can take exams to avoid grade repetition, but if they have failed in four or more subjects, they have to repeat the grade.
Poland: There is no grade repetition in grades 1-3 of primary school. In grades 4-8, students are given an opportunity to avoid grade repetition. They can take an additional examination if they have failed no more than two subjects. If they have failed one subject, they can conditionally progress to the next grade.
Portugal: It is up to the school's teachers' council to decide on a case by case basis what the best mechanism is.
Romania: There is no grade repetition in the preparatory grade and grade 1 of ISCED 1.

In general, students are given a second chance during or before the end of the school year in which they are experiencing difficulties. As Figure II.7.4 depicts, wherever grade repetition is allowed (and wherever there are top-level policy regulations in this regard), students are offered one or more opportunities to avoid grade repetition. This applies also to ISCED 3, where again there are very few exceptions. Namely, in Germany, where grade repetition is on voluntary basis, therefore there are no second chance measures; in Estonia, the decision is taken at school level; in Latvia grade repetition is only allowed in cases of prolonged absence.

Typically, students are given a second chance by allowing them to take a test or exam in the subjects they have failed; this occurs particularly in secondary education. In ISCED 1, seven education systems allow such tests or exams (Czechia, Germany, Croatia, Latvia, Hungary, North Macedonia and Serbia) ([89]). In ISCED 2, the number is much higher at 18 (the same education systems as in ISCED 1 plus the German-speaking Community of Belgium, Bulgaria, Greece, Spain, Cyprus, Luxembourg, Austria, Poland, Portugal, Slovenia and Montenegro). Finally, in ISCED 3, 17 systems allow students to take a test or exam (the same systems as ISCED 2 plus Italy, but minus Germany and Latvia). One should note that students are not necessarily allowed to take exams in all the subjects they have failed, usually it is no more than two or three.

Some countries offer a second chance in terms of making available additional instruction. In primary and lower secondary education, this is the case in Germany, Estonia, Spain, Croatia, Latvia, Lithuania, Luxembourg, Portugal, Switzerland and Serbia. Slovenia offers this option only in lower secondary. In upper secondary, the offer of additional instruction is less common. Only Croatia, Italy, Lithuania, Luxembourg and Serbia provide this option. A handful of countries (Estonia, Croatia, Latvia and Lithuania) ask primary level students to do additional schoolwork, such as exercises or homework, in order to avoid grade repetition. In lower secondary, this option is offered in Belgium (German-speaking Community), Estonia, Croatia, Latvia, Lithuania and Luxembourg; and in upper secondary, it is offered in Belgium (German-speaking Community), Croatia, Lithuania and Luxembourg.

Equally interesting is the fact that some countries adopt a more liberal approach. They allow underperforming students to progress to the next grade subject to certain conditions being met during the following school year. In primary education, this happens in seven education systems and in lower secondary in eight, as Figure II.7.4 illustrates. Belgium (German-speaking Community), Spain, Austria and Switzerland allow this practice also in upper secondary, while Slovenia only at this level ([90]). For example:

In some *Länder* of **Germany**, students may be granted a probationary promotion to the next school year during which some conditions have to be met (possibly including taking exams).

Primary education students in grades 1-3 in **Croatia** can progress to the third grade if they have underperformed in one subject, as long as the student is expected to achieve the prescribed learning outcomes in the next school year.

In **Latvia**, progression to the next grade is combined with support both in the current and in the next year. Having undertaken additional schoolwork in the current year, the school also provides the student with an individual support plan for the next year.

In **Austria**, the teachers' 'class conference' may decide to allow a student who has failed a compulsory subject to progress to the next grade, taking into account their performance in other subjects and provided they are deemed likely to meet the prerequisites of the higher grade.

A student can progress to the next grade in **Finland**, even if they have failed a subject, provided they are deemed to be able to cope with the demands of the next year's study.

Last but not least, it should be noted that the grade repetition rules applying to public schools tend to apply also to government-dependent private schools. The only exceptions are Romania and Slovenia ([91]).

([89]) Eight countries, if one includes Poland where grade repetition is allowed from grade 4 upwards.

([90]) In Slovenia, it is up to the school head to decide if the student can progress to the next grade under certain conditions.

([91]) In Romania, private schools follow different rules. Grade repetition is allowed only exceptionally as a tool for remedial education. In Slovenia, the regulation on grade progression does not apply to private schools at ISCED 1 and 2. At ISCED 3, however, the private *gimazija* follow the same regulation as the public.

II.8. SCHOOL AUTONOMY

Main findings

- School autonomy in combination with accountability is often seen as a way of improving student achievement. At the same time, evidence suggests that a very high degree of school autonomy may lead to differences in the quality of provision and possibly create a hierarchy among schools, which can have a negative effect on equity.
- Overall, across Europe, it appears that full school autonomy is most common in decisions relating to teaching methods, choice of textbooks and internal assessment criteria, as well as the management of human resources.
- In other areas, such as the content of the compulsory curriculum and the allocation of resources, the responsibility often remains with the top-level authorities. Nevertheless, school autonomy is a complex area which continues to evolve.
- Depending on the area analysed, at least one third and up to half of all European systems grant some form of limited school autonomy where schools share decision making with top-and/or local level authorities.
- When considering the data across all 13 areas of school autonomy, it appears that the education systems in which schools have the greatest degree of autonomy are (in descending order) Iceland, the Netherlands, Bulgaria and the United Kingdom (Scotland), as well as Estonia and the United Kingdom (England, Wales and Northern Ireland).
- In contrast, the systems where the least autonomy is granted are Turkey, Cyprus, North Macedonia, Greece and France, as well as Germany, Malta and Austria.

School autonomy refers to the degree of freedom individual schools have to make financial and operational decisions; the manner in which these decisions are made is also important. The management of human resources and finances, as well as various aspects of teaching and learning such as the curriculum, assessment, and teaching methods are all areas where schools commonly have a degree of autonomy, although this varies between education systems (Eurydice, 2007). Schools may have full responsibility for financial and operational decisions, within the limits of the law and the general regulatory framework for education. Alternatively, schools might have more limited autonomy, making choices from a set of options predetermined by top-level and/or local authorities, or making decisions which are subject to the approval of the relevant education authority. Finally, schools might not be granted any autonomy and must simply execute the decisions taken by the higher level authority, although in some cases they may have previously been consulted on the matter (Eurydice, 2007).

Debates about the relationship between school autonomy and student performance are numerous and nuanced. While there is a strong international trend showing that increased school autonomy combined with increased accountability (see Chapter II.9) may improve educational outcomes, there are also critics that do not find enough evidence of a consistent positive impact.

Results from the PISA international survey tend to show that, in general, school autonomy and accountability have a positive impact on overall student performance (OECD, 2016b; Schleicher, 2014). However, research also suggests that this impact depends on the complex interplay of the various dimensions of autonomy and accountability policies (Hanushek and Wössmann, 2010; Hanushek et al., 2013). For instance, an analysis of the performance of the EU Member States in

PISA 2015 has found that school systems with a greater degree of curricular autonomy are likely to have both more effective (a larger proportion of top performers) and more equitable (a smaller proportion of low achievers) outcomes. No such correlation has been found between autonomy in resource management and certain accountability measures (mandatory tests, achievement data posted publicly, achievement data tracked over time) (Education and Training Monitor 2018).

The relationship between autonomy, accountability and equity (or the impact of the socio-economic background on achievement) is complex. It appears that, in general, monitoring teacher quality and standardising resource allocation, as well as central examinations could improve equity, although a combination of other factors also needs to be considered (Horn, 2009; OECD, 2016a and 2016b). Empirical research on the correlation between institutional features related to autonomy and accountability on the one hand, and equity in student performance in PISA on the other, suggest that external exit exams have a strong positive effect for all students that is slightly smaller for students from a low socio-economic background (Schütz et al., 2007). The positive effect of regularly using subjective teacher ratings to assess students is substantially larger for students from a low socio-economic background. School autonomy in determining course content is associated with higher equity in student performance, while the opposite is true for systems where schools have full autonomy to hire teachers (Schütz et al., 2007).

Nevertheless, there is evidence that decentralised systems of education perform better than centralised ones in terms of reducing the achievement gap in countries with lower territorial inequality (Oppedisanoa and Turatib, 2015; Causa and Chapuis, 2009). At the same time, higher school autonomy increases the impact of parental influence (Ammermüller, 2005). Moreover, a very high degree of decentralisation (or autonomy) could lead to significant differentiation between schools and differences in the quality of provision and possibly to a hierarchisation of schools, which can have detrimental effect on equity (Altrichter et al., 2014).

Although the past decades have seen a gradual shift towards decentralisation and more school autonomy, countries differ in the reasons for and speed with which they have implemented these reforms (Eurydice, 2007; Eurydice, 2008). Views on the optimal design and arrangements for school autonomy continue to evolve, as education experts and policy makers re-assess their experience to date and analyse the impact of reforms on student performance (Skolverket, 2009; Blanchenay, Burns and Koester, 2014; Keddie, 2015; Salokangas and Ainscow, 2017; West and Wolfe, 2018; Keddie and Mills, 2019). Cross-country analysis and trend data show that in the past two decades inequalities in achievement increased or stayed at relatively high levels in the European countries that allow a very high level of school autonomy (Volante et al., 2019). This result could be linked to the fact that a high degree of school autonomy may lead to a lack of coherence in the education system and to competition between schools. On the other hand, inequalities decreased in systems where the move towards greater school autonomy is combined with accountability measures such as clear national standards and monitoring through nationally standardised tests and external school evaluation (Volante et al., 2019).

Large-scale mappings of policies in this area provide evidence of varying degrees of school autonomy among countries. An OECD survey on the division of responsibility between national, regional and local authorities, that includes data for 29 European education systems, found that decisions about more than 20 aspects of public lower secondary education are most commonly made either at the school level or at the central or state level (OECD, 2018b).

To examine the degree of school autonomy in this chapter and to investigate its relationship to equity in student performance in Part III, three broad areas of school management are examined ([92]):

- human resources (teachers);
- financial resources derived from public funds;
- teaching content and processes

All figures in this chapter focus on the situation in public and government-dependent private schools. Any differences in the level of school autonomy between these two types of schools are discussed in Section II.8.4.

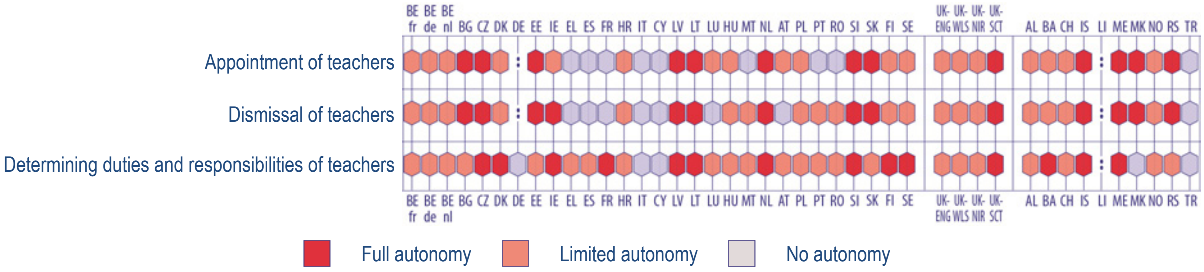
II.8.1. School autonomy in managing human resources

Ensuring high quality teaching staff is generally recognised as essential for improving student performance. With respect to the management of human resources therefore, the three areas examined relate to teachers – their appointment, dismissal, and their duties and responsibilities.

Figure II.8.1 shows that for each of these three categories full school autonomy is practiced in less than a third of all systems (Czechia, Latvia, Lithuania, the Netherlands, Slovenia, the United Kingdom – Scotland, Iceland and Montenegro). Limited autonomy with responsibilities shared with either the top- or local-level authorities (or even with both top- and local-level authorities for some categories in Greece, Luxembourg and Hungary) is the most common practice. Finally, in a small minority of systems, decisions in all three categories are taken at the top level only (Italy, Cyprus and Turkey).

When comparing the data for each system across the three categories, it appears that, in general, the top- and local-level authorities are more likely to be involved in the appointment and dismissal of teachers. In contrast, determining the duties and responsibilities of teachers is the area in which a higher degree of school autonomy is more likely. However, the opposite is true in Bulgaria, Estonia, Slovakia and Serbia: in these systems, while the appointment and dismissal of teachers is subject to full school autonomy, determining their duties and responsibilities is a responsibility shared between top-level authorities and schools. In addition, in North Macedonia, while schools have full autonomy to appoint and dismiss teachers, the top-level authority is solely responsible for determining their duties and responsibilities.

Figure II.8.1: Degree of school autonomy in managing human resources (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure depicts the situation prevalent in each education system. Differences in the degree of school autonomy depending on ISCED level are explained in Section II.8.4.

'Full autonomy' means that the school alone takes decisions, within the limits set by national/local legislation or regulations. The education authority can nevertheless provide guidelines, but they do not restrict school autonomy.

([92]) An earlier and extended version of this survey is published in European Commission/EACEA/Eurydice, 2012. Key Data on Education in Europe 2012, Indicator B13.

'Limited autonomy' means that the responsibility is shared with top-level and/or local education authorities. Examples of such practices include:

- schools taking decisions together with the top-level and/or local education authority or submitting proposals for approval;
- schools taking decisions based on a set of options predetermined by the top-level and/or local education authority;
- schools having some autonomy in the area concerned but must refer to the top-level and/or local education authority.

'No autonomy' means that only the top-level or local education authority takes decisions, although the school may be consulted at a particular stage of the process.

Country-specific note

Germany: The degree of school autonomy depends on the *Land* and the number of supervisory levels they have established.

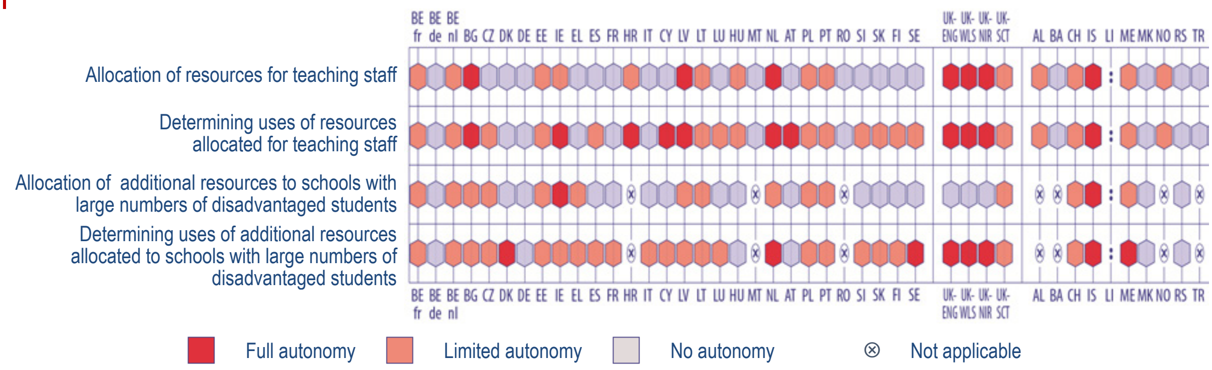
II.8.2. School autonomy in the use of public funds

The efficient use of public funds is crucial if schools are to provide effective education for all their students. The degree of autonomy schools have in managing funds derived from public sources varies between education systems. This section examines two specific areas likely to have an impact on improving equity: public funding for teaching staff and disadvantaged students. It looks at whether schools have autonomy in determining:

- how much resource to allocate to these specific areas;
- which activities to support using the allocated funds.

Figure II.8.2 demonstrates that a minority of systems allow for full school autonomy in determining the amount of resource to be allocated for teaching staff (Bulgaria, Latvia, the Netherlands, the United Kingdom – England, Wales and Northern Ireland, and Iceland) or for disadvantaged schools (Ireland and Iceland). In half of the systems, there is no school autonomy in determining the amount of resources for teaching staff, because this is usually the responsibility of the top-level authority, or more rarely the local authority (Denmark, Finland and Sweden). However, more systems have granted full or limited autonomy to schools to determine how to use the resource allocated for teaching staff and/or disadvantaged schools.

Figure II.8.2: Degree of school autonomy in the use of public funds (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure depicts the situation prevalent in each education system. Differences in the degree of school autonomy depending on ISCED level are explained in Section II.8.4.

For definitions of **'full, limited and no autonomy',** see Figure II.8.1

'Not applicable' means that the element under consideration does not exist in the given education system, and therefore no decisions are made by schools or education authorities at any level.

Country-specific notes

Croatia, Malta, Romania, Albania, Bosnia and Herzegovina, Norway and **Turkey**: The categories 'Allocation of additional resources to schools with large numbers of disadvantaged students' and 'Determining uses of additional resources allocated to schools with large numbers of disadvantaged students' are not applicable, because no such resources are allocated in these systems. For more information see Chapter II.10.

Spain: The situation varies depending on the Autonomous Community. For example, regarding the category 'Determining uses of resource allocated for teaching staff', Andalucía and Castilla y León report full school autonomy, whereas Extremadura and Navarra state that there is no school autonomy because of top-level responsibility. For the category 'Allocation of additional resources to schools with large numbers of disadvantaged students', Andalucía, Aragón, Castilla y León and Comunidad Valenciana report limited autonomy because of shared responsibility with the top-level authority. For the category 'Determining uses of additional resource allocated to schools with large numbers of disadvantaged students', Andalucía reports full school autonomy.
Switzerland: Cantonal regulations may vary.

Indeed several systems that do not allow any school autonomy for determining the funds for teaching staff, provide for limited school autonomy (Czechia, Spain, Luxembourg, Slovenia, Slovakia, Finland and Sweden) or even full school autonomy (Cyprus and Austria) when deciding how to spend the allocated resources. A similar trend is even more visible with regard to the next two categories. Some systems that do not allow for any school autonomy in determining additional funds for disadvantaged schools, provide for limited school autonomy (Spain, France, Italy, Cyprus, Luxembourg, Slovenia, Slovakia and Finland) or even full school autonomy (Denmark, Sweden and the United Kingdom (England, Wales and Northern Ireland) in deciding how to use the additional funds allocated (see also Chapter II.10).

Four education systems (Belgium – German-speaking Community, Germany, North Macedonia and Serbia) do not allow any degree of school autonomy in any of the areas relating to the use of public funds. Iceland is the only system where there is full school autonomy in all four areas.

II.8.3. School autonomy in determining teaching content and processes

As stated above, school systems with a greater degree of curricular autonomy are likely to have both more effective (a larger proportion of top performers) and more equitable (a smaller proportion of low achievers) outcomes. This section therefore examines the degrees of freedom schools have in a wide range of areas related to the teaching content and processes: curriculum content (compulsory and optional subjects), teaching methods, textbooks, allocation of teaching time, and internal assessment.

Figure II.8.3 demonstrates that across the six areas, full school autonomy is most common in the choice of teaching methods. In this area full school autonomy is practiced in around two thirds of all systems (30 systems). Full school autonomy is slightly less widespread in the choice of textbooks (20 systems) and internal assessment criteria (19 systems) and even less so in terms of the flexibility of allocating instruction time (11 systems) and the curricula of optional subjects (9 systems). The area in which full school autonomy is least common is the content of the compulsory minimum curriculum (2 systems).

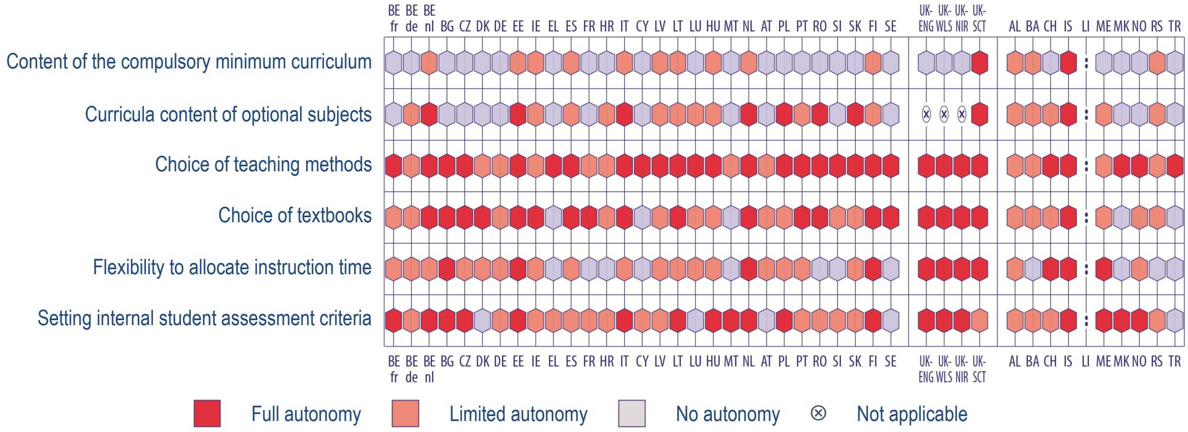
Looking at the first two areas in Figure II.8.3, it is clear that regulation is much tighter for the content of the compulsory minimum curriculum than for the content of optional subjects. For instance, several systems shift from no school autonomy regarding the compulsory curriculum to limited autonomy (Belgium – German-speaking Community, Croatia, Luxembourg, Switzerland and Montenegro) or full autonomy (Poland, Romania and Slovakia) for deciding the curriculum content of optional subjects. At the same time, contrary to the general trend, the United Kingdom (Scotland) and Iceland have established full school autonomy for both categories (see Chapter II.3 for information on curricular differentiation).

In addition, across all six areas around one third of all systems have established limited autonomy, where schools usually share responsibilities with top-level authorities. Occasionally, and in some areas only, local authorities are also involved in the arrangements for limited school autonomy (e.g. in Belgium – German-speaking Community, Hungary, Greece, Finland, France, the United Kingdom – Scotland and Norway). In Finland, this could often mean that, in practice, the municipalities delegate all decision-making powers to schools.

The areas relating to teaching content and processes are closely linked with each other and contribute to the creation of a fine balance between top-level regulations and school autonomy.

For instance in **Estonia**, every school draws up its own curriculum, which is based on the national curriculum, but it also takes into account the unique characteristics of the school and the region. Schools are free to choose textbooks and teaching methods. They can adjust the instruction time, contents, process and environment of study, as long as the required learning outcomes are achieved. The learning outcomes and allocation of instruction time are prescribed in the national curricula by school stage (basic school stage I-III, i.e. grades 1-3, 4-6, 7-9, and upper-secondary), thus setting a framework, but allowing for school autonomy within this framework.

Figure II.8.3: Degree of school autonomy for teaching content and processes (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure depicts the situation prevalent in each education system. Differences in the degree of school autonomy depending on ISCED level are explained in Section II.8.4. For definitions of **'full, limited and no autonomy'**, see Figure II.8.1

'Not applicable' means that the element under consideration does not exist in the given education system, and therefore no decisions are made by schools or education authorities at any level.

Country-specific notes

United Kingdom (ENG/WLS/NIR): For the 'content of the compulsory minimum curriculum' and 'curricula content of optional subjects', this figure relates to ISCED 1 and 2, in which there are no optional curriculum subjects. At ISCED 3 which, for the purpose of this study represents Key Stage 5 (ages 16-18/19), there is no national curriculum. In this phase, the curriculum is determined by students' choice of study programme and qualifications.
Switzerland: Cantonal regulations may vary.

Overall, in more than half of the categories related to teaching content and processes, schools in Iceland, Estonia, the Netherlands, the United Kingdom (Scotland), Belgium (Flemish Community), Bulgaria, Italy, Finland and the United Kingdom (England, Wales and Northern Ireland) have full autonomy (in descending order). In contrast, in more than half of these areas, schools in Turkey, Greece, Cyprus, Malta, Sweden and North Macedonia have no autonomy.

II.8.4. Differences in the level of school autonomy between ISCED levels and school types

Most countries report that there are no differences in the level of school autonomy between ISCED levels. However, in a few countries, arrangements differ in some areas, mostly at ISCED level 3, either by allowing more school autonomy, or the inverse, by shifting responsibilities from schools to the top-level authorities. For instance, at ISCED 3 in Denmark, schools gain full autonomy in the appointment and dismissal of teachers and in the use of public funds, while at ISCED 1 and 2 these responsibilities are shared between the schools and the local authorities or the local authorities have full responsibility. Also in the non-compulsory part of ISCED 3 in Malta, schools become fully autonomous in the allocation of resources for teaching staff and in determining their use, whereas in compulsory education this is the responsibility of top-level authorities. In France, while the top-level authority is responsible for determining the duties and responsibilities of teachers at ISCED 1, this is done at school level at ISCED 2 and 3. Moreover, in Sweden, while the allocation of instruction time at ISCED 1 and 2 is decided by the top-level authority, in ISCED 3 schools have full autonomy in this respect. Finally, in the United Kingdom (England, Wales and Northern Ireland), there is no national curriculum after the first phase of ISCED 3 (age 16) and schools become fully autonomous in this area.

The reverse tendency, where the responsibility of the top-level authority increases with each level of education is rare. For instance, in Iceland, the responsibility for taking decisions about the use of public funds shifts from the local authorities to the top-level at ISCED 3. Similarly in Italy, while the flexibility of instruction time is subject to limited school autonomy at ISCED 1 and 2, it becomes the responsibility of the top-level authorities at ISCED 3.

Differences in the level of school autonomy between public and government-dependent private schools can be significant. In most systems (for instance in Belgium – French Community, Czechia, Denmark, France, Spain, Croatia, Poland and the United Kingdom – England, Wales and Northern Ireland), government-dependent private schools tend to be much more autonomous with respect to their employment and remuneration policy, as well as funding mechanisms. However, some top-level regulations (e.g. formal requirements to become a teacher), as well as general employment legislation are valid also in the private sector.

For instance in **Czechia**, the Government Regulation on the Salaries of Employees in Public Services and Administration, which governs the remuneration of teachers in public schools, is not binding for private and denominational schools. The school heads determine the teachers´ salaries of these schools. However, the Labour Code regulates salaries, and the minimum level of pay defined by the Government is guaranteed.

In **Spain**, some Autonomous Communities report that publicly subsided private schools have a greater degree of autonomy (Cantabria, Castilla-La Mancha and Comunidad Foral de Navarra) in the management of public funds or decision making in the area of teaching content and processes (Comunidad Foral de Navarra).

In **Poland**, the remuneration regulations in private schools do not have to follow the central regulations set by the Teachers' Charter Act.

In the **United Kingdom (England, Wales and Northern Ireland)**, the board of governors of each further education college (catering for students aged 16+ in post-compulsory ISCED 3 education) is responsible for determining the college's staffing complement and deciding on payments and allowances. Further education colleges are government-dependent private institutions.

In contrast, no differences are apparent between the levels of autonomy in public and government-dependent private schools in Latvia, Sweden, the United Kingdom (Scotland) and Albania. In another group of countries such as Lithuania, Bosnia and Herzegovina and North Macedonia, the distinction between public and government-dependent private schools does not apply, because the latter type of schools does not exist

There are fewer differences in the level of autonomy in the area of teaching content and processes, although in some government-dependent private schools, the range of optional subjects might be greater. Moreover, some education systems (Belgium – German-speaking Community, Czechia, Hungary, Lithuania, Portugal) report that vocational schools have greater autonomy regarding curriculum content and/or some components of the certified examinations at the end of ISCED level 3 (see also Chapter II.3).

In other cases, autonomy for curriculum content remains limited as schools tend to cover 'the same content for the same examinations'. For instance, in the United Kingdom (England), academies do not have to follow the National Curriculum, as long as they provide a broad and balanced curriculum and teach English, mathematics, science and religious education. They do, however, cover the same content for the same certified examinations. There is no National Curriculum at Key Stage 5 in ISCED 3 (age 16+), but sixth-form and further education colleges cover the same content for the same certified examinations.

II.9. SCHOOL ACCOUNTABILITY

Main findings

- Accountability in education is a complex area and often it is difficult to draw firm conclusions about the impact it has on either student performance or on the effectiveness of educational institutions. Nevertheless, research suggests that, overall, student performance could benefit from the combined use of school autonomy and accountability policies. At the same time, education authorities need to ensure that accountability systems are fair and of high quality so that they avoid any undesired effects such as bias against disadvantaged students.
- European education systems vary in the extent to which they use two main school accountability measures: student performance data (results in national examinations for certified qualifications or other national standardised tests), and school performance data (the results of external school evaluations). Practices also vary in the approaches taken to the public reporting of these results.
- Three distinct types of school accountability system have been identified across Europe. The first type (16 systems ([93]) involves a relatively elaborate system of school accountability. It includes the administration of two to six national examinations and/or other national tests between ISCED levels 1 and 3. The results of individual schools in (at least some of) these examinations and/or tests are published and used in the external school evaluation process. In turn, the reports emanating from the school evaluation process are also published.
- The second type of accountability system (18 education systems ([94])) is a lighter version of the first. In addition to holding national examinations and/or other national tests, they also implement one or two of the other accountability policies mentioned above. Most of the systems in this group, however, do not publish the test results of individual schools (Poland, Slovakia and Norway being the exceptions, as well as Italy and Slovenia, where these results are published at school's discretion).
- The last type of accountability system (eight education systems ([95])) is less well developed. Fewer national examinations and/or other national tests are held, or in two cases, none at all (Belgium – German-speaking Community and Switzerland). These education systems rarely have top-level policies for the publication of national examination or test results. Four of them – Greece, Croatia, Finland and Bosnia and Herzegovina –do not carry out any external school evaluation. In the education systems where external school evaluation does take place, examination/test results are not taken into account and evaluation reports are not made public.

School accountability broadly refers to the practice of holding schools responsible for the results they achieve. Accountability systems include a range of measures and procedures to monitor and evaluate student performance and school activities. Top-level education authorities and other stakeholders use the collected information to hold schools to account for the quality of their teaching and learning.

([93]) Bulgaria, Denmark, Estonia, France, Latvia, Lithuania, Hungary, the Netherlands, Portugal, Romania, Sweden, the United Kingdom and Iceland

([94]) Belgium (French and Flemish Communities), Czechia, Germany, Ireland, Italy, Spain, Luxembourg, Malta, Austria, Poland, Slovenia, Slovakia, Albania, Montenegro, North Macedonia, Norway and Serbia

([95]) Belgium (German-speaking Community), Greece, Croatia, Cyprus, Finland, Bosnia and Herzegovina, Switzerland and Turkey

Recent decades have seen a growing trend for the introduction of accountability policies in education. This is part of a broader process in which the development of school autonomy and accountability, together with an increase in the number of education stakeholders and the amount of educational information have led to the rise of complex education systems with multiple actors and interactions (Burns and Köster, 2016). Related to this major shift, accountability in education has also gradually moved from a principle concern about compliance with laws and regulations and focusing on input, to placing greater emphasis on school performance and the involvement of stakeholders beyond central government (Ibid).

Despite national variations across Europe, two important elements of the school accountability process are the measuring and reporting of school performance. This is often done by using standardised tools such as national examinations for certified qualifications and other national tests, as well as school evaluations (Allmendinger, 1989; Horn 2009). National tests and school evaluations can be described as vertical forms of accountability that focus on school performance, as opposed to other forms of accountability that concentrate on professional standards for teachers and tend to be more horizontal (Hooge et al., 2012). In terms of the possible outcomes of the accountability process, some systems attach positive and negative consequences depending on whether pre-defined criteria are being met, while others refrain from using sanctions and focus mainly on support and improvement measures (Figlio and Loeb, 2011; Easley, and Tulowitzki, 2016).

Overall, however, it is difficult to draw firm conclusions about the impact of accountability policies on student performance generally (Faubert, 2009; Loeb and Figlio, 2011; Brill et al, 2018), or on the performance of students from disadvantaged backgrounds (Skrla and Scheurich, 2004). This task is complicated by the diversity of accountability systems in terms of policy goals, designs, and implementation methods, as well as by the interrelationship between accountability and other polices (Fahey and Köster, 2019). Nevertheless, mostly US-based research indicates some positive effects of test-based accountability systems on average student performance (Loeb and Figlio, 2011). The effects of accountability measures on equity, however, can be 'varied and complex', despite expectations that uniform measures of performance can limit bias and low expectations vis-à-vis disadvantaged students (Skrla and Scheurich, 2004). In addition, the impact of external school evaluations on school improvement can be difficult to measure. This is partly because external school evaluations often support improvement not by direct interventions, but by expert advice and publication of transparent information (OECD, 2013, p. 388-89).

The spread of accountability policies is often linked to the rise of school autonomy. The interrelationship between the two processes can be explained by the fact that when the top-level authorities provide more flexibility in how schools operate, they also frequently establish more measures to monitor and evaluate school results (Eurydice, 2007). The analysis of PISA data also underlines the link between accountability and autonomy policies (see Chapter II.8). It shows that a balance between these two types of policy can have a positive impact on student performance, especially when high school autonomy is combined with achievement data being tracked over time or posted publicly (OECD, 2016b). Articulation between aspects of accountability and other policies is also emphasised in studies on underperforming schools. For instance, the threat of sanctions in the aftermath of school evaluations may lead to improved school performance, as might the publication of results, provided that these schools have the leadership and internal resources to improve (Faubert 2009; Allen and Burgess, 2012). Finally, the capacity of teachers to analyse and use accountability data is considered an important factor in increasing the positive effect of accountability processes (Brill et al., 2018).

Experts also note that the use of certain accountability tools could negatively affect important aspects of teaching and learning. In particular, high stakes tests, which are often a key component of accountability systems, have been linked to undesirable effects such as the narrowing of the curriculum, reducing effective teaching time to the expense of test-taking skills, lower levels of motivation and increased stress (Eurydice, 2009; Brill et al., 2018). This is an example of where policies to standardise, rather than diversify learning and assessment could hinder equity (Hambre et al., 2018). For instance, at school level, efforts to improve test performance may lead to focussing on students that are close to a threshold while neglecting the lowest achievers (Brill et al., 2018). Therefore, education authorities need to ensure the fairness and quality of accountability systems and avoid any inequitable effects on different categories of students, especially bias against disadvantaged students.

Another related issue is how to use accountability data to best support disadvantaged students. National tests and school evaluation provide transparent information on student and school performance and thus can help increase the coherence and uniformity of the education system (Bol et al., 2014). But there are a number of choices that policy makers have to make. For instance, should test results be published and, if so, at what level of aggregation, and with what additional information on student characteristics and improvement over time (Leckie and Goldstein, 2017; Leckie and Goldstein, 2019)? Some studies have found that the publication of student performance data can increase school effectiveness (OECD, 2016b; Burgess et al., 2013), while others note that it can also foster both (unwanted) competition among schools and strategic parental choice which could be detrimental to disadvantaged students (Francis and Hutchings, 2013). Moreover, parents from lower socio-economic backgrounds might face difficulties in interpreting complex performance data or they might choose a school based on other factors such as proximity to their home (Burns and Köster, 2016, see also Chapter II.4.).

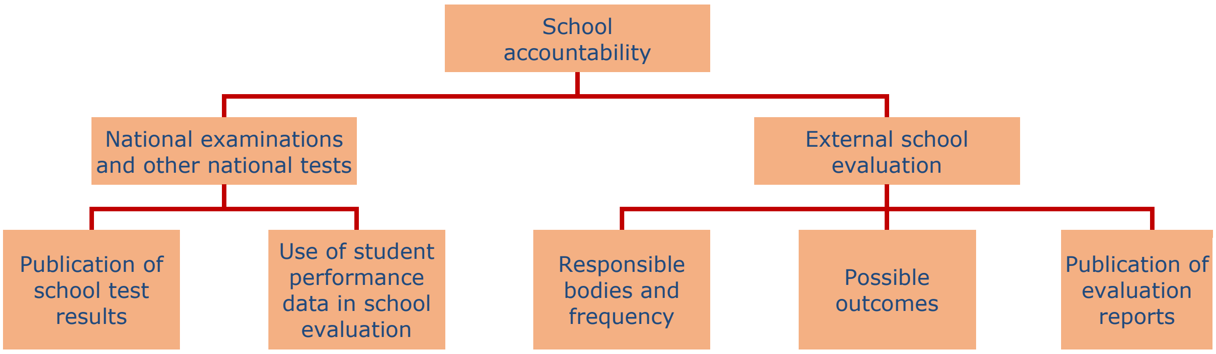
As mentioned earlier, accountability tools do not operate in isolation from other essential features of the system, and they can vary greatly depending on the specific policy objectives (OECD, 2013). From a comparative perspective, education systems could appear to have many or relatively few accountability mechanisms in place, or they could appear to use these mechanisms to exert stronger or weaker accountability pressures on schools (Fahey and Köster, 2019; Easley, and Tulowitzki, 2016). Finally, even when accountability systems have similar regulations or recommendations, they may translate into different practices according to the level of autonomy given to schools, or due to national understanding and traditions (Verger and Parcerisa, 2018).

This report, focuses on the two main measures of school accountability:

- national examinations for certified qualifications or other nationally standardised tests, and
- external school evaluation.

The chapter will investigate which education systems hold these examinations/tests and which carry out external school evaluation. It will also examine the top-level policies for publishing and using the data generated.

The diagram below represents the main indicators discussed in this chapter.



II.9.1. National examinations for certified qualifications and other national tests

Examinations organised by top-level authorities and other national tests are often seen as an important tool for accountability and quality improvement because they provide transparent and harmonised information on student performance across the whole system (Fuchs and Wössmann, 2007). At the same time, the focus on 'test-based' accountability (Hamilton et al., 2002) can produce unexpected results and undesired behaviours at the school level (Verger and Parcerisa, 2018). It is therefore not surprising that while national tests are widespread in Europe, their purpose, content, and frequency, as well as how the results are used, continue to be discussed by policy makers.

II.9.1.1. National examinations for certified qualifications

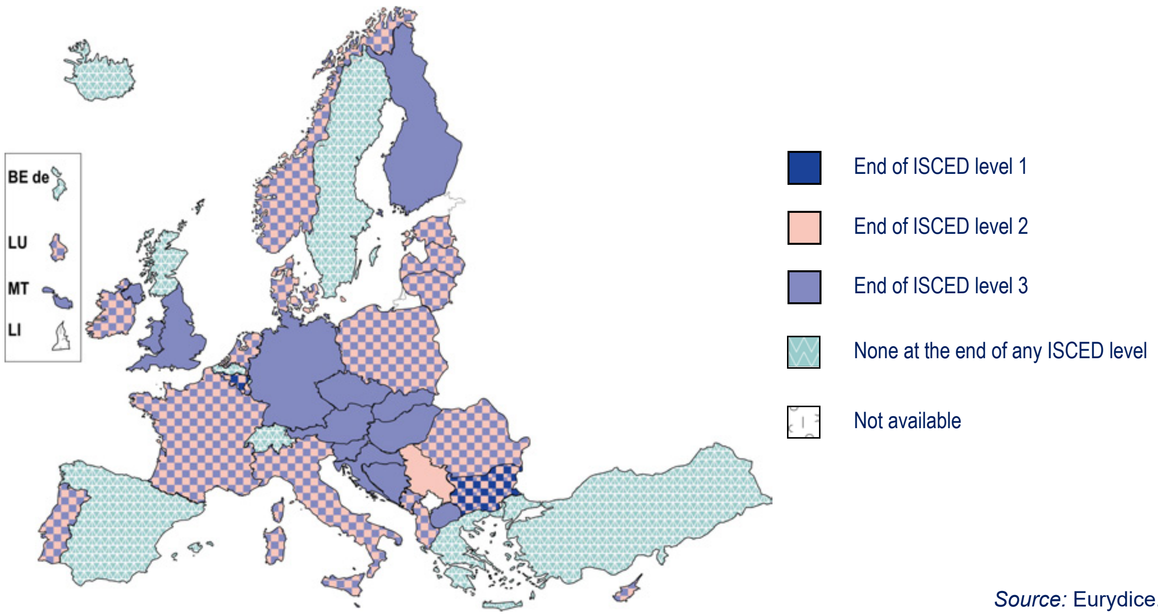
In this report, national (or central) examinations for certified qualifications refer to the formal examinations administered at the end of ISCED levels 1, 2 or 3. Passing these examinations results in the award of a certificate or other official proof of having successfully completed a particular stage or a full course of education.

Figure II.9.1 shows that national examinations leading to certified qualifications in the language of instruction take place in the majority of European systems. They become more widespread the higher the level of education. Nineteen systems organise these examinations at the end of ISCED 2 and this rises to thirty two systems at the end of ISCED level 3. Only two systems (Belgium – French Community and Bulgaria) organise them at the end of each ISCED level, including at the end of ISCED level 1. Nine systems (Belgium – German-speaking and Flemish Communities, Greece, Spain, Sweden, the United Kingdom – Scotland, Switzerland, Iceland and Turkey) do not hold any national end-of-level examinations.

In terms of subject area, there are only minor differences between the arrangements that are made for examinations in the language of instruction and those made for mathematics. These differences occur in Belgium (French Community) where, at the end of ISCED 3, there are examinations in the language of instruction, but not in mathematics.

The majority of the national examinations are taken by all students regardless of the type of school or study programme, although at ISCED 3 it is slightly more common (especially for mathematics) to test only part of the cohort. For instance, at ISCED level 2, Luxembourg, the Netherlands and Norway, some students only are tested, depending on the study programme and the educational path. In the Netherlands and Norway this also applies to the examinations in mathematics at the end of ISCED level 3. In addition, the national examination at the end of ISCED 3 in Czechia, Croatia, Hungary, Austria, Poland and the United Kingdom (England, Wales and Northern Ireland) applies to some students only, depending on whether they have chosen the subject area/education pathway.

Figure II.9.1: National examinations for certified qualifications in the language of instruction (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

National examinations for certified qualifications refer to the formal examinations administered at the end of ISCED levels 1, 2 or 3. Passing these examinations results in the award of a **certificate or other official proof** of having successfully completed a particular level or a full course of education.

Country-specific notes

Luxembourg, Netherlands and **Norway**: The national examination at the end of ISCED 2 applies to some students only, depending on the study programme and the education pathway.
Czechia, Croatia, Hungary, Austria, Poland and **United Kingdom (ENG/WLS/NIR)**: The national examination at the end of ISCED 3 applies to some students only, depending on whether they have chosen the subject area/education pathway.
Malta: The national examinations take place at the end of the compulsory part of ISCED 3 (end of year 11, age 16).
Switzerland: In most cantons the examinations for certified qualifications at the end of ISCED level 3 are school-based tests.

II.9.1.2. National standardised tests

Apart from the national examinations for certified qualifications, the majority of top-level education authorities also organise other standardised tests during ISCED levels 1, 2 and 3. These national tests are standardised by the top-level education authorities and are carried out under their responsibility. The procedures for the administration and marking of tests, as well as the setting of content and the interpretation and use of results are decided at the top-level. All students take the tests under similar conditions and tests are marked in a consistent way. Tests designed at school level on the basis of a top-level framework of reference are not considered here.

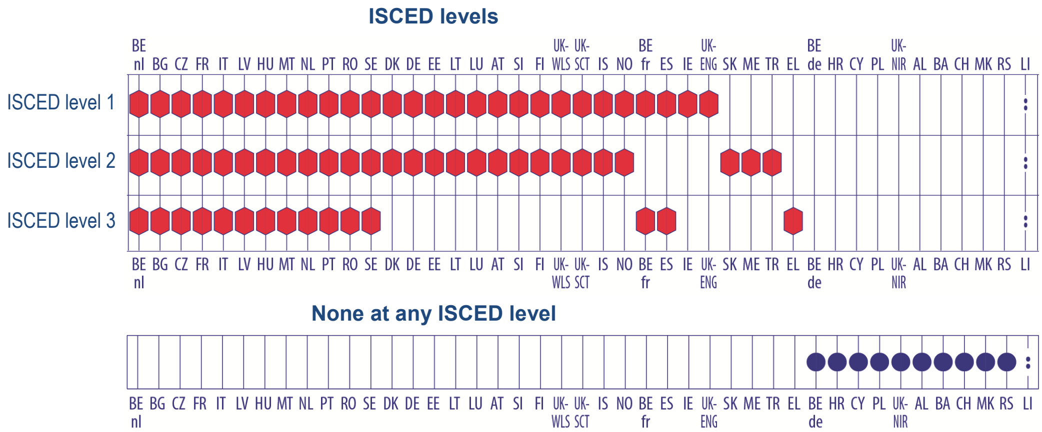
The national testing of students is a widespread practice in Europe but it often takes different forms. This indicator includes national tests for both summative and formative purposes. Both compulsory and optional tests are considered, as are sample-based national tests ([96]).

([96]) For further information on national tests see Eurydice, *National Testing of Pupils in Europe: Objectives, Organisation and Use of Results* (2009).

Countries do not report differences in the policies for national tests in the language of instruction and those in mathematics. In other words, when national tests take place at a certain ISCED level, they concern both the language of instruction and mathematics.

Figure II.9.2 demonstrates that, overall, national tests are a widespread practice during ISCED level 1 (28 systems) and ISCED level 2 (27 systems), but they become less common at ISCED level 3 (15 systems). However, slightly less than a third of all systems (10) do not organise any additional national tests at any ISCED level.

Figure II.9.2: National standardised tests in the language of instruction (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

National standardised tests at ISCED levels 1, 2 and 3 are tests carried out under the responsibility of the top-level education authority. The procedures for the administration and marking of these tests, as well as the setting of content and the interpretation and use of results are decided at the top-level. All students take the tests under similar conditions and tests are marked in a consistent way. National standardised tests are separate from but may be in addition to the national examinations for certified qualifications.

Where national tests are organised, there is a wide variety of approaches in terms of the number of tests across ISCED levels. Thus, twelve systems organise national tests at each ISCED level, fourteen other systems do so at two of the three ISCED levels and additional six systems organise tests only at one ISCED level (see also Figure II.9.3).

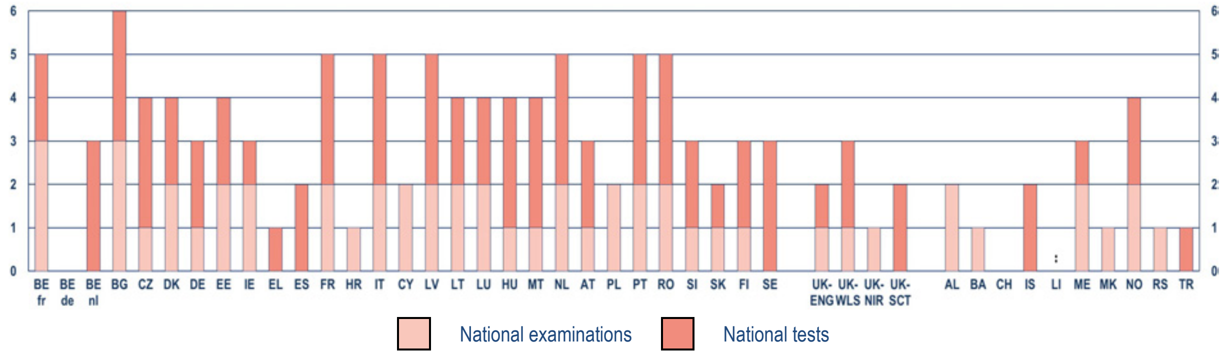
Moreover, in Belgium (French and Flemish Communities), Czechia, Finland and Montenegro, neither subject (language of instruction or mathematics) is tested on an annual basis but rather on a rotational basis as determined by top-level authorities.

In most systems with national tests, all students in a given school year (or grade) take the tests. However, the opposite is true in Belgium (Flemish Community), Czechia, Estonia, Spain, Lithuania, Malta and Finland, where all national tests are administered to a representative sample of students.

Figure II.9.3 combines the information on national examinations for certified qualifications and additional national tests. The total number per system represents the minimum number of national examinations and/or other national tests held at each ISCED level. In reality, the number can be higher because in some systems such as Italy, Luxembourg, Sweden, the United Kingdom (England, Wales and Northern Ireland) and Iceland, there is more than one national test or examination at one or more ISCED levels.

Figure II. 9.3 demonstrates that there is a wide range of policy approaches in terms of the frequency of national examinations and other national tests. Some systems organise these examinations/tests at every ISCED level. Thus in Bulgaria both occur at each ISCED level. In Belgium (French Community), France, Italy, Latvia, the Netherlands, Portugal and Romania, national examinations or national tests take place on (at least) five occasions between ISCED levels 1 and 3. In contrast, the top-level education authorities in Greece, Croatia, Bosnia and Herzegovina, North Macedonia, Serbia and Turkey organise only one examination or national test between these levels. Finally, in Belgium (German-speaking Community) and Switzerland, there are neither national examinations, nor other national tests in either the language of instruction or mathematics.

Figure II.9.3: National examinations for certified qualifications or other national tests in the language of instruction (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the total number of national examinations for certified qualifications plus other standardised national tests administered between ISCED levels 1 and 3. The total number represents the minimum number of national examinations and/or other national tests held at each ISCED level. In reality, the number can be higher because in some systems there is more than one national test or examination at one or more ISCED levels.

Country-specific note

United Kingdom (ENG/WLS/NIR): National examinations for certified qualifications take place at two points during ISCED level 3. The GCSE examinations are taken at the end of the full-time compulsory phase of ISCED 3 (age 16) and the examinations for A levels or similar are taken at the end of post-compulsory ISCED level 3 (age 18/19).

Differences between schools

While national polices on national examinations for certified qualifications tend to apply to all schools, regardless of their type, there is more variation with regard to national standardised tests. For instance in Malta, some government-dependent private schools are not obliged to participate in all national tests (ISCED 1, 2, 3 in compulsory education) but may establish their own tests.

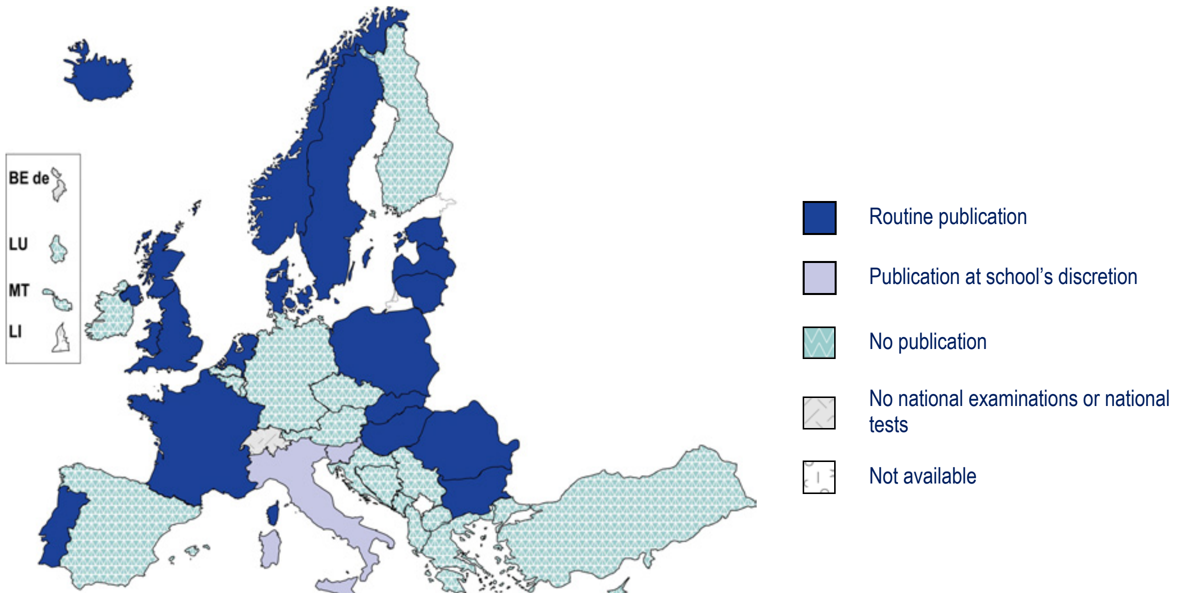
II.9.1.3. Publication of individual schools' test results

The publication of school test results can provide transparent information on school performance to parents and other stakeholders; however, it has limitations in terms of measuring the quality of individual schools because it is not always accompanied by all the relevant contextual indicators (Faubert, 2009). In countries where parents are free to choose between schools, the publication of the aggregated test results can have a greater impact on school practice by, for example, focusing attention on test preparation. It may also contribute to increased competition between schools (Eurydice, 2009).

In the past decade, the trend for publishing individual school test results has become more widespread in Europe, although countries continue to be divided in terms of the policy approaches they adopt. The policies put in place can range from routine systematic publication of results to the official prohibition of school ranking on the basis of results in examinations and/or national tests (European Commission/EACEA/Eurydice, 2012).

Figure II.9.4 provides evidence that only around half of all systems have top-level regulations to ensure that the test results of individual schools in at least some national examinations and/or additional national tests are made public. When test results are published, it usually applies to all schools. However, in Italy and Slovenia the individual school decides whether or not to publish their test results.

Figure II.9.4: Publication of individual schools' results in national examinations and/or national standardised tests (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the policies for publishing the results of national examinations for certified qualifications and other national standardised tests held between ISCED levels 1 and 3.

Country-specific notes

Spain: The situation varies depending on the Autonomous Community. Castilla-La Mancha reports that the aggregated results of individual schools are made public.
France: No publication of individual school results at ISCED level 1.

Often, different arrangements exist for central examinations and national standardised tests.

For instance, in **Estonia**, the results of the national standardised test are made public by 1 November every year, or in the case of electronic tests, one month after the completion of the tests. However, the names of the schools participating in the sample are not published. Only the results of the national examinations at the end of upper secondary education are published by individual school, but schools are not ranked ([97]).

In **Italy**, the publication on school boards of individual school results in the central examinations at the end of ISCED levels 2 and 3 is mandatory for every school. The publication on the school website of individual school results for the national standardised tests (INVALSI tests) depends on the decision of each school and is not done routinely.

In **Hungary**, for the National Assessment of Basic Competencies, the school level results are published on the website of the education authority ([98]). The results of the secondary school leaving examinations are available upon request (personal data is anonymised but the research database contains school identifiers).

([97]) https://www.haridussilm.ee/
([98]) https://www.kir.hu/okmfit/

In **Lithuania**, the results of the National Student Achievement Test are publicly announced only with the consent of each school. The results of the Basic Education Examinations are published on the website of the National Examination Centre.

When school results are published, different formats are used and different additional data are provided.

In **Latvia**, the aggregated results are published together with statistics on achievement at the national, local, and school level according to the school type ([99]).

In **Portugal**, the results of national examinations are public by law and are used by the media to create school rankings, based on simple average scores. In recent years, critiques about the overemphasis on examination results have led to a shift to low stakes testing and to the publication by the ministry of fairer indicators (e.g. the school's ability to improve on students' previous/expected results) ([100]).

In the **United Kingdom (Northern Ireland)**, the results of GCSE examinations (end of the compulsory phase of ISCED 3, Key Stage 4, age 16) and of the exams taken at the end of post-compulsory ISCED 3 education (age 18/19) are published online for the whole of Northern Ireland ([101]). Individual schools must publish their results in GCSE examinations and other performance data in their school prospectus on their website, and in the governors' annual report to parents.

In some of the systems where top-level regulations do not require the publication of individual school results, this information is kept and used within the school. These test results may also be analysed and discussed internally in the respective Ministry of Education, as is, for instance, the case in Luxembourg and Spain. In other cases, the publication of results can still take place at the initiative of individual schools and/or when additional conditions are met.

In **Belgium (Flemish Community)**, schools are not allowed to publish their students' results unless they have the explicit authorisation of each individual.

In **Ireland**, a school can choose to publish aggregated test results if it wishes. The Department of Education does not make individual school results public. The Department is prohibited by legislation from providing information and data that could result in the development of league tables.

In **Slovenia**, the school decides whether to publish their test results. However, it is prohibited by law to rank schools according to these test results.

II.9.2. External school evaluation

External school evaluation seeks to monitor and improve both the way schools work and the results they achieve. The process usually focuses on educational and management activities and is conducted by evaluators from outside the individual school. Evaluators are often employed by an inspection body which reports to the authorities responsible for education. The findings are presented in an overall report which covers outcomes or processes, or both, but does not usually address the performance of individual staff. (European Commission/EACEA/Eurydice, 2015).

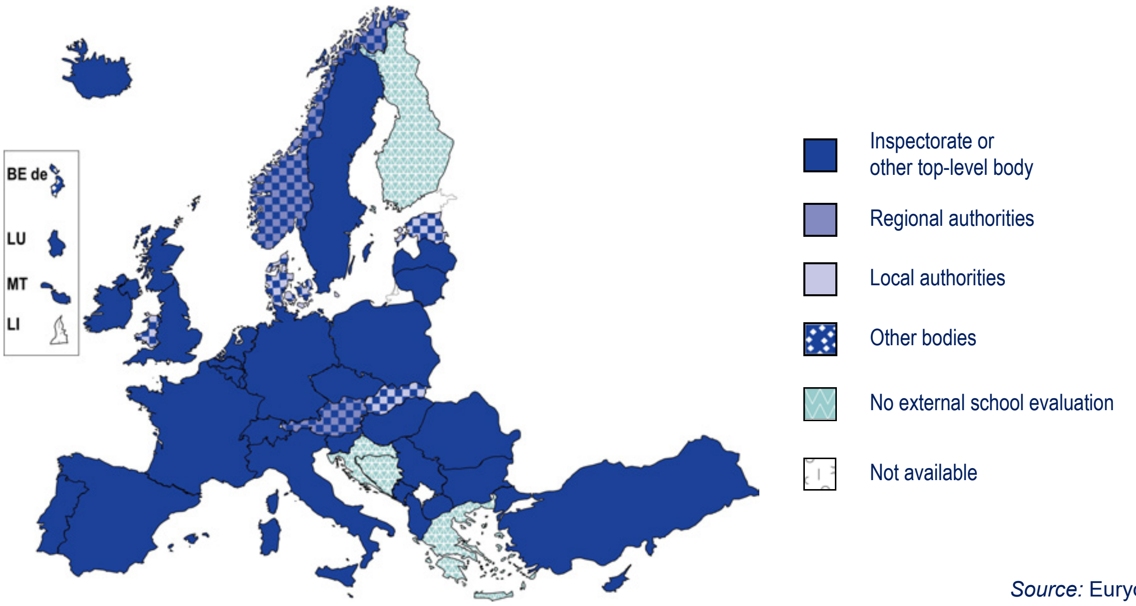
The effects of school evaluation on school improvement and student achievement are not easy to measure. Survey data from the United Kingdom and the Netherlands indicates that schools hold the view that inspections contribute to improving quality, even if this is done indirectly. In particular, quality feedback and suggestions for improvement are believed to have a positive impact. Some studies find that negative inspection reports may prompt action to improve performance, while others find little or no effect of inspections on student achievement (Klerks, 2012; Ehren et al., 2013).

([99]) https://visc.gov.lv/vispizglitiba/eksameni/statistika/2018/
([100]) http://infoescolas.pt/
([101]) https://www.education-ni.gov.uk/articles/school-performance

II.9.2.1. Responsible bodies and frequency of evaluations

Across Europe, external school evaluation has become an increasingly important tool for monitoring the quality of education. Figure II.9.5 shows that most European countries have established policies for external school evaluation (Greece, Croatia, Finland and Bosnia and Herzegovina are the exceptions). In the majority of countries, evaluations are undertaken by an inspectorate or another top-level body. In some cases, this is done jointly either with regional (Austria and Norway) or with local authorities (Denmark, Slovakia and the United Kingdom – Wales). In Estonia two separate external school evaluations are carried out: one by the Ministry of Education and Research and the other by the local authorities.

Figure II.9.5: Bodies responsible for external school evaluation (ISCED 1-3), 2018/19



Source: Eurydice.

Country-specific notes

Belgium (BE fr): Evaluations are not regular and do not include all schools.
Belgium (BE de): The *Autonome Hochschule der Deutschsprachige Gemeinschaft* carries out external evaluation.
France: Central regulations provide for external school evaluation and allow for local school evaluation initiatives. Specific evaluations are conducted on different aspects of education by top-level authorities. The establishment of a Council of School Evaluation which would be responsible for providing a more systematic national framework for school level evaluation is under discussion.
Poland: External school evaluation is undertaken by the regional agencies of the inspectorate under the control of the central government.
Luxembourg: External evaluation means a systematic evaluation of the quality of schools, but without the evaluation of individual schools.
Norway: External school evaluation does not directly cover teaching and learning, but is concerned with compliance with legislation and other regulations.
Switzerland: Cantonal regulations may vary.

In some systems, external school evaluations take place at regular intervals that can range from every three (Cyprus) or four years (the Netherlands), to every five (Portugal), six (Czechia) or seven years (Lithuania and the United Kingdom – Wales). In Spain, external school evaluations are carried out annually in some Autonomous Communities (Comunidad Foral de Navarra, Castilla-La Mancha, Extremadura and Comunidad Valenciana).

The regularity of evaluations can vary depending on their specific purpose.

In **Slovakia**, comprehensive evaluations take place once every five years; thematic and informative evaluations are carried out as necessary, depending on the purpose. Follow-up inspections are performed in schools that have had to undertake measures to remedy weaknesses found during an earlier inspection.

In the **United Kingdom (England)**, new schools will normally be inspected within three years of opening. Schools judged 'good' at their previous inspection are inspected about every four years. Schools judged 'outstanding' are exempt from routine inspection.

In other systems (Denmark, Italy, Poland, Sweden, the United Kingdom – Northern Ireland, Norway and Albania), there is no regular frequency set for external school evaluations. Instead, evaluations take place each year in a sample of schools that are either selected randomly or on the basis of a risk assessment.

In **Denmark**, an overall quality screening of public schools is carried out each year by the Ministry of Education. The data used includes test results from the 9th grade in Danish, mathematics, English, and physics/chemistry; pupil transition from ISCED 2 to ISCED 3; socio-economic references; and the results of the annual compulsory national survey of pupil well-being. Any schools which stand out are analysed further and some are selected for external school evaluation.

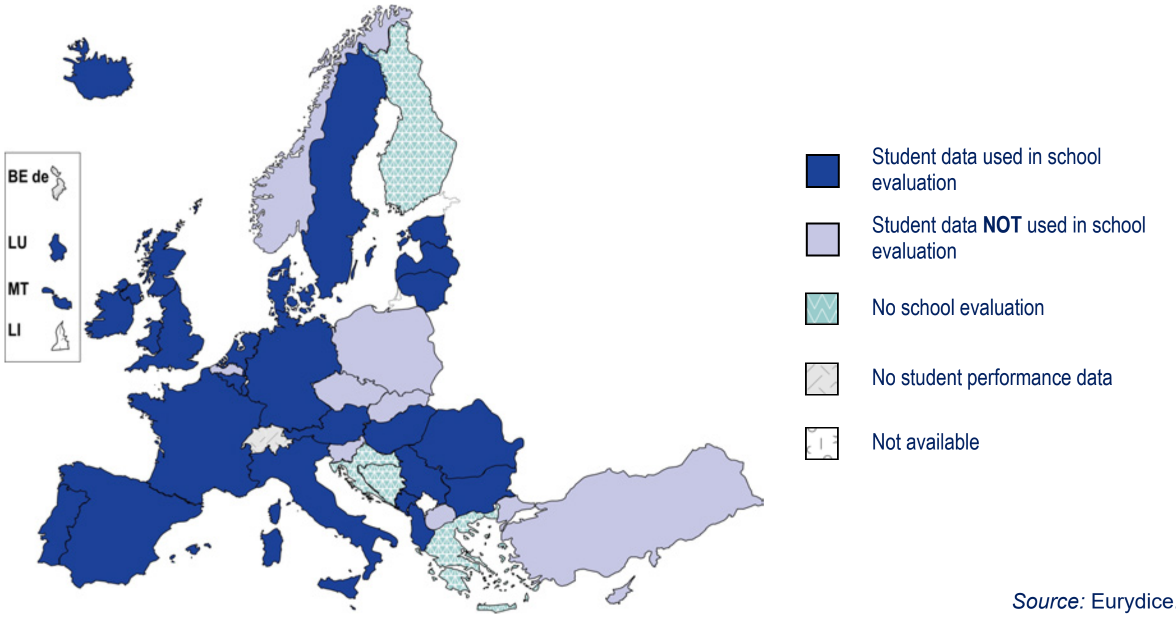
In **Sweden**, regular quality reviews are undertaken in schools that are thought to have development needs. These schools are identified on the basis of their results and on a survey of students, parents and educational staff. Thematic quality reviews are occasional and a small number of schools are selected randomly.

II.9.2.2. Use of student performance data in evaluating schools

In most cases, when forming judgements about school quality, evaluators examine a variety of information from different sources. This often includes student performance data, which may be drawn from centrally set examinations, nationally standardised tests, teacher assessment, international surveys and data on student progression. Other types of information are also used, although less frequently, such as outcomes in the job market or student or parent satisfaction surveys (European Commission/EACEA/Eurydice, Structural indicators 2016).

Depending on the type of accountability system in place, the results of national examinations and/or other national tests may be used to monitor school performance. Figure II.9.6 shows that only 27 systems use student performance data from central examinations or other nationally standardised tests in the external evaluation of schools. In other systems, either external school evaluation does not take place (Greece, Croatia, Finland and Bosnia and Herzegovina) or student performance data is not available (Belgium – German-speaking Community and Switzerland). In another nine systems, data from examinations and/or other national tests is not used in this context because external school evaluation is concerned mainly with school processes and compliance with regulations.

Figure II.9.6: Use of student performance data from examinations and other national tests in external school evaluation (ISCED 1-3), 2018/19



Source: Eurydice.

Country-specific notes

Czechia: Student performance data are taken into account during external school evaluations, but not as a direct assessment criterion.
Spain: The situation can vary depending on the Autonomous Community. Andalucía, Castilla y León, Comunidad Valenciana and City of Ceuta report that student performance data from examinations and/or other national tests is not used in external school evaluation.
Iceland: The use of student performance data concerns only school evaluation at ISCED 1 and 2.

II.9.2.3. Potential outcomes of school evaluation

The outcomes of the evaluation process usually include the issuing of a set of judgements and recommendations. Depending on the national context, this may trigger the implementation of a variety of measures to help schools address any weaknesses identified ([102]).

The outcomes can be divided into three main groups: improvement measures, sanctions, and the recognition of good practice. Figure II.9.7 shows that most countries concentrate on the first group, except for the Netherlands where only sanctions are used. In contrast, Latvia, Malta, Sweden and the United Kingdom (England, Wales and Northern Ireland) report outcomes from each of the three groups.

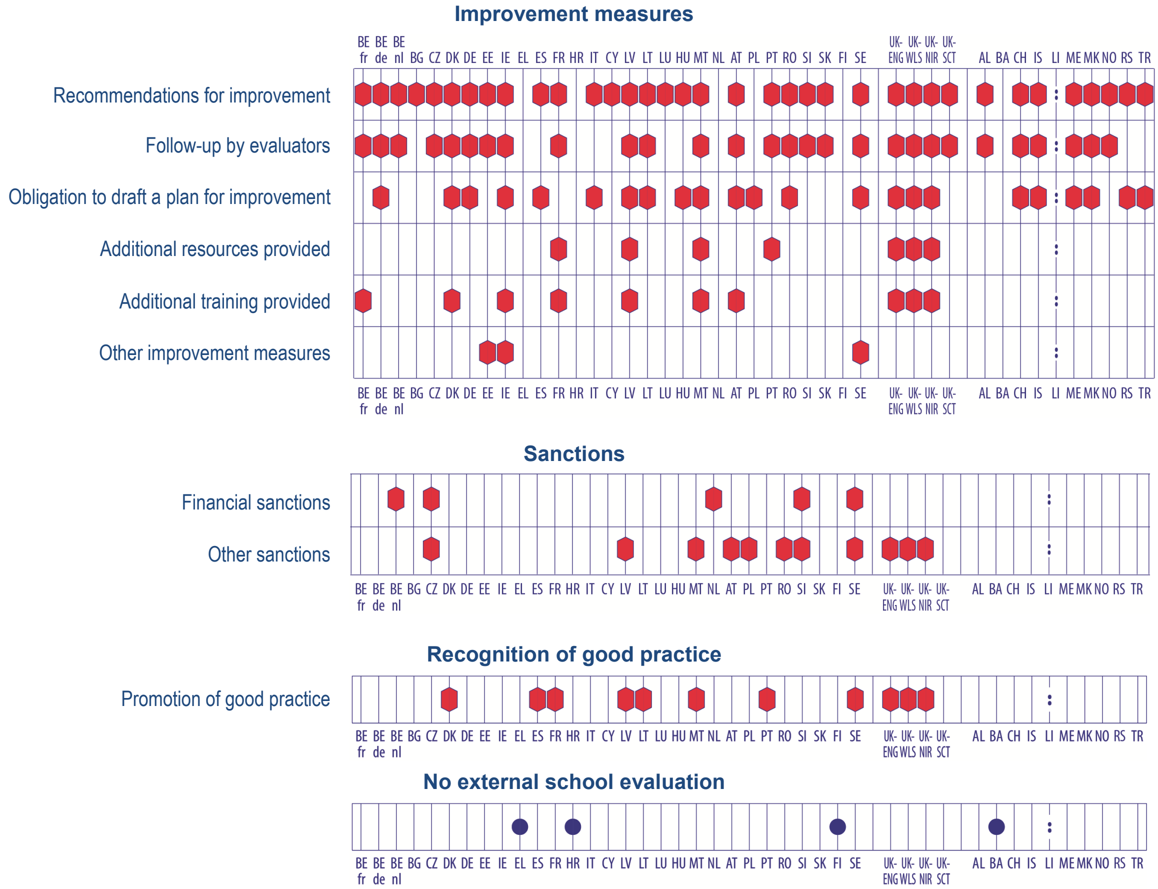
The improvement measures may include a specific set of recommendations. These are issued by the authorities in almost all systems (the Netherlands and Poland being the exceptions). In addition, in more than half of all systems, evaluators provide for a follow up to the evaluation, such as a further inspection or a review of how well the school has addressed the weaknesses identified. Another common outcome is the obligation to write a plan for school improvement. The provision of additional training or resources is cited less often.

Financial or other sanctions are much less common and are used in only one third of all systems (Belgium – Flemish Community, Czechia, Latvia, Malta, the Netherlands, Austria, Poland, Romania, Slovenia, Sweden and the United Kingdom – England, Wales and Northern Ireland). Depending on the system, financial sanctions can include fines, while other sanctions may involve the dismissal of the school head, the restructuring of the school (for example, through a merger with another school), the withdrawal of the operating licence, or ultimately the closing down of the school.

The recognition of good practice is mentioned as an outcome in eleven systems (Denmark, Spain, France, Latvia, Lithuania, Malta, Portugal, Sweden and the United Kingdom – England, Wales and Northern Ireland). The actions reported here include the official acknowledgement of good practice and the dissemination of practices that have either proved effective or show promising results.

([102]) For further information on national policies on school evaluation, see European Commission/EACEA/Eurydice, 2015. *Assuring Quality in Education: Policies and Approaches to School Evaluation in Europe*.

Figure II.9.7: Possible outcomes of external school evaluation (ISCED 1-3), 2018/19



Source: Eurydice.

Explanatory notes

The figure shows the potential outcomes of external school evaluations by category, according to top-level regulations.

Country-specific notes

Denmark: Additional training is an improvement measure used only at ISCED level 3.
Spain: The Autonomous Community of Aragón and the City of Ceuta report that follow-up by evaluators is an additional outcome of external school evaluation.

II.9.2.4. Publication of evaluation reports

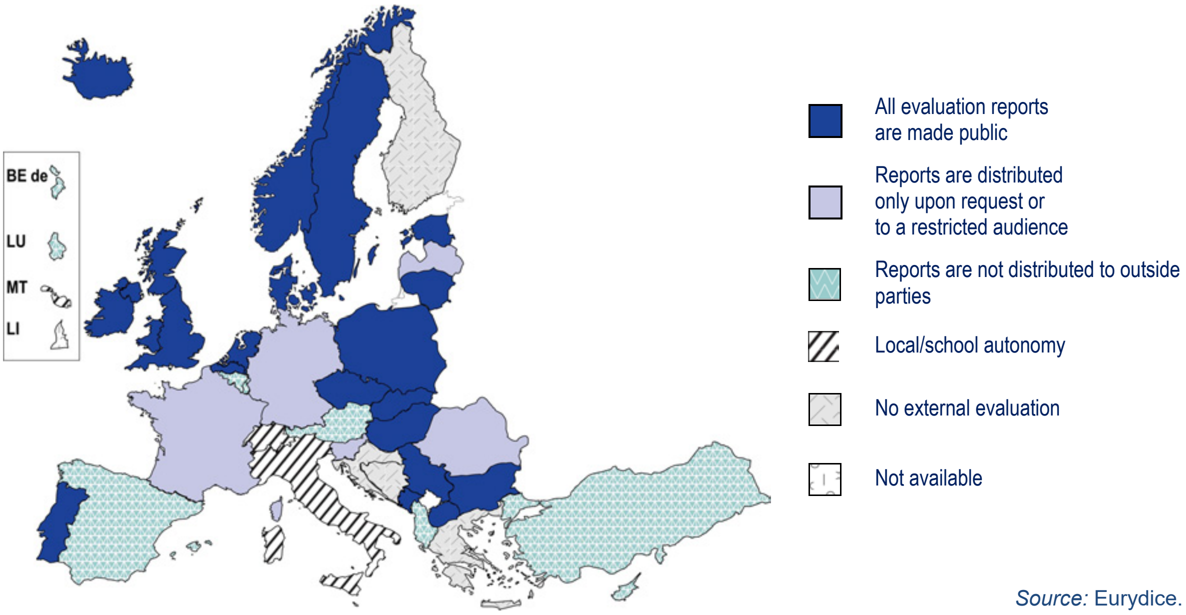
Figure II.9.8 shows the approaches taken to the publication of evaluation reports. In more than half of all systems that undertake external school evaluation, all evaluation reports are made public (22 systems). The reports are usually published on the official website of the Inspectorate or other top-level body and/or on the websites of individual schools and municipalities. In another five systems, (Germany, France, Latvia, Romania and Slovenia), the reports are distributed only upon request, or to a restricted audience.

In **Germany**, the report or parts of it are distributed to the school head, teachers, parents and/or students' representatives as well as to school supervisory authorities.

In **Latvia**, the public part of the report is published on websites, but the entire report is available only to the school, the local government, the school founder and the Ministry of Education.

In contrast, in eight systems (Belgium – French and German-speaking Communities, Spain, Cyprus, Luxembourg, Austria, Albania and Turkey), evaluation reports are not made available to outside parties. Finally, the practice varies in Italy, Malta and Switzerland because the decisions in this area are subject to local and/or school autonomy.

Figure II.9.8: Publication of the results of external school evaluation (ISCED 1-3), 2018/19



Source: Eurydice.

Country-specific notes

Germany: Regulations vary between the *Länder*. As a rule, the report or parts of it are distributed to the school head, the teachers, parents and/or pupils or their representatives, and the school supervisory authorities. In some *Länder*, schools may decide to publish the evaluation report.

Switzerland: Cantonal regulations vary. In some Cantons, schools have to make public at least a summary of the evaluation report.

External school evaluation: Differences between types of schools

In most education systems there are no differences in school evaluation procedures between public and government-dependent private schools, or between different school types. This implies that in these systems, all schools, irrespective of the sector, are externally reviewed following the same criteria and processes. Nevertheless, in some systems there are some differences for government-dependent private schools, for example, they might not be evaluated by a top-level body but by other stakeholders, or the external school evaluation by top-level bodies might not be compulsory.

For instance in **Denmark**, the external evaluation of government-dependent private schools is carried out locally by the parents' committee and an appointed school supervisor. The Ministry of Education could become involved at a later stage, depending on the conclusions of the local evaluation and the school's results in the nationally standardised test at the end of grade 9 (transition from ISCED 2 to ISCED 3).

In **Germany**, public schools are evaluated regularly (every three to six years) against the educational standards of the Standing Conference of the Ministers of Education and Cultural Affairs and *Land*-specific reference frameworks for school quality. In contrast, government-dependent private schools in some *Länder* may undergo external evaluation only on a voluntary basis.

II.10. SUPPORT FOR DISADVANTAGED SCHOOLS

Main findings

Academic research finds that a school's social intake can influence individual educational performance. Disadvantaged schools – those enrolling high proportions of students from low socio-economic backgrounds – generally have below average educational performance. They also often lack resources and face greater problems with discipline, which makes learning difficult.

The concentration of students from low socio-economic backgrounds in disadvantaged schools may occur as a result of residential segregation, or it may also be the unintended result of school policies, such as school choice, admissions and tracking.

To reduce the unevenness in school and student performance, top-level authorities can use several policy options: redress the imbalance in the socio-economic composition of schools, provide targeted support to disadvantaged schools, provide incentives to encourage good teachers to work in these schools.

- Top-level authorities in less than half of all education systems implement measures to improve the socio-economic composition of schools. These measures usually focus on school admission policies and classroom grouping practises. In rare cases, education authorities have made structural changes, establishing new school types with the explicit aim of creating a more balanced school composition. Elsewhere school catchment areas have been adjusted.
- Despite these efforts schools with large numbers of disadvantaged students persist in many education systems, and may experience problems in terms of academic performance and school climate. Recognising the need for targeted measures, the education authorities in more than half of all systems allocate additional financial or non-financial support to these schools.
- Awarding incentives to attract teachers to disadvantaged schools is less common in European education systems, despite the widely acknowledged challenges faced by these schools in recruiting suitably qualified staff.
- Overall, three distinct patterns have been identified in terms of policy making in this area:
    - 11 ([103]) education systems have put in place all three types of measures;
    - 26 ([104]) systems have at least one policy, usually to provide additional support to disadvantaged schools;
    - five ([105]) systems do not have any of these policies in place.

Measuring school performance has become a common practice among European education systems and the disparity between schools within education systems has been the subject of much debate. Many different factors that influence schools' performance have been cited, and some of these refer to the socio-economic background of students. The 'socio-economic composition of schools' and the related 'peer effects' may impact student performance. Schools enrolling a high proportion of students from lower socio-economic backgrounds (sometimes also referred to as disadvantaged schools) have a lower mean performance than schools that enrol a high proportion of students from higher socio-

([103]) Belgium (French and Flemish Communities), Spain, France, Hungary, Poland, Portugal, Slovakia, Slovenia, Sweden and the United Kingdom (England)

([104]) Belgium (German-speaking Community), Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Italy, Cyprus, Latvia, Lithuania, Luxembourg, the Netherlands, Austria, Romania, Finland, the United Kingdom (Wales, Northern Ireland and Scotland), Switzerland, Iceland, Montenegro, North Macedonia, Norway and Serbia

([105]) Croatia, Malta, Albania, Bosnia and Herzegovina and Turkey economic backgrounds. Disadvantaged schools also perform less well than the national average performance (OECD, 2016a).

The socio-economic composition of schools may reflect that of the area in which the school is located. In rural areas or regions with scarce resources and high poverty among the resident population, a high proportion of students may come from lower socio-economic backgrounds. In towns where people of different socio-economic backgrounds are unevenly distributed (due to housing prices, infrastructure, social networks, etc.), local schools may mirror these residential differences. As empirical data shows, in some countries, enrolling students in schools according to their place of residence is positively related to social segregation in schools (i.e. an uneven distribution of students from different socio-economic backgrounds among schools) (OECD, 2019c).

Alternatively, the uneven distribution of students from different socio-economic backgrounds can also be the unintended result of school policies. PISA data also shows that 'social segregation has increased the most in countries where residence-based criteria has declined in importance' (OECD, 2019a). A lack of socio-economic diversity can be the unintended effect of school policies – including school choice (see Chapter II.4) and admission policies (see Chapter II.5). For instance, if more advantaged students can opt out of the neighbourhood school and their disadvantaged peers stay, this may result in schools with a high proportion of disadvantaged students (OECD, 2019c). Uneven student distribution can also be related to early academic selection in systems where family background is closely related to student academic performance.

Schools that enrol large numbers of disadvantaged students face a number of challenges in improving student performance and they are not always equipped well enough to address them (OECD, 2012; OECD, 2018a; OECD, 2018c). These schools often lack resources, including equipment and qualified staff (OECD, 2016a). In disadvantaged schools, disciplinary problems also occur more often, which makes learning more difficult, and deprives students of precious learning time (Thrupp, 1997).

Top-level education authorities have different policy tools at their disposal to address these challenges. On the one hand, policy measures to address the uneven distribution of students from low socio-economic backgrounds may address the housing or social inclusion dimension; however, this report is strictly limited to school policies. The most commonly cited education measures in the literature are related to school choice and school admission policies (OECD, 2010), which aim to rebalance the socio-economic distribution of students among schools. These include controlled choice policies (see Figure II.10.1 and Chapters II.4 and 5). On the other hand, in order to support disadvantaged schools, authorities may also provide targeted measures to compensate for the specific difficulties they face (OECD, 2019a).

This chapter concentrates on top-level polices and measures in the following areas:

- improving the socio-economic diversity of schools;
- addressing challenges in teacher supply and demand in disadvantaged schools;
- providing additional financial or non-financial support to disadvantaged schools.

II.10.1. Top-level measures to improve socio-economic diversity in schools

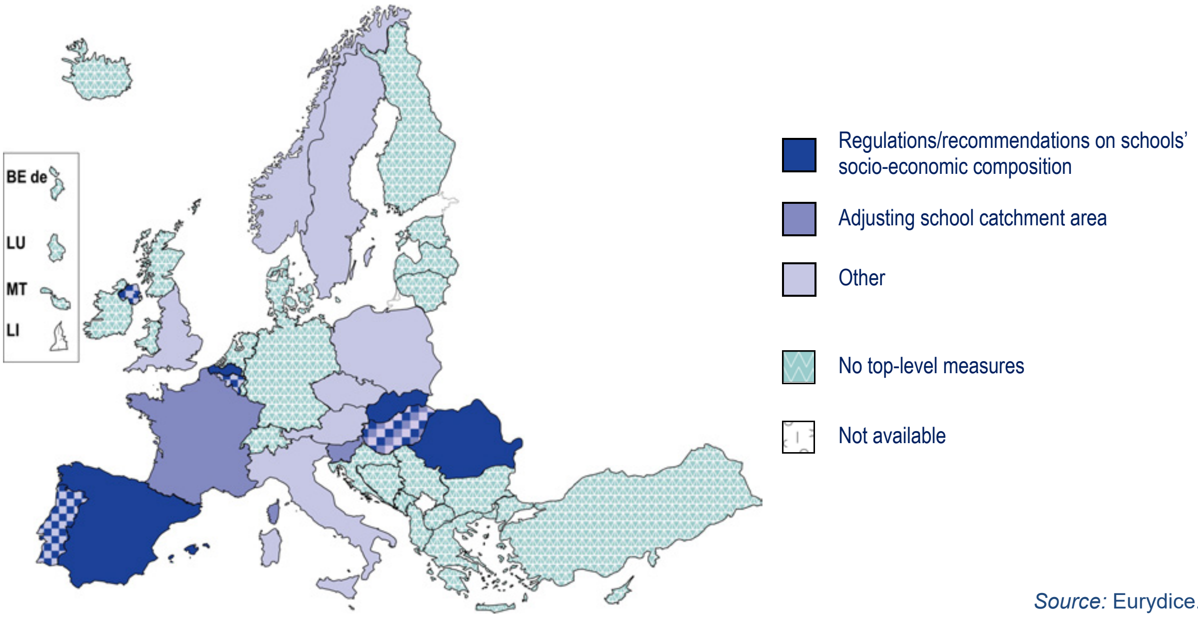
A school's social intake has an impact on individual student performance. This 'compositional effect' is partly due to related 'peer effects' (how the peer group directly motivates or disrupts each student's learning) (Ammermueller and Pischke, 2006; van Ewijk and Sleegers, 2010; Epple and Romano, 2011), but also partly to the cumulated effects resulting from certain school processes that are impacted by the school's socio-economic composition: school instruction, school organisation, and management processes (Thrupp, 1997; Thrupp et al, 2002). While the compositional effect influences – positively or negatively – the performance of all students, certain groups of students are more sensitive to the compositional effect than others – this is the case for students from low socio-economic backgrounds. (Opdenakker et al, 2002; Benito et al, 2014).

International surveys show that disadvantaged students are more often low-achievers (see Chapter I.2). In addition, being in a school which enrols a high percentage of disadvantaged students may pose further challenges to individual students to perform well (van Ewijk and Sleegers, 2010). Disadvantaged schools are less able to attract good, highly qualified teachers; they experience worse disciplinary climate than advantaged schools; and teacher expectations are lower (Thrupp, 1997; OECD 2016a). As a consequence, students in disadvantaged schools may not perform well not only because of their background, but because the school lacks the resources and processes necessary for academic success. In contrast, disadvantaged students in more socially diverse schools, and thus a more beneficial school climate with adequate resources, are more likely to perform well (Thrupp, 1997). In other words, diversifying (desegregating) schools could have a significant positive effect on levels of educational equality, although the impact on education efficiency is not so clear (Benito et al., 2014).

In addition, in systems where students are selected to schools based on academic performance, the between-school difference in performance is greater than in systems without academic selection (comprehensive schooling). Between-school variations in student performance often relate to the degree of socio-economic diversity between schools. In other words, disadvantaged schools are also often low-performing schools in academically selective systems. Comprehensive systems tend to show smaller between-school differences in performance; however, when parents have extensive school choice, self-sorting by ability and social background may also result in higher between-school difference in these systems (OECD, 2016a).

Figure II.10.1 presents an overview of the top-level policy measures in Europe that aim to improve socio-economic diversity in schools. The two most common measures reported are regulations and recommendations on the socio-economic composition of schools and adjusting school catchment areas. A variety of alternative measures, for example, structural changes in the education system and transportation of students are included in the 'other' category and are discussed in more detail below.

Figure II.10.1: Top-level measures to improve socio-economic diversity in schools (ISCED 1-3), 2018/19



Source: Eurydice.

Country-specific notes

Belgium (BE fr): Data refers to lower secondary education.
Belgium (BE nl), France, Hungary, Poland and **Slovenia**: Data refers to primary and lower secondary education.
Austria: Data refers to secondary education.

Seventeen education systems in Europe have implemented at least one type of policy measure to address socio-economic diversity or social segregation. About half of these (Belgium – French and Flemish Communities, Spain, Hungary, Portugal, Romania, Slovakia and the United Kingdom – Northern Ireland) have regulations or recommendations on schools' socio-economic composition in place. These administrative measures are related to school admission policies (see Chapter II.5) or classroom grouping methods (see Chapter II.6), by which top-level authorities aim to intervene into how students are distributed across schools and classes. The examples below show a great diversity of approaches ([106]).

In **Belgium (Flemish Community)**, a double quota system must be applied by schools in primary and secondary education: a quota for socio-economically disadvantaged students (see Figure II.5.4) and a quota for non-disadvantaged students, which means that both types of students are given equal priority. The quotas are based on the percentage of disadvantaged students in the municipality (i.e. the ratio between the number of disadvantaged students and the total number of pupils in primary or secondary education located in the municipality).

In **Portugal,** since 2018, oversubscribed schools must prioritise the applications from low-income students in their admissions procedures. In addition, the legislation states that classes must be heterogeneous.

In **Romania**, according to the methodology for the prevention of school segregation, irrespective of the education level they cover, schools must admit students in the most balanced way possible, so that the socio-cultural diversity of the community is appropriately reflected in the school, its buildings (if the school has several buildings), its groups/classes as well as in the last two rows of desks in classrooms ([107]).

In the **United Kingdom (Northern Ireland)**, the Shared Education Act 2016 imposes a duty on authorities to encourage, facilitate and promote the education together of children of different religious beliefs including reasonable numbers of both protestant and catholic children; and those who are experiencing socio-economic deprivation with those who are not. This should be achieved

([106]) In Sweden, regulations refer to the 'social composition of the comprehensive school', but there is some legal uncertainty about what municipalities' can do about this. For this reason, the government is assessing the situation and is planning to provide recommendations on how municipalities can foster more heterogeneous student bodies.

([107]) This applies to schools which still have the traditional arrangement of classes with parallel rows of desks.

through collaboration between two or more schools. Grant-aided (publicly funded) schools and other organisations receive extra support to collaborate in this way.

In countries where students are (at least initially) assigned to schools based on their place of residence (see Chapter II.4), top-level authorities (or sometimes local authorities) determine 'school catchment areas'. These are the geographical areas from which a school must enrol its students before it can accept applicants from outside – see Figure II.4.1. When the socio-economic composition of the school age population in a catchment area becomes imbalanced, top-level authorities or municipalities sometimes re-adjust its borders in order to rebalance the student population in the school. This is a measure intended to counterbalance the impact of increasing residential segregation in neighbourhoods. Top-level authorities in France, Hungary and Slovenia use this policy tool.

In **France**, educational authorities may change school catchment areas. They may decide to close down a particularly disadvantaged lower secondary school ('college'), and transport its students to other more socially heterogeneous schools.

In **Hungary**, school catchment areas need to be determined in a way that ensures an even distribution of disadvantaged students among school districts in a municipality. The percentage of disadvantaged students in each school district should be within fifteen percentage points of the rate of disadvantaged students in the municipality.

In **Slovenia**, local authorities can set up a common catchment area for a maximum of three schools, and within this gravitational areas for specific schools. This gives more flexibility for local authorities in allocating students to schools, and helps in achieving a more heterogeneous student body in schools.

Other measures to combat socio-economic segregation in schools include the transportation of disadvantaged students (who would normally be assigned on a geographical basis to a disadvantaged school) to another school which is more socio-economically diverse (Hungary and Sweden). It should be mentioned that twelve further countries also reported student transportation. These countries are not presented in Figure II.10.1, because their policies are either mainstream or they are social measures to facilitate student access to schools, rather than measures to specifically address socio-economic diversity in schools. For example, public transport is free for all students in Malta and Montenegro, and for those under 12 in Belgium (German-speaking Community), in others students are eligible for free transport if they live at a certain distance from the school (two to six kilometres, depending on the country) (Croatia, the United Kingdom – Northern Ireland and Serbia), or if they live in remote, rural settlements (Spain, Latvia, Lithuania, Romania and Turkey). It should, however, be acknowledged that these transportation measures may have an impact on socio-economic diversity in schools.

In three systems (Austria, Poland and the United Kingdom – Northern Ireland), the structure of the education system has been changed, and new school types have been established to promote diversity.

In **Austria**, a new school type, 'Neue Mittelschule' (New Secondary School) was established with the aim of educating together students from different socio-economic backgrounds.

In **Poland**, the school structure was changed in 2016. The separate primary and lower secondary schools were replaced by single-structure primary and lower secondary schools. The aim of the change was to prevent the sorting of students at the beginning of lower secondary level, which seemed to lead to socio-economic segregation in large cities.

In the **United Kingdom (Northern Ireland)**, 'integrated schools' aim to bring together students and staff from Catholic and Protestant traditions, as well as those of other faiths and none.

Finally, Portugal has launched a public website with alternative school indicators that highlight positive educational results in schools with a large disadvantaged population. These are value-added indicators that compare student progress, rather than absolute levels of attainment, and contribute to improve the public reputation of good performing disadvantaged schools. While in Norway, admission regulations for government dependent private schools receive more attention from top-level authorities.

> In **Norway**, top-level regulations do not allow government-dependent private schools to select their students. Each school must have admission rules approved by top-level authorities. In the case of oversubscription, schools can prioritise siblings, geographical proximity and religious affiliation.

Beyond the top-level policy measures depicted in Figure II.10.1, some countries (Belgium – French Community, Germany, France, Latvia, Hungary, Malta, Romania, Sweden, Bosnia and Herzegovina and Serbia), aim to inform and/or involve stakeholders in discussions on how to tackle socio-economic segregation in schools. For example, in Belgium (French Community), Germany, France and Romania, the top-level authorities explicitly advocate social diversity in schools and warn about the negative effect of segregation. In Latvia and Malta, specific teacher professional development programmes are offered on education equity and social inclusion in schools. In Belgium (French Community) and France, local pilot projects which seek to improve socio-economic diversity in disadvantaged neighbourhoods are supported by top-level authorities. Similarly, in Hungary, working groups, involving representatives of all school types, have been established in every school district's maintenance centre to monitor the implementation of inclusive education and desegregation. In addition, in Luxembourg, Sweden and Norway, local authorities are encouraged or requested to intervene to prevent or address socio-economic segregation in schools.

II.10.2. Teachers in disadvantaged schools: challenges and incentives

Investing in high quality teaching is key to improving student performance and it has been recognised that a sound policy would be to deploy the best and most effective teachers to work with students who need the most support (OECD, 2018b). In practice, however, there are a number of obstacles in this area.

Before addressing the specific issues surrounding teachers in disadvantaged schools, attention must be drawn to the fact that many European countries are dealing with general shortages of teachers, the aging of the teacher workforce and/or the uneven distribution of teachers between subjects and geographical areas. Most of these policy issues are relatively long standing and are linked to the attractiveness of the profession (European Commission/EACEA/Eurydice, 2018a). However, these problems could be all accentuated in relation to teachers in disadvantaged schools, where the socio-economic composition of schools can have an impact on instruction, school organisation and management (see Chapter I.2).

In this context, it is useful to consider the general regulations on teacher appointment that apply to all schools. In most European systems teachers in public schools are recruited and appointed in an open process whereby vacant positions are filled by candidates that apply to each school. This means that the top-level authorities do not allocate teachers to schools; the recruitment process is managed by individual schools, sometimes together with their local authorities (European Commission/EACEA/Eurydice, 2018a). A minority of countries opt for more restrictive methods of recruitment and appointment, where the top-level authorities play a direct role by establishing a pool of successful candidates as a result of either competitive examinations (Spain, France Italy and Turkey) or selection by applications (Germany, Cyprus, Luxembourg, Malta and Albania) (Ibid). Another related aspect is the fact that, across Europe, government-dependent private schools tend to have much more autonomy in their employment and remuneration policies as well in their use of public and private funds (see Chapter II.8) and this could play a role when top-level authorities try to attract experienced and qualified teachers to disadvantaged schools and subsequently attempt to keep them in post.

II.10.2.1. Challenges in managing teacher supply and demand

Figure II.10.2 provides an overview of the main challenges in managing teacher supply and demand in schools that enrol large numbers of disadvantaged students. These challenges have been identified by top-level authorities and have been mentioned in official documents and publications. In the majority of education systems (31 systems), the top-level authorities recognise that there are challenges related to teacher recruitment in disadvantaged schools and to the need for specific support and development. The top-level authorities in eleven systems have not identified any specific challenges in this area. In some cases, this is because the appointment of teachers is a local responsibility and the Ministry does not collect such information (Denmark), or because issues with the supply of teachers are not limited to schools with large cohorts of disadvantaged students (Ireland and Estonia).

Figure II.10.2: Main challenges in managing teacher supply and demand in disadvantaged schools as identified by top-level authorities, 2018/19

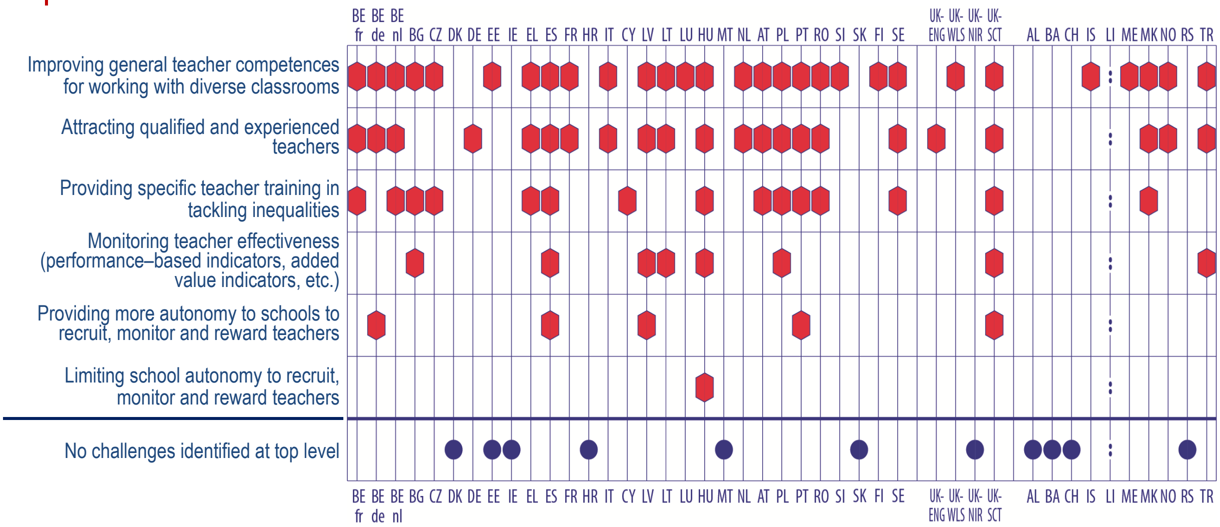


Figure II.10.2 shows that the problem areas most often cited refer to the need to improve teachers' general competences in working with diverse classrooms (29 systems) and to attract qualified and experienced teachers to disadvantaged schools (22 systems). Providing specific teacher training for addressing inequalities, as well as monitoring the effectiveness of teachers' work have been also mentioned as areas for improvement. In addition, granting more autonomy to schools to recruit, monitor and reward teachers is considered a challenge in five systems. The top-level authorities in 17 countries mention that they experience three or more challenges related to teachers in disadvantaged schools. This is an indication of the significance of the problems in this area and the current emphasis that is placed on resolving them. In many systems, recent reports, policy papers and expert contributions have addressed these challenges.

In **Iceland**, official reports note that while there is general agreement on the objectives of inclusive education, there is a need for more resources, improved professional development, and support for schools, as well as more research to enable effective implementation. It is also noted that there are too many different interpretations of the term 'inclusive education' and that teachers do not feel adequately equipped to deal with the demands arising from greater diversity in the classroom ([108]).

([108]) Mat á framkvæmd stefnu um skóla án aðgreiningar (Mennta- og menningarmálaráðuneytið, 2015; European Agency for Special Needs and Inclusive Education (2017): Education for All in Iceland – External Audit of the Icelandic System for Inclusive Education. Odense, Denmark: European Agency for Special Needs and Inclusive Education. See https://www.stjornarradid.is/media/menntamalaraduneyti-media/media/frettatengt2016/final-report_external-audit-of-the-icelandic-system-for-inclusive-education.pdf

The information collected refers to policy discussions and action plans that both examine the difficulties in teacher supply and demand in general and explore ways to support and improve teachers' work in disadvantaged schools in particular.

In **Sweden**, several reports of the Swedish School Commission mention the need to address teacher shortages, the lack of suitably qualified teachers and the need for more professional development opportunities. It is difficult to recruit experienced teachers and school heads in schools that face major problems, although it is these school that need them most ([109]). In its interim report, the Commission set out proposals for national targets and a long-term plan with areas for improvement (SOU 2016:38). The final report contains concrete proposals within the areas for improvement ([110]).

A range of specific problems related to the supply of teachers has been highlighted in response to the survey carried out for this report. In several education systems, general teacher shortages also affect disadvantaged schools (Belgium (all three Communities) and Ireland). It is reported that teacher recruitment is the most problematic in urban areas, but also in smaller rural schools.

In the **French and Flemish Communities of Belgium**, the supply of teachers in general, and for specific subjects (e.g. mathematics, foreign languages, technical courses) is a challenge. This problem is not exclusively related to disadvantaged schools but is most apparent in the cities where a higher number of disadvantaged students live.

In **Ireland**, there are also difficulties in recruiting teachers. At primary level, this relates mainly to the recruitment of substitute teachers, and at post-primary to the recruitment of teachers of particular subjects (e.g. STEM, modern foreign languages, Irish and Home Economics). In response to this, the Department of Education and Skills established the Steering Group on Teacher Supply in March 2018 ([111]). An Implementation Group supports the work of the Steering Group by considering various issues such as the key factors that impact upon the demand for, and supply of teachers. Developing a model for Teacher Workforce Planning in Primary and Post Primary schools is under consideration.

Attracting and retaining teachers in disadvantaged schools and addressing high turnover are also priority areas in France ([112]), Germany ([113]), the United Kingdom (England ([114]) and Scotland ([115])) and in some other systems. Some countries mention that they face specific constraints in recruiting qualified teachers in rural areas (Lithuania, Romania and Turkey), and in providing extra teachers and targeted training to support students from migrant backgrounds (Greece and Austria). The great majority of education authorities also recognise that improving teacher competences to deal with diversity in classrooms is a topic that needs to be addressed in both initial teacher education (ITE) programmes and continuing professional development (CPD) courses, as well as through the exchange of existing good practice and access to support materials.

In **Finland**, it has been recognised that cultural diversity is one of the areas where teachers and other staff need more support through CPD activities ([116]).

([109]) The Swedish School Commission (*Skolkommissionen*) (dir. 2015:35).

([110]) (SOU 2017:35) https://www.regeringen.se/498092/contentassets/e94a1c61289142bfbcfdf54a44377507/samling-for-skolan---nationell-strategi-for-kunskap-och-likvardighet-sou-201735.pdf

([111]) https://www.education.ie/en/The-Department/Regulation-of-Lobbying-Act-2015/Groups-Committees-exempted-under-the-Transparency-Code/teacher-supply-steering-group.html

([112]) https://www.ccomptes.fr/system/files/2018-10/20181017-synthese-education-prioritaire_0.pdf , https://www.ccomptes.fr/sites/default/files/2017-10/20171004-rapport-gerer-enseignants-autrement.pdf http://cache.media.education.gouv.fr/file/2018/04/7/IGEN-IGAENR-rapport-2018-91-Gestion-quantitative-gestion-qualitative-enseignants_1031047.pdf

([113]) Berlin Social Science Center (*Wissenschaftszentrum Sozialforschung Berlin*) authored by Marcel Helbig and Rita Nikolai, "Do the socially most disadvantaged pupils get the 'best' schools? 'An explorative study on the relationship between school quality and the social composition of schools using Berlin as an example' ("Bekommen die sozial benachteiligsten Schüler*innen die 'besten' Schulen? Eine explorative Studie über den Zusammenhang von Schulqualität und sozialer Zusammensetzung von Schulen am Beispiel Berlins") https://bibliothek.wzb.eu/pdf/2019/p19-002.pdf

([114]) Teacher Recruitment and Retention Strategy (p.11) (DfE, 2019): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/773930/Teacher_Retention_Strategy_Report.PDF.pdf

([115]) Evaluation of the Attainment Scotland Fund. Interim report (years 1 and 2) https://www.gov.scot/publications/evaluation-attainment-scotland-fund-interim-report-years-1-2/

([116]) https://www.oph.fi/rahoitus/valtionavustukset/opetustoimen_henkilostokoulutus/103/2/opetustoimen_ja_varhaiskasvatuksen_henkilostokoulutus_vuonna_2019_avustushaku

In **Italy**, the national plan for CPD activities 2016-2019 aims, among other things, to strengthen teachers' ability to work with diversity in classrooms ([117]).

In the **United Kingdom (Wales)**, the government has issued a new set of accreditation criteria for providers of initial teacher education programmes from September 2019. Among the requirements for programmes will be that 'Professional and pedagogical studies should draw on theory, research and student teachers' direct experience in schools to develop their knowledge, understanding and practical skills in relation, inter alia, to [...meeting the needs of pupils from diverse cultural, linguistic, religious and socioeconomic backgrounds to ensure equity...]' ([118]).

In **Slovenia**, within an initiative of the Ministry of Education Science and Sport entitled Safe and Supportive Learning Environment (*Varno in spodbudno učno okolje*), teaching in diverse classrooms have been addressed through the sharing of best practice, regional debates among educational staff, and at a national conference. Support materials on how to build an inclusive school environment have been produced by the National Education institute.

II.10.2.2. Incentives for teachers

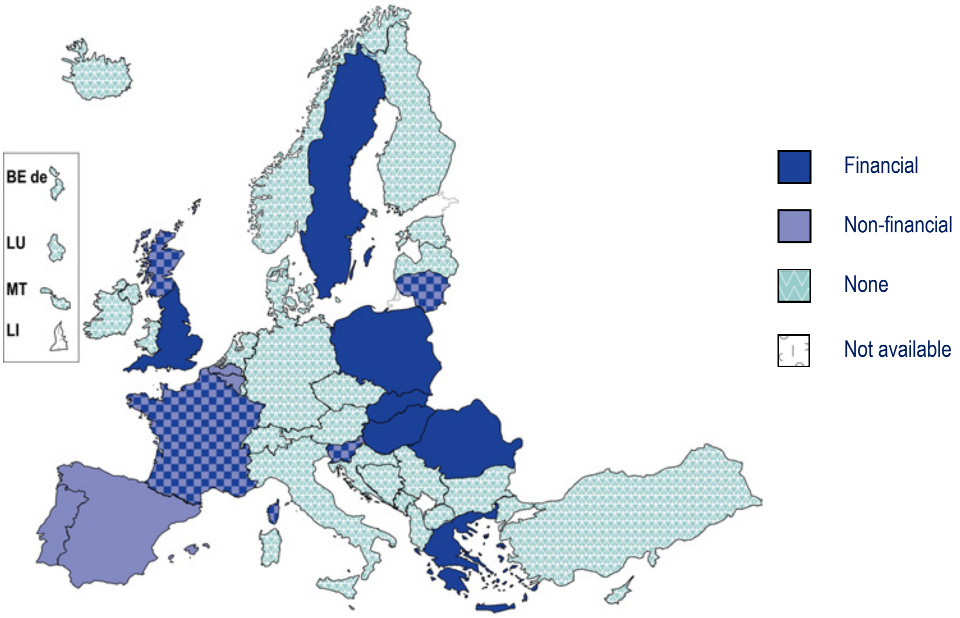
There are a range of policy measures available to education authorities needing to attract well-qualified and experienced teachers to disadvantaged schools. These include the provision of both financial and non-financial incentives. However, according to top-level regulations, such incentives are not commonly used (see Figure II.10.3). Financial measures such as increasing the basic statutory salary (Lithuania, Romania and Slovenia), additional allowances (France, Lithuania, Hungary, Poland, Slovakia and Sweden), teacher student loan reimbursement (United Kingdom – England) and similar policies have been implemented in 11 systems altogether. Non-financial incentives such as better working conditions (e.g. reduced teaching time, reduced class size, job security, access to mentoring/coaching), or career benefits (e.g. preferential next appointment or faster career progression) are available in eight systems. Four systems (France, Lithuania, Slovenia and United Kingdom – Scotland) report that they implement both financial and non-financial incentives.

In more than half of all systems, there are no top-level incentives for teachers in disadvantaged schools. This could be for various reasons. In some cases, decisions on the recruitment and/or remuneration of teachers are taken at local and/or school level (see also Figures II.8.1 and II.8.2). Thus decisions regarding, for instance, the payment of special allowances or the reduction of the number of students in a class could be taken by the school head depending on the specific circumstances of the school. In other cases, (Estonia, Croatia, Malta, Albania, Bosnia and Herzegovina, Iceland and Montenegro), there are no top-level incentives for teachers because the education authorities consider that there are no significant differences in the socio-economic composition of schools. More importantly, however, in ten additional systems (Belgium – German-speaking Community, Germany, Ireland, Cyprus, Latvia, Luxembourg, Austria, Portugal, North Macedonia and Turkey) no such measures exist even though education authorities are aware of significant differences in the socio-economic composition of schools.

([117]) https://www.istruzione.it/allegati/2016/Piano_Formazione_3ott.pdf

([118]) Criteria for the accreditation of initial teacher education programmes in Wales: Teaching tomorrow's teachers' (WG, 2018), p. 21-22. https://gov.wales/sites/default/files/publications/2018-09/criteria-for-the-accreditation-of-initial-teacher-education-programmes-in-wales.pdf

Figure II.10.3: Top-level measures to support teachers in disadvantaged schools, 2018/19



Source: Eurydice.

Country-specific note

Spain: Non-financial measures are the most common practice reported by the participating Autonomous Communities. Only Castilla y León and Castilla-La Mancha provide financial incentives in the form of additional allowances to teachers in disadvantaged schools.

II.10.3. Additional funding and non-financial support to disadvantaged schools

In addition to measures to facilitate teacher recruitment, other forms of support are offered to schools with disadvantaged students. This support recognises the fact that disadvantaged schools operate in distinct environments. They are confronted with multiple challenges, such as a wide range of student abilities, diverse learning needs, high rates of underachievement, attendance problems, low academic expectations and an unfavourable school climate ([119]). The support provided to disadvantaged schools can be divided into two broad categories: additional funding and non-financial support ([120]). The additional, or targeted, national funding is separate from the main funding stream and aims to improve equity in schools with disadvantaged students. It is not necessarily contingent on the proportion of disadvantaged students in the school. Top-level education authorities can allocate these funds to the regional or local level, or directly to the school. The activities funded can be specified (ring-fenced) or schools may be allowed varying degrees of autonomy. Funding from EU programmes and other international organisations, as well as social aid programmes and individual financial aid to students are not considered here. The additional financial and non-financial support that is provided systematically by top-level authorities can include, for example, access to extra educational staff, professional development opportunities, reduced class sizes, or extra-curricular activities.

Research studies indicate weak positive effects of additional funding on the learning progress of disadvantaged students (Franck and Nicaise, 2017). While additional support for disadvantaged schools is important, it is not sufficient on its own to redress educational inequalities. This is especially true in comparison with the impact of major system-level factors such as early tracking, grade

([119]) See for instance Department of Education and Skills, DEIS Plan 2017 (Delivering Equity of Opportunity in Schools), pdf available at https://www.education.ie/en/Publications/Policy-Reports/DEIS-Plan-2017.pdf

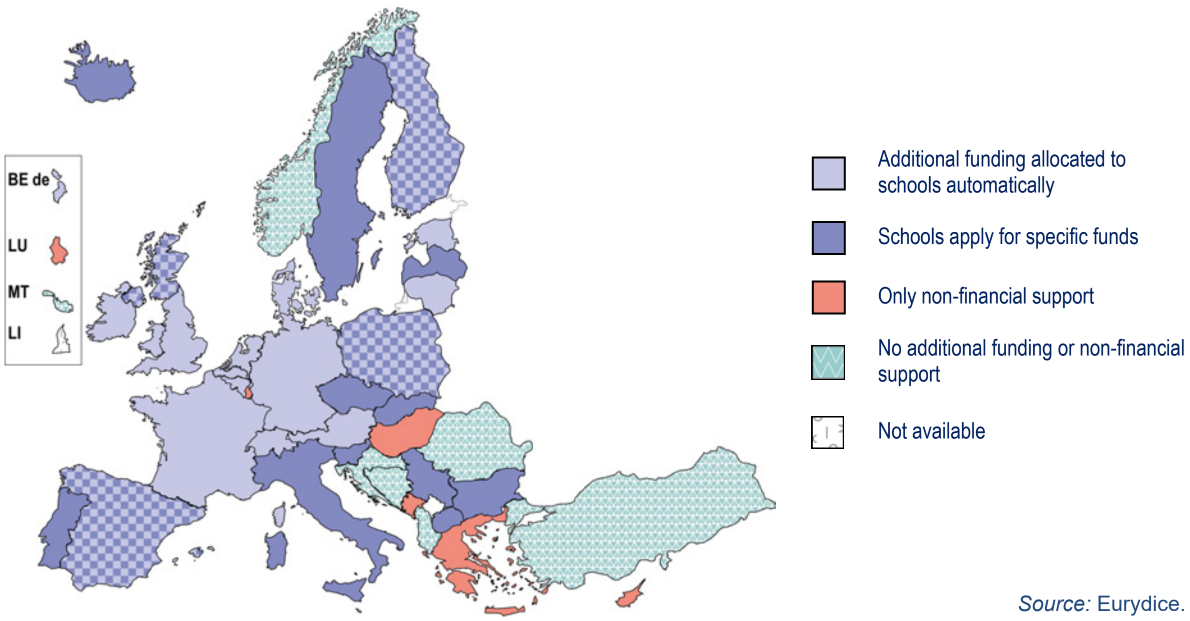
([120]) See also European Commission/EACEA/Eurydice, 2016. Structural indicators for monitoring education and training systems in Europe 2016. Eurydice Background report to the Education and Training Monitor 2016, pp. 36-42.

repetition and selective admission to schools (Verelst et al., 2020). Evidence from national case studies shows that the effectiveness of the additional support can be increased by providing a balance between automatically allocated and earmarked funding. Moreover, schools need to have a degree of autonomy in determining the ways in which funds are spent, provided that they also have both management capacity and access to expert guidance. Appropriate monitoring and evaluation must also take place (Ibid).

Figure II.10.4.A shows that additional funding is allocated in 30 education systems to schools that enrol disadvantaged students. In some cases, additional funding is combine with non-financial support, but in five systems (Greece, Cyprus, Luxembourg, Hungary and Montenegro) non-financial support is the only type of support available. In seven systems (Croatia, Malta, Romania, Albania, Bosnia and Herzegovina, Norway and Turkey), the top-level authorities do not provide either additional funding or non-financial support. In terms of the methods of allocating additional school funding, in nineteen systems the funding is allocated automatically by top-level authorities, while in sixteen systems schools must apply for specific funds. In Spain, Poland, Finland and the United Kingdom (Northern Ireland and Scotland), both methods of allocating additional funding are used.

Figure II.10.4: Additional, top-level financial or non-financial support for schools with disadvantaged students (ISCED 1-3), 2018/19

II.10.4.A: Funding allocated automatically/schools apply for specific funds



Source: Eurydice.

Country-specific notes

Luxembourg: Applies only to ISCED 1.
Denmark: Applies only to ISCED 3.
Spain: All participating Autonomous Communities report implementing these measures at all ISCED levels, except Canarias and Comunidad Valenciana, which focus on ISCED 1 and 2.
Finland: Applies only to ISCED 1 and 2. The additional funding that is allocated automatically is included in the state funding to municipalities.
Switzerland: Applies only to ISCED 1 and 2. Cantonal regulations may vary.

Additional funds may be allocated to all schools with disadvantaged students, regardless of the proportion of disadvantaged students in the overall student population in any given school. Such funds might also be allocated to some schools only, based on pre-defined criteria. Figure II.10.4.B shows that in around half of all systems (22 systems) all schools are eligible for financial and non-financial support and receive funding for each disadvantaged student.

In some systems, when allocating additional financial or non-financial support, education authorities use several indicators to determine which students are disadvantaged (for national definitions of disadvantaged students see also Chapter I.3).

In the **French Community of Belgium**, a school's placement on the socio-economic index determines whether they are eligible to receive additional staff and funding. The index comprises four indicators relating to family background:

- per capita income
- educational background
- unemployment rate, professional activity rate, and receipt of social assistance
- profession ([121]).

In the **Flemish Community of Belgium**, a school receives extra support and resources based on the number of pupils who meet socio-economic criteria related to the home language of the student, the education level of the mother and whether the student receives a school allowance.

In the **Netherlands**, the central government has expanded the indicators used to define educational disadvantage in primary schools, which was previously limited to the educational level of parents. Since August 2019 the Central Bureau of Statistics provides information on five indicators: the educational level of both parents, the mother's country of origin, the duration of stay of the mother in the Netherlands, the average level of education of all mothers at the school; and whether the parents have serious debts ([122]).

In the **United Kingdom (England)**, the school funding formula, which applies to compulsory primary and secondary education, contains a factor for deprivation. Further funding (the Pupil Premium) is available to schools for each pupil eligible for free school meals at any point in the previous 6 years or who is, or has been looked after (in the care of the local authority). In the **United Kingdom (Wales)**, the Pupil Development Grant is allocated on a similar basis.

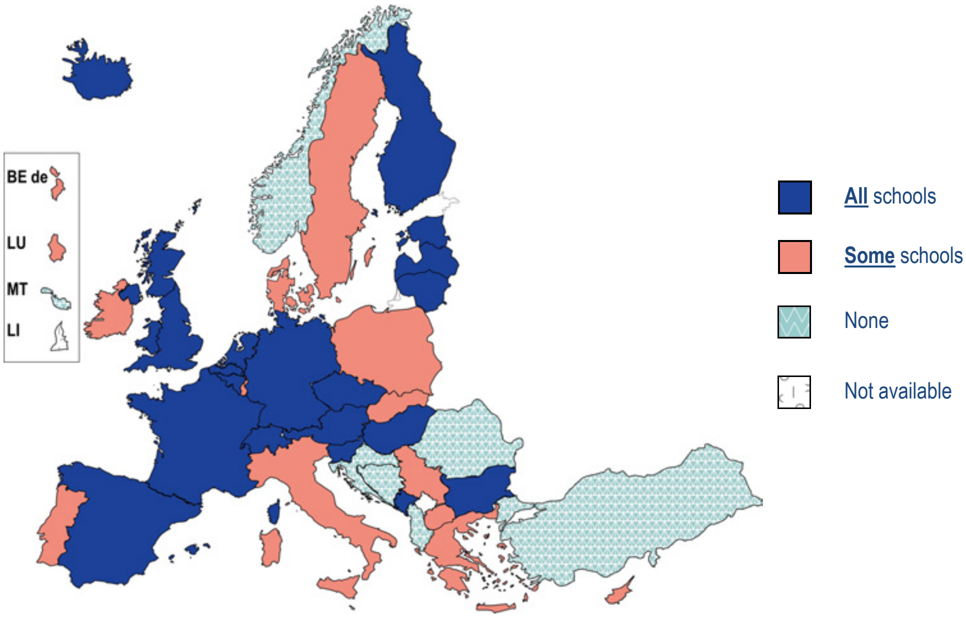
More rarely (13 systems), additional financial or non-financial support is allocated to some schools only, based on nationally defined criteria (Figure II.10.4.B). These criteria can include reaching a threshold proportion of disadvantaged students (Ireland and Slovakia), enrolling specific categories of students such as ethnic minorities, students from migrant backgrounds or low achievers (Denmark, Greece, Poland and Portugal).

Moreover, additional financial or non-financial support is more commonly distributed to schools during compulsory education (ISCED levels 1 and 2), and less so during ISCED level 3.

([121]) https://www.gallilex.cfwb.be/document/pdf/34295_024.pdf

([122]) https://www.rijksoverheid.nl/onderwerpen/voorschoolse-en-vroegschoolse-educatie/financiering-onderwijsachterstanden

II.10.4.B: Additional, top-level financial or non-financial support to all schools/some schools



Source: Eurydice.

Country-specific notes

Luxembourg: Applies only to ISCED 1.
Denmark: Applies only to ISCED 3.
Spain: All participating Autonomous Communities report providing this support at all ISCED levels, except Canarias and Comunidad Valenciana, which focus on ISCED 1 and 2
Finland: Applies only to ISCED 1 and 2. The additional funding that is allocated automatically is included in the state funding to municipalities.
Switzerland: Applies only to ISCED 1 and 2. Cantonal regulations may vary.

In most countries, top-level policies on additional financial or non-financial support apply to both public and government-dependent private schools. The only difference reported is in Portugal where the Programme for Priority Intervention Educational Areas (TEIP) that funds extra teaching hours, special access to teacher training and other interventions concerns only public schools ([123]).

Depending on the proportion of eligible students, schools operate with an additional budget that allows specific support measures to be put in place. The types of activities funded by the additional resources are either determined by the top-level authorities in advance or schools are free to use the funds flexibly and decide for themselves which activities are the most appropriate. In line with a previous analysis (European Commission/EACEA/Eurydice, 2016), countries report that funding is most often used to hire additional teachers, assistants and other professionals. The activities funded or provided by top-level authorities include reductions in class sizes or the provision of remedial classes, language support, activities and services outside of the normal school day, and home-school liaison.

Non-financial support most often takes the form of additional posts for teachers, teaching assistants or other staff, as well as the provision of specialised teacher training.

> In **Spain**, the most widespread measures are non-financial and they exist in almost all participating Autonomous communities. Having additional teachers is the most common practice, together with the reduction in class sizes. Cantabria also reports the deployment of counsellors and social workers, whereas Canarias mentions the use of seconded teachers and participation in teacher training.
>
> In **Hungary**, all schools are required to organise catch up classes for disadvantaged students. Schools are entitled to receive additional funding in order to fulfil this task.

([123]) Schools that participate in the TEIP programme are located in disadvantaged areas and include children 'at risk' of social exclusion. See http://www.dge.mec.pt/teip

In the Netherlands, Portugal and the United Kingdom, schools are free to decide on the specific activities to fund as they are considered to be best placed to understand the educational needs of their eligible students, though guidance may be provided.

In the **United Kingdom (England and Wales)**, the top level education authorities provide guidance documents on eligible and effective ways of using the Pupil Premium and Pupil Deprivation Grant, respectively ([124]).

In the **United Kingdom (England)**, as well as publishing their forward plans, schools are required to report on how they spent the previous year's allocation and the effect of the expenditure. In the **United Kingdom (Wales)**, schools must publish their plans and are evaluated by the inspectorate on how effective they are in improving outcomes for eligible learners.

([124]) https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit; https://beta.gov.wales/sites/default/files/publications/2018-11/what-can-the-pdg-be-used-to-support.pdf

II.11. SUPPORT FOR LOW-ACHIEVING STUDENTS

Main findings

The research literature finds that low socio-economic status (SES) students are more likely to perform poorly, but support measures can help these students improve their performance. The Eurydice survey made the following findings.

- The great majority of European education systems have support measures in place from primary education onwards.
- The same types of support tend to be offered in primary and lower secondary education.
- In upper secondary education relatively fewer types of support are offered. Moreover, the opportunity for students to move to a different programme or school more common.
- Support from psychologists or other professional specialists is the most common type of support, available at all education levels.
- About half of the education systems offer students one-to-one or small group tutorials, but only a third in primary and lower secondary and a quarter in upper secondary make it available in all schools.
- It is not common to have teachers who specialise in dealing with low-achieving students. In primary education these teachers are available in all schools in only twelve education systems. This decreases to ten in lower secondary and seven in upper secondary
- In general, top-level policies provide for the same support measures in general and vocational education and for both public and government-dependent private schools.
- According to PISA 2018 data, on average, 55 % of 15-year-old students go to a school where additional lessons of the language of instruction are provided.
- Despite the greater need of low-achieving and disadvantaged (low SES) students for additional support in the language of instruction, in most education systems they are no more likely to attend a school offering this support than other students.

Tackling low achievement is one of the goals of the 2009 EU strategic framework for European cooperation in education and training (ET 2020) ([125]). In particular, it proposes that by ‘2020, the share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15 %’ (Council of the EU, 2009, p. 7) ([126]).

A low-achieving student is understood here to be a student who is not meeting expectations in terms of their academic progress. This may be measured in relation to a quantitative benchmark (i.e., a certain grade or test score) or a qualitative one (i.e. reaching certain learning outcomes). Thus, a low-achieving student is someone who has not met one or more quantitative and/or qualitative targets. In terms of the ET 2020 benchmark mentioned above, a low-achieving a student is classified by Eurostat

([125]) Council of the European Union, 2009. Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (‘ET 2020’). Brussels, 12 May 2009. C 119 [pdf] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XG0528(01)&from=EN [Accessed at 2 March 2020].

([126]) If we take early school leaving as an extreme form of low achievement, then another ET 2020 benchmark is also relevant: ‘By 2020, the share of early leavers from education and training should be less than 10 %’ (Council of the EU, 2009, p. 7). The Council interprets ‘early leavers’ as the population aged between 18 and 24 with only lower secondary education or less and no longer in education or training (*ibid.*).

as one who is below level 2 (basic skill level) on the PISA scale (Eurostat, 2019) ([127]). Of course, top-level education authorities across Europe may have their own benchmarks.

Low-achievement and equity in education are inter-related (see Chapter I.1). It is not only a normative issue whether such an educational outcome distribution is socially acceptable or not, but also a question of unfulfilled potential. A student who performs poorly does not acquire the level of knowledge, skills and competences they might have achieved if the personal, educational or social conditions were different. The implications of low achievement are both personal (e.g. the student may drop out of school thus undermining their job prospects) and societal (e.g. there are fewer fully educated and trained individuals, thus lowering the labour market productivity) ([128]).

While low achievement in schools is a problem in itself, the uneven distribution of positive educational outcomes is not random. In short, some students are more likely to be found under-performing than others, and the family background plays an important role in this respect.

Considine and Zappala (2002a) have reviewed the available empirical studies and find that students from families of low socio-economic status (SES) are more likely to have lower levels of literacy and numeracy, to leave school early (see also Chapter II.7), or to exhibit problematic behaviour in school and to have negative attitudes towards it, to name but a few problems. In Considine and Zappala (2002b), they empirically confirm that socio-economic background variables such as parental education, ethnicity and housing type are amongst the predictors of academic performance. More recently, the OECD (2012) found that students from low socio-economic backgrounds are twice as likely to be low-achieving students, and the OECD (2016 and 2019) reiterates that high SES students score higher in the PISA tests than the low SES students (see also Chapter I.1, especially section I.2.3).

Although there is consensus in the literature that disadvantaged students perform relatively poorly compared to their more advantaged peers, what exactly the relationship is between student background and performance remains contested (Science of Learning, 2018). Jerrim et al. (2019) distinguish between three broad strands in the literature examining the parent-child relationship and educational performance. The first looks at the hereditary links between parents and their offspring. Some scholars (e.g. Ayorech et al., 2017) argue that in addition to environmental (i.e. personal and social background), genetic reasons are also important determinants of academic performance. Others, however, are critical of genetic causes. For instance, Richardson and Jones (2019) maintain that any associations are either weak, non-replicable or spurious. The second and third literature strands (the impact of non-financial resources – e.g. parenting style, reading to the child, helping with the homework), and the impact of parents' education and financial resources – important for accessing books, computers, private tutoring etc.) have already been discussed in Chapter I.1. What is useful to underline here, however, is that there is a consensus that students' socio-economic status affects their performance, although there are disagreements about which aspect of SES is comparatively more important (O'Connell, 2019).

Beyond the parental level variables, there are several factors that can influence the educational outcomes of disadvantaged students. Banerjee (2016) identified as many as 771 relevant studies, published between 2005 and 2014 in English, which obviously makes it impossible to offer a detailed, let alone exhaustive, review here ([129]). Nevertheless, a selection of policy recommendations based on

([127]) Since PISA tests refer to 15-year old students, it is clear that this definition does not apply to primary education students.

([128]) On some non-production related benefits of school education see, for instance, Lechner (2011).

([129]) A more detailed literature review can be found, for example, in Bøg et al. (2014).

empirical studies suggests that interventions at the school and class level can mitigate the effect of socio-economic background and therefore can lead to more equitable education outcomes.

Starting with the school level factors, the OECD (2012) recommends strengthening and supporting school leadership by offering coaching and support to existing school heads and by ensuring that appropriate incentives are in place to attract and retain good school heads. As explained in Chapter II.10, incentives are also important to attract and retain high quality teachers, given that high teacher turnover can be a problem in schools with a high number of disadvantaged students (see also Dietrichson et al., 2017). Furthermore, the OECD (ibid.) also recommends the promotion of a supportive school climate and a culture of high expectations, as well as student-centred instruction and the use of diagnostic and monitoring tools at the student and school level.

Similarly, a report commissioned by the UK Department for Education (Cullen et al., 2018) also argues in favour of strong school leadership. In addition, the report proposes continuous monitoring and a focus on the needs of disadvantaged students. The policy initiatives should aim at academic extension activities (e.g., providing student mentoring and course booster sessions, helping them with revision, and encouraging them to participate in school activities), cultural enrichment, personal development and the removal of some financial barriers (e.g., by covering student costs related to school trips, additional books, and university entrance exams).

In a different vein, Rattan et al. (2015) propose shifting the focus to students' psychology with the goal of promoting both an academic and a 'belonging' mind-set among disadvantaged students. The former mind-set refers to the belief that intelligence can be developed over time, while the latter refers to the belief that disadvantaged students also belong in the academic field. Likewise, Polirstok (2017) highlights the usefulness of encouraging a 'growth' mind-set, which refers to the willingness to take on academic challenges and believe in oneself. Lemberger et al. (2018), do not argue in favour of a particular student mind-set, but for the presence of counsellors in school, because students' emotional well-being can influence academic performance favourably.

Darling-Hammond (2013) is relatively critical of recommendations that discount the importance of more traditional measures, such as increased public funding and student de-segregation. As she puts it, 'without adequate and fair funding, little progress can be made in providing the educational resources necessary to address these inequalities' (Darling-Hammond, 2013, p. 91). Additional funding, she continues, allows for acquiring and retaining better qualified teachers, smaller schools, planning time and support systems for students.

The findings of Lee-St. John et al. (2018), Dietrichson et al. (2017), Santibañez and Fagioli (2016), Motiejunaite et al. (2013) and Henry et al. (2010) corroborate Darling-Hammond's thesis that student support systems can make a difference to disadvantaged students. In particular, Dietrichson et al. (2017) find statistically significant positive effects for tutoring, feedback and progress monitoring and cooperative learning. Lavy (2015) finds that the productivity of instructional time is higher among low SES students, implying that increasing instructional time to such students may improve equity. Lee-St. John et al. (2018) demonstrate that individually tailored student support reduces the probability of early school leaving. Santibañez and Fagioli (2016) show that classroom level practices can improve learning from disadvantaged students. Motiejunaite et al. (2013) argue that targeted student support in the form of specialist teachers is an important measure as is the existence of central level regulations in this regard. Finally, Henry et al. (2010) find that additional funding to disadvantaged school districts helps raising the performance not only of disadvantaged but of all students.

In summary, the existing literature proposes a number of different measures that can potentially help disadvantaged students improve their performance in school. The data we collected concentrate on support measures that target the student directly. Rather than narrowing the scope down to socio-economically disadvantaged students only, the chapter sheds light on support measures that target low-achieving students in general, which includes the disadvantaged students mostly in need of help. The first of the following sections examines the top-level policy student support measures per school education level, while the second section presents findings from the PISA 2018 survey regarding the support students actually receive.

II.11.1. Policy measures in support of low-achieving students

Literacy and numeracy are core aspects of school education and they are also tested in international student performance assessment surveys, such as PISA, PIRLS and TIMSS. For these reasons the Eurydice survey focuses on the types of support that can help students improve their performance in these two subject areas. The support measures examined are not intended to be exhaustive. They include those sanctioned by top-level authorities that focus primarily on student-centred support, which the literature has singled out as being particularly promising in terms of improving performance. These include support:

- from teachers specialised in dealing with low-achieving students in mathematics or reading;
- from psychologists, speech and language therapists, social workers or other professional specialists;
- given in one-to-one or small group tutorials.

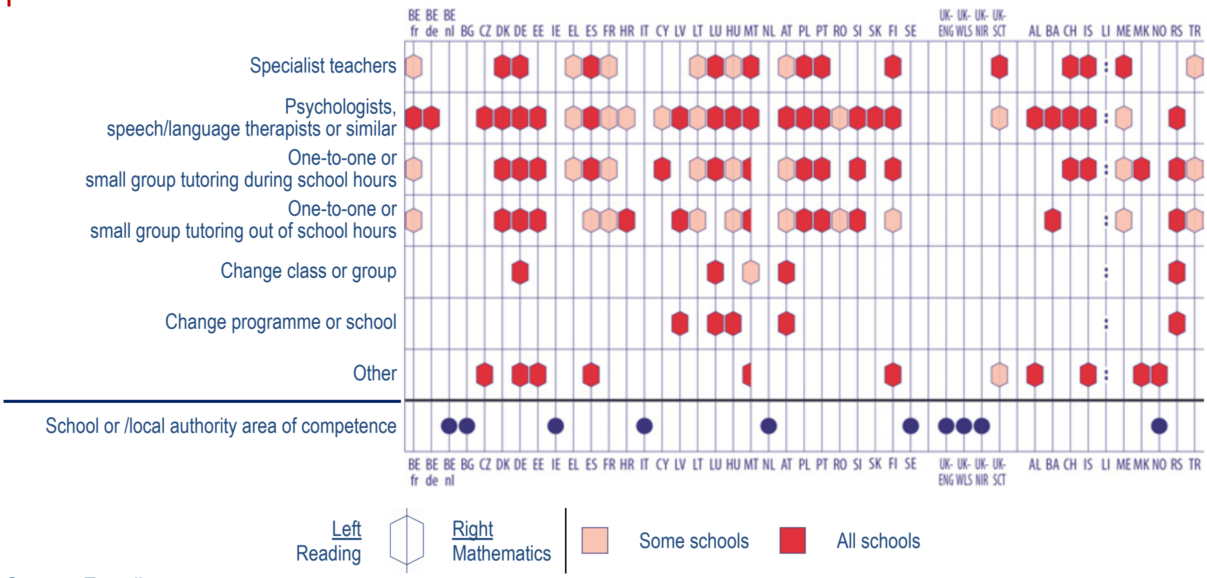
A distinction is drawn between the individual or small group tutorials being offered *during* the school day or *outside* the usual school hours. In the latter case a student stays longer in school and is likely to receive additional instead of just alternative instruction. Data is also presented on the other possible ways of dealing with low-achieving students, namely, placing them in a different group, class, programme or even school. Finally, Eurydice survey respondents were given the option to clarify whether the support is available in all schools or only in some.

Because students' cognitive abilities and school curricula change as students grow older, it had been assumed that education authorities would offer different types of student support depending on the education level, consequently, the data for each ISCED level is presented separately. However, as the results show, there is little actual variation between education levels.

Looking first at primary education, Figure II.11.1 enables the reader to see which education systems offer one, a few or multiple types of support for low-achieving primary education students. All countries (with top-level policies in this regard) make available some kind of support and the majority of them have a portfolio of measures. A handful of education systems provide only one or two types of support, especially if we take into account the support measures that are found in *all* schools. Of course, a wider range of support measures does not necessarily signify better or more effective support. Equally, fewer types of support does not necessarily signify poorer support. The important issue is whether students have access to the most appropriate form of support to help them raise their level of achievement.

Support for low-achievers in mathematics and reading literacy in primary education is most commonly offered by psychologists and/or other specialist support professionals such as social workers or speech and language therapists (see Figure II.11.1). Nearly all education systems with top-level policies offer this type of support either in all schools (Belgium – French and German-speaking Communities, Czechia, Denmark, Germany, Estonia, Spain, Latvia, , Luxembourg, Hungary, Malta, Austria, Poland, Portugal, Slovenia, Slovakia, Finland, Albania, Bosnia and Herzegovina, Switzerland, Iceland and Serbia) or in some schools only (Greece, France, Croatia, Cyprus, Lithuania, Romania, the United Kingdom – Scotland and Montenegro). The only countries where this type of support is not available are North Macedonia, Norway and Turkey. In some countries the support is contingent on meeting certain criteria. For instance, in Greece the availability of any type of support in schools depends on the presence of vulnerable groups such as refugees in the student population, and the school authorities must apply for it. In France also, support for low-achieving students is contingent on meeting certain criteria such as the level of student performance, student social characteristics and school location.

Figure II.11.1: Support for low-achieving students in mathematics and reading (ISCED 1), 2018/19



Source: Eurydice.

Country-specific notes

Spain: The Autonomous Communities of Extremadura, Aragón, Navarra, Ceuta, Cantabria and Canarias have additional measures for supporting low-achieving students. For instance, Comunidad Foral de Navarra develops co-operative learning strategies and peer support at schools.
Norway: Student support falls under the responsibility of local authorities, but central level authorities provide diagnostic tests for reading (grades 1-3) and mathematics (grades 1-3, but for grades 1 and 3 the tests are optional).

The second most common type of student support is the offer of one-to-one or small group tutoring. However, this does not mean that the majority of education systems offer it. As Figure II.11.1 shows, only about half of the education systems provide individual or small group tutoring and, moreover, only 15 offer it universally, that is, in all schools. It is noteworthy that, with the exception of Malta, tutorials are available both for reading and for mathematics ([130]). This is part of a general pattern for all types of support, including the moving of students to a different class, group, programme or even school. In other words, in all education systems, except the Maltese, wherever student support is available it is offered for both subjects.

Most education systems providing tutorials for low-achieving students appear to do so both during and outside normal school hours. However, a closer look at Figure II.11.1 will reveal that the latter option tends to be available only in some schools. There are 16 education systems in which all schools offer this type of support during school hours, as opposed to 11 that offer it out of school hours. Thus, Spain, Lithuania and Finland appear to offer both, but the tutorials out of school hours are only

([130]) Malta offers specialist teachers and other specialist support both for mathematics and reading, but it also offers support linked to literacy promotion only (e.g. reading stories to children and a programme on reading and writing activities related to football).

available in some schools. The only countries that provide personal or small group tutorials exclusively outside normal school hours are Croatia, Latvia and Bosnia and Herzegovina.

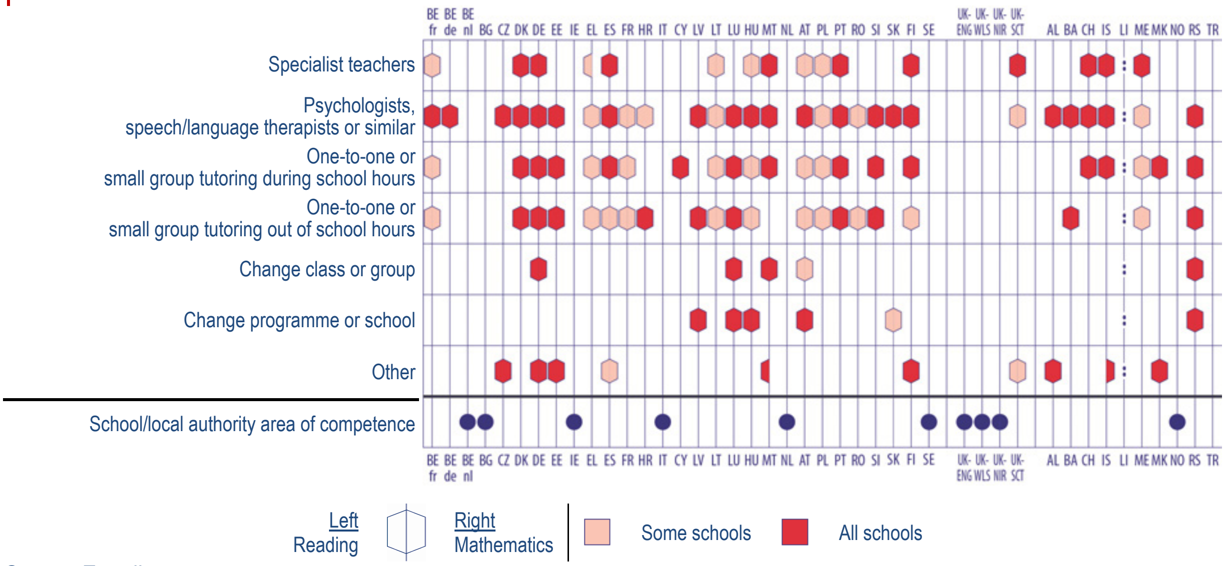
Support from teachers specialised in dealing with low-achieving students is relatively less common. Nineteen education systems in total employ such teachers, but only twelve make them available in all schools (see Figure II.11.1). The reasons why they are available only in certain schools vary. For example:

> In **Hungary**, the availability of teachers specialised in dealing with low-achieving and disadvantaged students is part of a project reaching about 300 primary and secondary level schools. Schools meeting certain criteria (scoring high a on a segregation index, having many disadvantaged or low-achieving students etc.) have to apply to participate in this project ([131]).

> In **Poland**, central-level regulations define students with special needs very broadly thus including some types of low-achieving students (e.g. because of school failure or coming from a poor household) ([132]). The provision of support for such students is decided by the school heads who are obliged to include instruction time for such support in the overall instruction time for the given school in the given school year. The school heads take into consideration all student needs related to education and development as signalled by the teachers, and as recommended by opinions and statements provided by counselling centres.

Another way of dealing with low-achieving students is to place them in a different group, class, programme or school. It is interesting to note that only very few educational systems provide this option. Specifically, Germany, Luxembourg, Austria and Serbia allow schools to move students from one group or class to another throughout primary level; Malta allows this only in some schools (see Figure II.11.1) ([133]). Some education systems go even further allowing low-achieving students to change programme or school. This is the case in Latvia, Luxembourg, Hungary, Austria and Serbia. Note that no education system offers a move within the same school or to a different school as the only means of student support.

Figure II.11.2: Support for low-achieving students in mathematics and reading (ISCED 2), 2018/19



Source: Eurydice.

([131]) https://www.oktatas.hu/kozneveles/projektek/efop315 and www.palyazat.gov.hu/efop-315-16-a-tanuli-lemorzsoldssal-veszlyeztetett-intzmnyek-tmogatsa#. The methodology of the segregation index is described in http://www.econ.core.hu/file/download/bwp/bwp1407.pdf.

([132]) www.portaloswiatowy.pl/ksztalcenie-i-wychowanie/rozporzadzenie-ministra-edukacji-narodowej-z-dnia-9-sierpnia-2017-r.-w-sprawie-zasad-organizacji-i-udzielania-pomocy-psychologicznopedagogicznej-w-publicznych-przedszkolach-szkolach-i-placowkach-dz.u.-z-2017-r.-poz.-1591-14529.html.

([133]) In Luxembourg the two year learning cycles give students the opportunity to progress at their own pace thus offering them learning opportunities that best fit their needs.

Country-specific notes

Spain: The Autonomous Communities of Extremadura, Aragón, Navarra, Ceuta, Cantabria and Canarias have additional measures to support low-achieving students. For instance, Comunidad Foral de Navarra has developed co-operative learning strategies and peer support to be used in schools. In Cantabria special reinforcement groups, ICT support and shared teaching (teacher support in the class, especially speech therapists and therapeutic pedagogy teachers) are provided in schools.
Sweden: All schools are obliged to provide support to students who need it, but the specific action plan is decided by the school head.

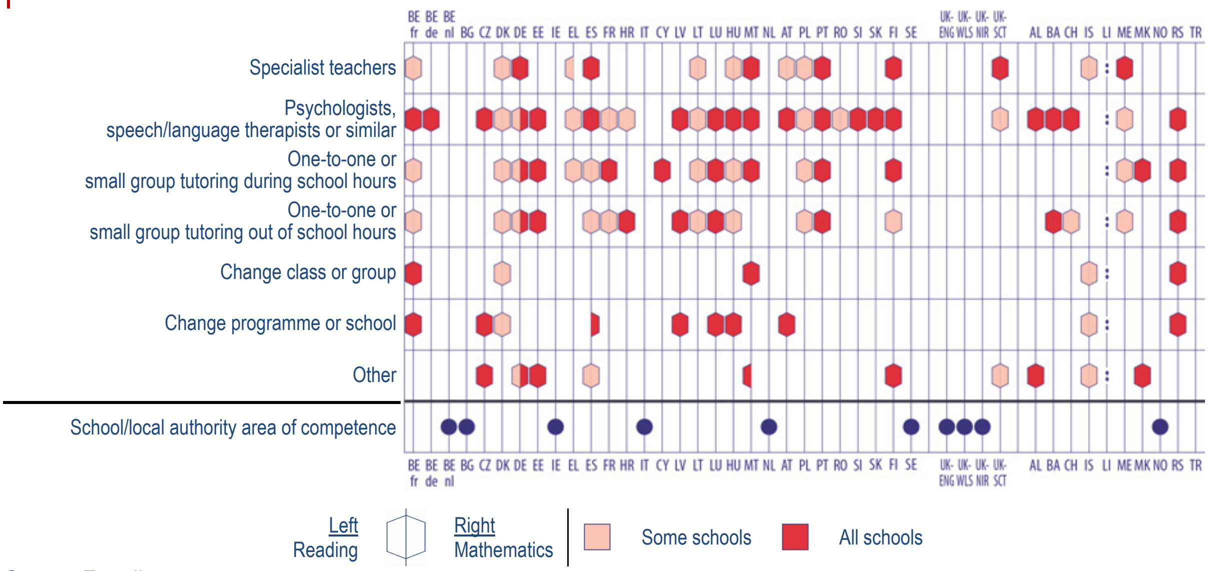
It is interesting to note that virtually all the European education systems examined here have some form of support in place for low-achieving students as early as primary level. Providing support early is important, because any gaps in students' knowledge tend to grow over time, if nothing is done to address them. What is equally interesting, is that the pattern of support hardly changes in secondary education. Figures II.11.2 and II.11.3 are nearly identical to Figure II.11.1 suggesting that the types of support available at ISCED 1 are, more or less, also provided at ISCED 2 and ISCED 3.

To help the reader identify the main differences between the support for low-achieving students offered at primary (see Figure II.11.1) and lower secondary level (see Figure II.11.2), they are summarised below.

At lower secondary level:

- Greece also provides specialist teachers for mathematics in some schools.
- France stops providing the services of specialist teachers.
- Luxembourg also stops providing specialist teachers, but does begin to offer individual or small group tutoring outside the school day.
- Malta also offers one-to-one or small group tutoring in mathematics during the school day, but it stops offering such tutoring for reading outside school hours; the opportunity of changing classes or groups becomes universal at ISCED 2.
- Austria also offers the opportunity of changing classes or groups at ISCED 2 in all schools.
- In Slovakia, students may change programme or school in certain circumstances, whereas this is not allowed in ISCED 1.

Figure II.11.3: Support for low-achieving students in mathematics and reading (ISCED 3), 2018/19



Source: Eurydice.

Country-specific notes (Figure II.11.3)

Spain: The Autonomous Communities of Extremadura, Aragón, Navarra, Ceuta and Canarias (only for Mathematics) have additional measures supporting low-achieving students. For instance, Extremadura offers a programme outside school hours that aims to increase the level of student academic achievement, as well as minimising the factors that may lead to school underachievement among disadvantaged students. It also offers another programme during school hours aimed at encouraging complementary educational actions for students with learning difficulties and underachievement associated with poor communication skills. Aragón offers a programme outside school hours to train students in study techniques.
Sweden: All schools are obliged to provide support to students who need it, but the specific action plan is decided by the school head.

In general, there appear to be fewer types of support available to low-achieving students in upper secondary education, compared to lower secondary and primary education. Taking into account only the support that is available in all schools, the provision of psychologists or other specialist professionals remains the most common type of support., The number of education systems providing the help of specialist teachers drops from twelve in ISCED 1 to ten in ISCED 2 and to(seven in ISCED 3. Similarly, the provision of one-to-one or small group tutoring during the school day shrinks from fifteen education systems in ISCED 1, to fourteen in ISCED 2 and ten in ISCED 3. Lastly, there is another important difference in upper secondary level worth highlighting: the possibility of moving to a different programme or school is more common at this level (eight systems) than at primary or lower secondary levels (five systems at both levels).

With regard to top-level regulation differences between general and vocational education schools in the support provided for low-achieving students, there are none. Low-achieving students in both types of schools are entitled to the same types of support. Similarly, there are only few differences between public and government-dependent private schools. In a handful of countries (Latvia, Poland and Slovenia), government-dependent private schools are free to make their own decisions about any support measures they wish to adopt ([134]).

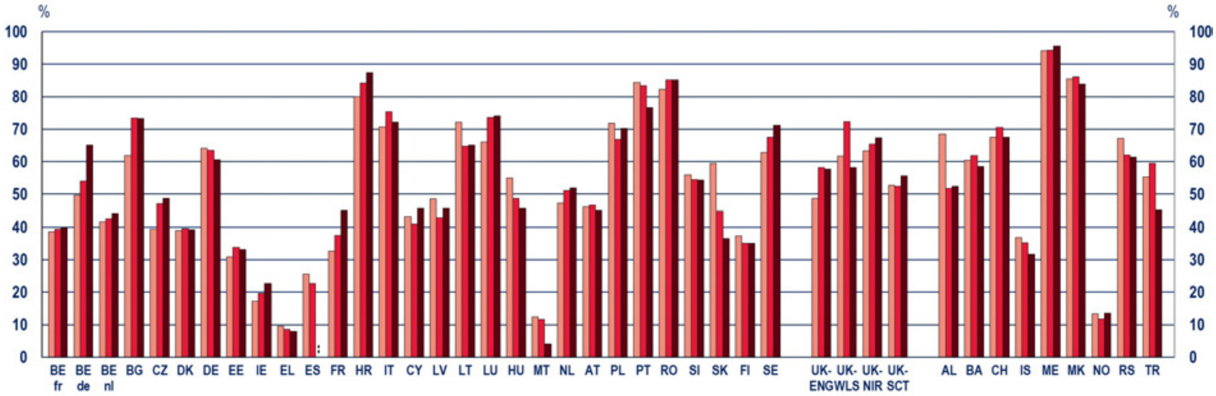
II.11.2. Actual support for low-achieving students

Thus far the analysis has concentrated on the support measures for low-achieving students as advocated by top-level authorities in regulations and recommendations. As Figures II.11.1 to II.11.3 illustrate, most education systems have some support measures in place, ranging from teachers specialised in helping low-achieving students to moving students to hopefully more suitable classes, groups or schools. The latest PISA data (OECD, 2019e) give us the opportunity to see how many students actually benefit from these support measures, although the available data are not directly comparable to the top-level policy information provided above. Thus, the PISA data presented below are not meant to corroborate the policy findings, but to enrich our picture of the support low-achieving and low socio-economic status students receive.

Figure II.11.4 below displays the percentage of 15-year-old students who attend a school offering additional language of instruction (LOI) lessons, i.e. lessons in addition to the regular curriculum and not lessons in other (foreign) languages. In combination with the findings presented in Figure II.11.5, it is possible to use this data as a proxy for the degree of student support offered, at least as far as help with learning the language of instruction is concerned.

([134]) In Spain, there are normally no differences, but some Autonomous Communities may have support programmes applying only to public schools.

Figure II.11.4: Percentage of 15-year-old students attending a school which offers additional language of instruction lessons during school hours, by socio-economic status and level of achievement, 2018



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
All	38.5	49.7	41.6	61.9	39.4	38.9	64.1	30.9	17.2	9.6	25.5	32.6	80.0	70.7	43.3	48.6	72.2	66.0	54.9	12.4	47.2
Low SES	39.4	54.0	42.7	**73.4**	47.1	39.5	63.4	33.8	19.7	8.5	**22.6**	37.4	**84.1**	**75.4**	**41.0**	**42.9**	**64.8**	**73.5**	48.7	11.7	51.1
Low-achieving	39.9	65.0	44.2	**73.3**	48.8	39.2	60.6	33.2	22.6	7.9	:	44.9	**87.4**	72.2	45.6	45.7	**65.1**	**74.2**	45.7	**4.0**	52.0

	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
All	46.1	71.9	84.3	82.3	55.9	59.4	37.3	62.8	48.7	61.7	63.3	52.7	68.5	60.5	67.5	36.8	94.1	85.4	13.3	67.1	55.3
Low SES	46.6	**66.8**	83.3	85.1	54.6	44.8	35.1	**67.4**	**58.2**	**72.2**	65.4	52.3	**51.8**	61.8	70.6	35.2	94.3	86.2	11.8	**62.0**	59.5
Low-achieving	45.0	70.3	76.6	85.2	54.4	36.5	35.0	71.2	57.7	58.2	67.3	55.7	52.4	58.6	67.5	31.7	95.6	83.9	13.5	61.4	45.2

Source: OECD, PISA 2018 database.

Explanatory notes

The data are drawn from the PISA 2018 variable 'Does your school offer additional <test language> lessons?' and are based on school heads' replies. The analysis was restricted to schools with the 'modal ISCED level' for 15-year-old students. For a fuller explanation see the explanatory notes of Figure II.6.7. The category 'All students' refers to the total percentage of students attending a school where additional language lessons are offered. The category 'Low SES students' refers to the percentage of students from low socio-economic status families (in the 25th socio-economic status percentile) who attend such schools. The category 'Low-achieving students' refers to the percentage of students in the 10th student performance percentile who attend such schools. Numerical values in bold indicates a difference between 'All' and 'low SES' or 'low-achieving' students that is statistically significant at the 5 % level.

Country-specific note

Spain: Because of missing data on the plausible values for reading, it was impossible to calculate the values for the low-achieving students. See also the country-specific note for Spain in Figure I.2.3.

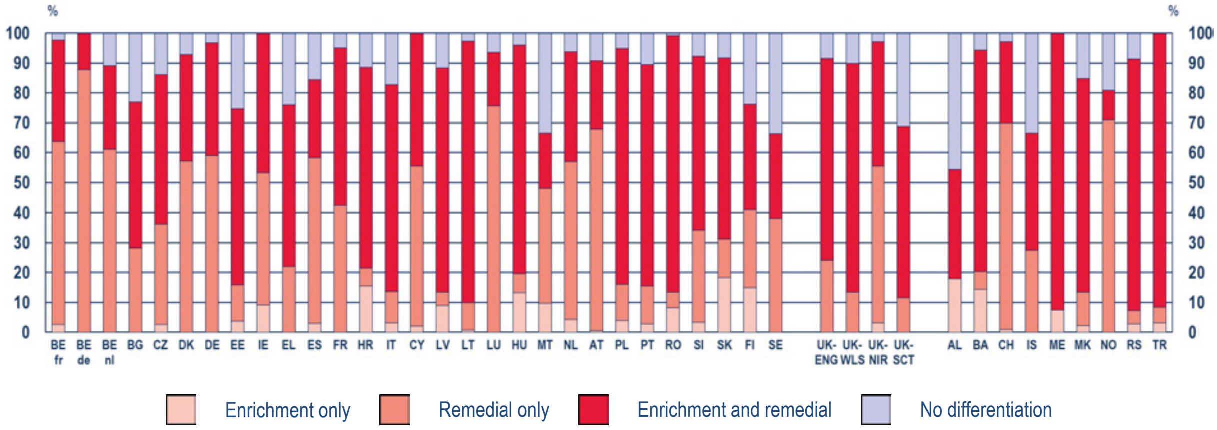
The PISA 2018 survey reveals that even though all countries offer additional LOI lessons, there is great variation between education systems in the number of students attending schools where such lessons are provided. In some education systems only a small minority of secondary level students attend such schools, whereas in others nearly all do. Figure II.11.4 shows that in Greece, Malta and Norway only about 10 % of secondary students go to schools which provide additional language instruction. In contrast, in Croatia, Portugal, Romania, Montenegro and North Macedonia the rate is 80 % or higher. With the remaining education systems falling between the two extremes, the average rate is 55 % ([135]). In other words, on average, one in two 15-year-old European students goes to a school which provides extra LOI lessons.

Figure II.11.5 illustrates that in most cases where additional LOI is provided, the lessons are intended either for remedial purposes only or there are both remedial and enrichment classes. On average, just 3 % of 15-year-old students go to secondary schools where the additional LOI offer is intended for enrichment purposes solely. As many as 27 % of students go to schools where the supplementary

([135]) All average values in this section refer to the median, unless stated otherwise.

language instruction is intended exclusively as support to low-achievers. In fourteen education systems (Belgium, Denmark, Germany, Spain, Cyprus, Luxembourg, Netherlands, Austria, Poland, the United Kingdom – Scotland, Iceland and Serbia) more than half of 15-year olds go to such schools. However, in most education systems where additional LOI is offered, there are both remedial and enrichment language lessons. More than half (median equals 51 %) of the 15-year-old students attend such a school. More precisely, in nearly half education systems of Europe where additional language classes are offered, more than 50 % of 15-year olds go to schools offering both remedial and enrichment classes. In some cases, the student rate exceeds 70 % (Latvia, Lithuania, Hungary, Portugal, Romania, Slovenia, the United Kingdom – Northern Ireland, Switzerland, North Macedonia, Norway and Turkey). Finally, in all but four education systems (Belgium – German-speaking Community, Ireland, Cyprus and North Macedonia), there are schools where no distinction is made between enrichment and remedial language classes, but only a minority (9 %, on average) of 15-year-old students attend them ([136]).

Figure II.11.5: Purposes of additional language of instruction lessons (where provided), distribution of 15-year-old student population (%), 2018



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
Enrichment only	2.5	0.0	0.0	0.0	2.6	0.0	0.0	3.7	9.2	0.0	3.0	0.0	15.5	3.1	2.0	9.0	0.6	0.0	13.2	9.7	4.3
Remedial only	61.2	87.9	61.1	28.1	33.6	57.1	58.9	12.1	44.1	22.0	55.2	42.7	5.9	10.5	53.4	4.4	9.3	75.7	6.3	38.3	52.7
Enrichment and remedial	33.9	12.1	28.1	48.9	49.9	35.6	37.9	58.8	46.7	54.0	26.1	52.4	67.2	69.1	44.6	74.9	87.4	17.9	76.4	18.5	36.7
No differentiation	2.4	0.0	10.8	23.0	13.9	7.2	3.2	25.3	0.0	24.0	15.7	5.0	11.4	17.3	0.0	11.7	2.7	6.4	4.1	33.6	6.3

	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
Enrichment only	0.6	4.0	2.7	8.1	3.3	18.3	14.9	0.0	0.0	0.0	3.2	0.0	17.9	14.4	0.9	0.0	7.4	2.3	0.0	2.7	3.2
Remedial only	67.1	12.2	12.8	5.4	30.9	12.8	26.1	38.1	24.0	13.3	52.3	11.5	0.0	6.0	68.9	27.5	0.0	11.1	71.0	4.6	5.3
Enrichment and remedial	22.9	78.7	73.8	85.6	58.0	60.5	35.2	28.2	67.6	76.4	41.6	57.3	36.4	73.8	27.4	39.0	92.6	71.3	10.0	84.0	91.5
No differentiation	9.3	5.2	10.6	0.8	7.7	8.4	23.8	33.7	8.4	10.2	3.0	31.2	45.7	5.7	2.9	33.6	0.0	15.3	19.1	8.7	0

Source: OECD, PISA 2018 database.

Explanatory notes

The data are drawn from the PISA 2018 variable 'What is the purpose of these additional <test language> lessons?' and are based on school heads' replies. The percentages apply only to students attending schools where additional language instruction is provided and should, therefore, be interpreted in combination with the data of Figure II.11.4. Thus the 57 % in the case of Denmark (remedial only), for example, means that of the 39 % of students in Denmark going to schools where additional language instruction is provided (see Figure II.11.4), 57 % of them go to 'Remedial only' classes. The data reported in the table have been rounded to the closest integer; therefore, they do not always add up to 100 %.

([136]) Five education systems if one takes into account also Slovenia where only 0.8 % of students go to schools where there is no differentiation in the purpose of additional LOI lessons.

As the term suggests, remedial classes are intended to help students facing learning difficulties and/or performing relatively poorly. However, the fact that a school may be offering additional LOI lessons for remedial purposes does not automatically mean that low-achieving or disadvantaged (low SES) students (who are more likely to underperform and therefore in need of support) actually benefit from any remedial classes, unless attendance is obligatory. To estimate to what extent low SES and low-achieving students are likely to benefit from additional LOI lessons, Figure II.11.4 presents also the percentages of these student categories attending schools where such lessons are offered ([137]).

A quick look at Figure II.11.4, reveals that the three histogram bars per education system are roughly of equal height in most cases. This implies that given the sample size and the standard error, any differences between the student grouping percentages tend to be too small to qualify as statistically significant. In other words, in the majority of education systems roughly the same percentage of low SES and low-achieving students attend schools where additional LOI is provided when compared to the overall student population. However, there are several exceptions.

Starting with the low SES students, in fourteen education systems there are differences which are statistically significant. More specifically, in Bulgaria, Croatia, Italy, Luxembourg, Sweden, the United Kingdom – England and Wales, low SES students are relatively more likely to attend schools offering additional LOI lessons. The opposite is true in Spain, Cyprus, Latvia, Lithuania, Poland, Albania and Serbia where low SES are comparatively less likely to find themselves in such schools.

According to our analysis, there are relatively fewer cases where low-achieving 15-year-old students really stand out compared to all 15-year-old students. As the data-table of Figure II.11.4 shows, the differences are statistically significant in only seven education systems. In Bulgaria, France, Croatia, Luxembourg and Sweden, low-achieving students are more likely than their peers to have access to additional LOI lessons. In contrast, in Lithuania and in Malta, they are less likely to go to schools offering extra LOI lessons.

From an equity point of view, the ideal scenario would be one where all disadvantaged and all low-achieving students have access to additional LOI support. This could help these students close the performance gap in reading and catch up with the other students. However, as Figure II.11.4 illustrates, in most education systems only a fraction of low SES or low-achieving students can benefit from extra language lessons. The median rate for low SES students is 59 % and for low-achievers it is 45 %. Nevertheless, in a few education systems, namely, Bulgaria, Croatia, Italy, Luxembourg, Portugal, Romania, Montenegro and North Macedonia, more than 70 % of low SES and low-achieving 15-year-old students go to a school where additional LOI learning is a possibility ([138]).

In conclusion, based on the latest PISA data on the availability of additional language of instruction lessons, not all low-achieving or low socio-economic status students have access to schools providing this form of support. The access rates for low-achieving and low SES students tend to be the same as for all students in general. This implies that if more schools in an education system offer help with language learning, then more low-achieving and disadvantaged students too will have access to this type of support. However, this also means that although low-achieving and disadvantaged students have a greater need to attend schools where language support is available, they are not guided towards such schools. Regardless of whether this would be feasible, the current data pattern does suggest that making language support more widely available would allow also low-achieving and low SES students to benefit.

([137]) Low SES students are defined here as those belonging to the 25th SES percentile, and low-performing students are those belonging to the 10th percentile in terms of reading literacy.

([138]) In the case of low SES students the list extends to the United Kingdom – Wales and Switzerland. In the case of low-achieving students, the list includes also Sweden.

II.12. OPPORTUNITY TO LEARN

Main findings

The opportunity to learn is essential if students are to achieve their potential. The amount of quality learning time provided is a key element and has been shown to correlate well with student outcomes. A higher annual instruction time and more years of schooling contribute to improving student performance and narrowing the achievement gap between different socio-economic groups. More instruction time has a particularly positive effect on the best students in disadvantaged schools. In addition, quality learning support and additional activities in schools can make a significant contribution to improving educational outcomes for low-achievers and can compensate for the lack of resources in families from low socio-economic backgrounds.

- There are significant variations in the length of compulsory education and the amount of instruction time for the compulsory curriculum across Europe. The length of compulsory education ranges between eight and twelve years, and the minimum instruction time devoted to the compulsory curriculum is between 4 541 and 11 340 hours.
- Variations in the length of summer holidays are also large, and the difference between the countries with the shortest and the longest summer holiday can amount to 57 days.
- Top-level authorities in only about half of the education systems advocate free or subsidised additional activities in schools outside the normal school day, despite the potential of such measures. In the remaining systems, decisions on the provision and funding of such activities remains the responsibility of local authorities or schools.
- Similarly, top-level authorities in only in a third of the education systems advocate that schools offer some kinds of activity to students during the long school summer holiday. In most cases, such summer activities are remedial classes for students who risk repeating a grade.
- Overall, the amount of formal instruction time over the school year and the provision of additional activities outside the normal school day or during the long summer holiday do not seem to be related – i.e. systems with less instruction time or longer summer holidays do not seem to advocate for more additional (before/after school or summer) activities in schools.
- Few countries report having top-level guidance or an educational framework for activities out of normal school hours, or the qualified staff to run them. Furthermore, only a small number of systems monitor the effectiveness of these activities in terms of improving educational outcomes generally or for students from low socio-economic backgrounds specifically.

Opportunity to learn generally refers to the 'inputs and processes within a school context necessary for producing student achievement of intended outcomes' (Elliott and Bartlette, 2016.). This chapter focuses on one important element – the time available for learning activities (Schmidt, Zoido and Cogan, 2014; Cogan and Schmidt, 2015). The instruction time during the normal school day is, of course, of paramount importance, as it covers the time that all public schools must spend on teaching the compulsory curriculum as well as non-compulsory subjects (European Commission/EACEA/ Eurydice, 2019d). However, many schools also offer additional or 'extended' learning time (Scheerens, 2014), outside the normal school day, where learning may be structured or unstructured ([139]).

([139]) Structured learning outside the formal education systems is categorized as 'non-formal learning.' While non-structured learning is 'informal learning'.

Structured activities may include, for example, help with homework, additional instruction in certain subjects or recreational activities.

Schmidt (2015) finds that the amount of learning time significantly correlates with student performance. There is a positive relationship between students' socio-economic status and their opportunity to learn – students from higher socio-economic backgrounds have more opportunity to learn than students from lower socio-economic backgrounds. In addition, about a third of the relationship between socio-economic status and educational performance is associated with the opportunity to learn. Researchers also warn that physical school closures during the COVID-19 crisis will potentially result in a larger learning loss for 'students whose families are less able to support learning' (Hanushek and Wößmann, 2020) outside school – these are typically students from low-socio-economic backgrounds.

Extended instruction time is considered to positively correlate with average educational performance as well as to reducing educational inequalities. Evidence shows that both a greater amount of annual instruction time and longer years of schooling contribute to improving student performance (Gettinger, 1985; Lavy, 2010; Hübner and Marcus, 2017) and results in smaller achievement gaps between different socio-economic groups (Wößmann, 2016). More instruction time has a particularly positive effect on the best students in disadvantaged schools (Battistin and Meroni, 2016).

However, some researchers find that increased instruction time has a positive impact on learning only if it is accompanied by a quality classroom environment, including a positive classroom climate without disciplinary problems (Rivkin and Schiman, 2015), and quality teaching content. Increased instruction time also cannot be compromised by a shorter total period of learning time; in other words, reducing the number of years while providing the same amount of instruction and study content may lead to a worsening in test results (Hübner and Marcus, 2017).

While the positive impact of increased instruction time is acknowledged, empirical data shows within-country differences in the amount of student learning time. Such differences appear in in-school learning time between general and vocationally oriented schools, as well as between schools in urban and rural settlements. In-school learning time is usually higher in general schools (even after adjusting for socio-economic background of students and schools), and urban schools (OECD, 2011b). This suggests that the type of school (see Chapter II.3), the choice of school (see Chapter II.4) and the assignment to a track or pathway (see Chapter II.6) may also have an impact on the opportunity to learn.

When looking at the relationship between instruction time and other system level factors, research evidence suggests that 'the productivity of instructional time is higher in countries which implement school accountability measures or that give schools autonomy in budgetary decisions and in hiring/firing teachers' (Lavy, 2010).

'All-day' schooling (or an extended school day) aims to provide an enriching learning environment to all students during a full day or longer school day whereas in 'half-day' schools, access to learning activities out of school hours often depends on family circumstances and resources. The effects of all-day schooling on education inequalities vary, however, in different education systems (Schlicht et al., 2010). The literature is not sufficiently robust regarding the actual impact of additional activities or homework support outside the normal school day mainly due to the population size covered, the volume and variety of activities, and differences in their quality (Scheerens, 2014).

In contrast to the positive effects of extended study time, long school holidays (Cooper et al., 1996; Kim, 2001) and extensive private tutoring ('shadow education') (Bray, 2011; Bukowski, 2017) may maintain or exacerbate educational inequalities – as parental background and private resources largely influence who can benefit from the additional quality time.

For these reasons, this chapter looks at some key national policies related to the opportunity to learn. These are:

- the length of compulsory education and the taught time at school;
- the provision of additional free or subsidised activities provided by schools before or after the formal school day;
- the length of summer holidays and any provision made by schools for learning during these holidays.

II.12.1. Taught time for the compulsory curriculum

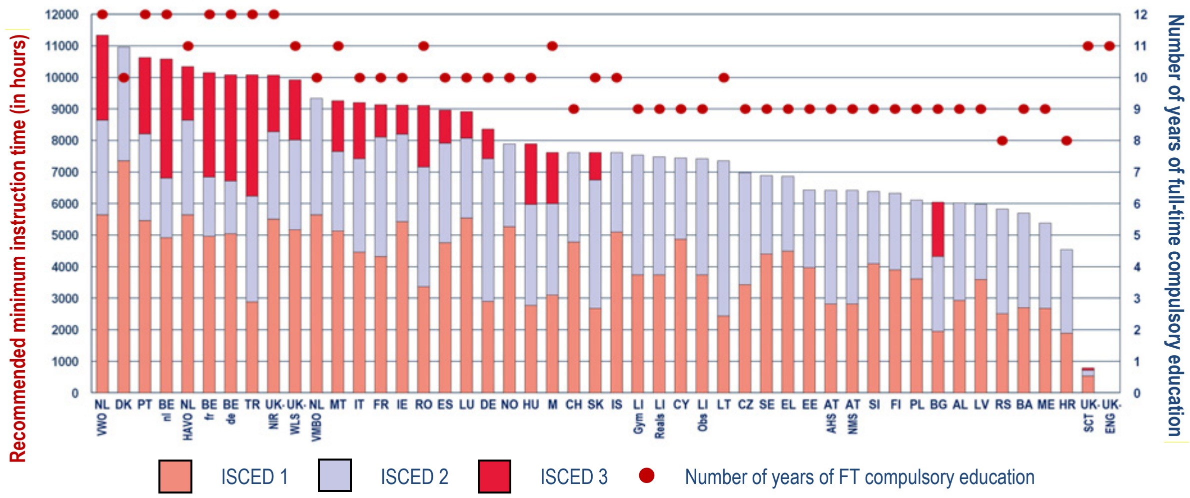
This section reviews the opportunity to learn in school during compulsory education by examining the amount of time top-level authorities allocate for teaching the compulsory curriculum. Figure II.12.1 shows the length of compulsory education and the recommended minimum instruction or taught time for the compulsory curriculum as specified in top-level regulations or policy documents in European education systems. This corresponds to the minimum instruction time students normally receive in general education ([140]) (European Commission/EACEA/Eurydice, 2019d).

The length of compulsory general education as well as the total taught time provided to students varies greatly across Europe. The number of years students are obliged to attend school ranges between eight and twelve years (see Figure II.12.1) Compulsory general education lasts most commonly nine or ten years in Europe. In Belgium, Portugal, the United Kingdom (Northern Ireland), Turkey and for a specific programme in the Netherlands, compulsory education is 12 years. The shortest time students must participate in education is eight years in Croatia and Serbia.

The total instruction time usually positively relates with the number of grades (number of years) of compulsory education. The longer compulsory education is, the more instruction students receive. However, when comparing education systems with the same number of years in compulsory education, the differences between them in the amount of instruction time are striking. For example, compulsory education lasts for eight years in both Croatia and Serbia; however, there is more than 1000 hours of recommended minimum instruction time difference between them. Similarly, there is a great difference in the amount of instruction time between the countries with 12 years of compulsory education. The largest difference can be observed in the group of countries with ten years of compulsory education, Denmark being an outlier with almost 11 000 hours of total instruction time.

([140]) Some countries, such as the Netherlands, Austria and Liechtenstein allocate a minimum instruction time for some of their vocational programmes. However, no comparative European overview of recommended minimum instruction time exists for the compulsory curriculum in vocational education.

Figure II.12.1: Number of years of full-time compulsory education (in primary and secondary education) and total recommended instruction time (in hours) for the compulsory curriculum, 2018/19 ([141])



Minimum instruction time in hours for the compulsory curriculum for each education level, 2018/19

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV
ISCED 1	4 956	5 040	4 916	1 949	3 434	7 360	2 896	3 964	5 430	4 488	4 750	4 320	1 890	4 455	4 872	3 589
ISCED 24	1 888	1 680	1 890	2 367	3 550	3 600	4 526	2 468	2 772	2 374	3 161	3 784	2 651	2 970	2 570	2 381
ISCED 34	3 304	3 360	3 781	1 728			937		924		1 054	1 036		1 782		
	LT	**LU**	**HU**	**MT**	**NL**			**AT**		**PL**	**PT**	**RO**	**SI**	**SK**	**FI**	**SE**
ISCED 1	2 441	5 544	2 769	5 128	5 640			2 820		3 619	5 460	3 360	4 091	2 678	3 905	4 400
					HAVO	VMBO	VWO	AHS	NMS							
ISCED 24	4 915	2 535	3 204	2 527	3 000	3 700	3 000	3 600	3 600	2 488	2 754	3 800	2 298	4 073	2 423	2 490
ISCED 34		845	1 917	1 604	1 700		2 700				2 414	1 949		865		
	UK-ENG	**UK-WLS**	**UK-NIR**	**UK-SCT**	**AL**	**BA**	**CH**	**IS**	**LI** ([142])			**ME**	**MK**	**NO**	**RS**	**TR**
ISCED 1	⊗	5 168	5 510	532	2 927	2 700	4 782	5 100	3 740			2 682	3 096	5 272	2 511	2 880
									Gym	Obs	Reals					
ISCED 24	⊗	2 850	2 765	190	3 098	3 008	2 836	2 516	3 795	3 686	3 740	2 698	2 904	2 622	3 314	3 360
ISCED 34	⊗	1 900	1 799	63									1 620			3 840

⊗ = No minimum instruction time defined

Source: Eurydice.

Country-specific notes

Germany: The data represent the weighted average instruction time for the compulsory core curriculum subjects, calculated by the Secretariat of the Ministers of Education and Cultural Affairs of the *Länder* on the basis of the number of students enrolled in the different types of school (reference year 2017/18).

Spain: The data on intended instruction time are based on national and regional regulations on the curriculum and school calendars (reference year 2018/19). To calculate the weighted averages, statistics were used on the number of students per grade and Autonomous Community, as reported by the statistics office of the Ministry of Education and Vocational Training (reference year 2016/17).

Austria: Data for grade 9 are not available although this grade is part of full-time compulsory general education.

United Kingdom (ENG): There is no prescribed minimum time for individual subjects or in total. However, all schools must provide sufficient lesson time to deliver a broad and balanced curriculum that includes all statutory requirements.

United Kingdom (SCT): The Scottish Curriculum for Excellence does not specify any instruction time for the curriculum areas that must be taught, except a minimum of 2 hours per week for physical education.

Switzerland: With the exception of a minimum number of lessons for physical education, there is no standard curriculum and no standard instruction time defined at national level. Curricula and the intended instruction time are determined by the 26 Cantons. The figures represent weighted averages of the cantonal requirements for each grade and the total of instruction time as given by the cantonal timetables (*Stundentafeln/grilles horaires*).

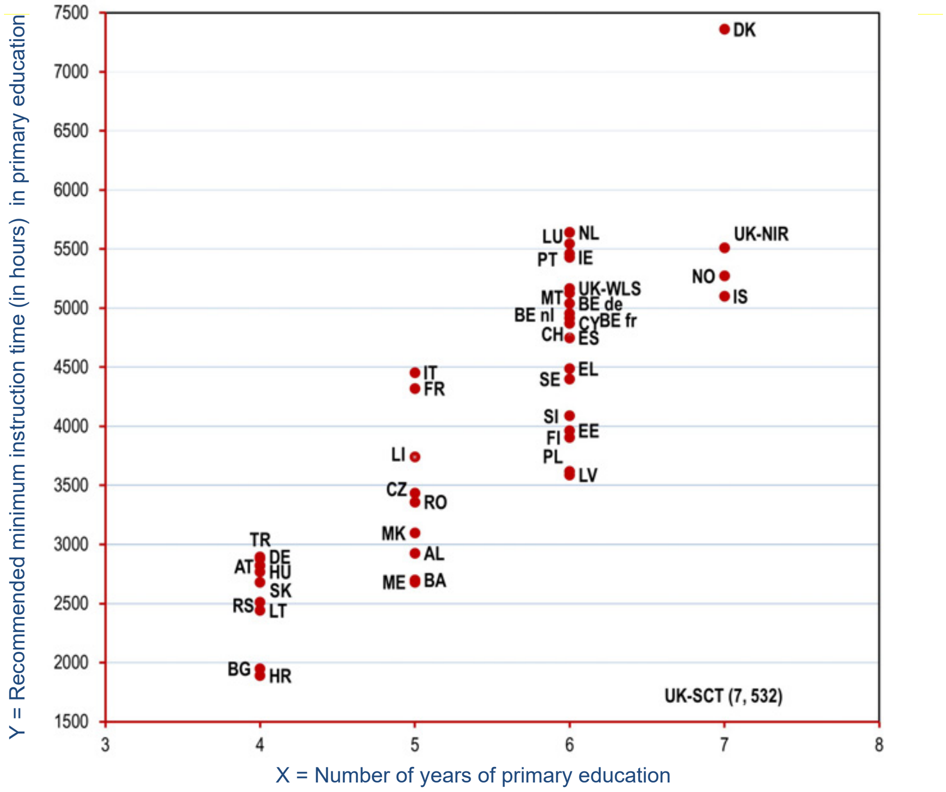
North Macedonia: The length of compulsory education is not defined by the education authorities but all students must successfully complete secondary education. The general programme at ISCED level 34 (the Gymnasium) spans four years but the vocational programmes may cover fewer years.

([141]) This figure was first published in European Commission/EACEA/Eurydice, 2019d, see Figure 1.

([142]) Liechtenstein does not participate in this report. The national information in this chapter is derived from European Commission/EACEA/Eurydice, 2019d.

As presented in Chapters II.3 and II.6, different types of schools and educational pathways are offered from lower secondary education onwards in the majority of countries. This may also imply that while most students would receive the amount of instruction time presented in Figure II.12.1; some students in other general or vocational programmes may have more or fewer taught hours. For this reason, Figure II.12.2 focusses on instruction time in primary education, when all students typically follow the same curriculum and receive the same amount of instruction in public and government-dependent private education. Primary education ranges from four years in Bulgaria, Germany, Croatia, Lithuania, Hungary Austria, and Slovakia to seven years in Denmark, the United Kingdom (Northern Ireland and Scotland), Iceland and Norway. The recommended minimum instruction time for the compulsory curriculum in primary education also greatly varies even between countries with the same number of school years. The difference can be significant. For example, the difference between the total minimum recommended instruction time for six years of primary education in Latvia and in the Netherlands amounts to 2 000 hours, which is higher than the total amount of minimum recommended instruction time for primary education in Bulgaria and in Croatia.

Figure II.12.2: Number of years of full-time compulsory education and recommended instruction time (in hours) for the compulsory curriculum in primary education, ISCED 1, 2018/19



Source: Eurydice.

Explanatory notes

This figure is based on data first published in European Commission/EACEA/Eurydice, 2019d. Data on the recommended minimum instruction time in primary education is presented above in the table related to Figure II.12.1. Data on the length of primary education is based on Figure 3: Recommended minimum instruction time for the compulsory curriculum, in hours, per notional year and by ISCED level, 2018/19 in European Commission/EACEA/Eurydice, 2019d.

It is also interesting to note that in education systems which assign students to different tracks or pathways early in lower secondary education (see Figures II.5.5 and II.6.1), the length of primary education and the amount of instruction differ significantly between countries, signaling that, in these systems, the opportunity for students to learn already differs before they enter a differentiated pathway. For example, in Germany, students are assigned to different educational tracks based on their academic performance at the age of ten after having completed four years of primary with 2 896 hours of minimum recommended instruction time devoted to the compulsory curriculum. In contrast, in the Netherlands, students are assigned to different pathways at the age of 12 after having completed six years of primary education with 5 640 hours of minimum recommended taught time.

II.12.2. Additional school activities outside the formal school day

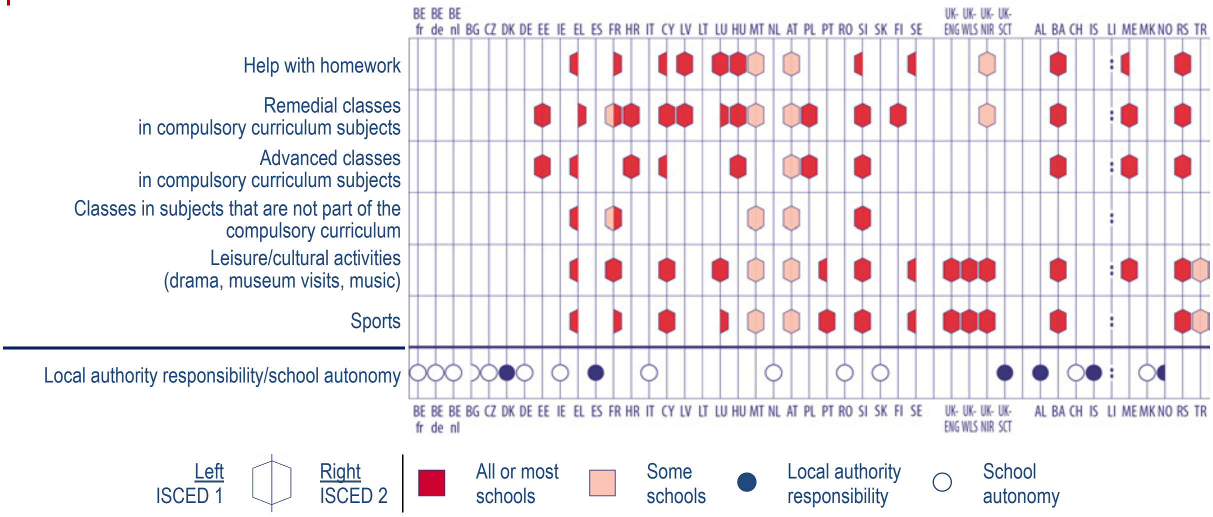
Empirical data shows that socio-economic background has a strong effect on students' educational performance. The higher parents' educational attainment, cultural and social capital, the better students tend to perform at school. Higher socio-economic families can also allocate more time and resources to provide quality learning time to their children outside the school day (Field, Kuczera and Pont, 2007). In contrast, disadvantaged students may not have parents or other adults around them with sufficient resources, whether in terms of time, attention, educational level or finance to support their learning after school. This, in effect, increases inequalities in terms of the opportunity to learn and educational outcomes. Private tutoring may further increase the gap in learning opportunities and learning support among the advantaged and the disadvantaged, as socio-economically disadvantaged students may not be able to afford fee-paying learning support (Bray, 2011). As pointed out earlier, the inequalities existing between students from different socio-economic backgrounds in the opportunity to learn may be further accentuated by long-term physical school closures. Disadvantaged students' families are less able to support home learning or compensate for any learning losses (Hanushek and Wößmann, 2020).

In order to provide more learning opportunities for all students, top-level authorities may offer structured learning activities to students outside normal school hours. These additional activities support the social, emotional and academic development of students (Stechner and Maschke, 2013). They may be provided through 'all-day schools', 'after-school clubs' or 'extended learning' activities. Some after-school provision is intended to provide childcare while parents work, but this is outside the scope of this report. The more young students participate in after-school activities, the better their chance of educational success. Free of charge activities can especially help socio-economically disadvantaged students to perform better (Stechner and Maschke, 2013).

While there is broad agreement on the usefulness of additional learning activities in terms of learning outcomes and increasing equity, several researchers point to challenges in organising them, and question their effectiveness. For example, challenges arise in linking learning support to the school curriculum, providing sufficient qualified staff, ensuring communication between teaching staff working during the normal school day and after-school staff, and a lack of systematic monitoring and evaluation (Martins et al., 2015).

Figure II.12.3 shows the types of additional activity offered in schools out of normal school hours in primary and lower secondary education. Only the activities required or recommended by top-level authorities are included. Furthermore, as the interest here is in additional activities that help to redress educational inequalities, only those that are publicly subsidised or offered free of charge to students (thus, not imposing a significant financial burden on families) are taken into consideration.

Figure II.12.3: Free or subsidised additional activites provided by schools outside the normal school day, according to top-level regulations or recommendations (ISCED 1-2), 2018/19



Source: Eurydice.

Explanatory notes

The figure presents free or subsidised additional activities that top-level authorities require or recommend schools to offer before or after the formal schools day. Activities which are not subsidised or for which schools can charge fees are outside the scope of this figure.

Country-specific notes

Spain: Local authorities and schools decide together on the additional activities to be provided by the school out of normal hours.
Lithuania: Schools are in general recommended to provide additional activities according to need, but they may charge fees for these activities.
Malta: The additional activities are offered in some schools, but all students can participate.

Figure II.12.3 shows that in slightly more than half of the education systems in Europe, top-level authorities advocate that schools in primary and lower secondary education offer free or subsidised additional activities out of normal school hours. In most of these education systems, the requirements or recommendations apply to all or most schools. There are only few systems where they all apply to some schools only (Malta, Austria and Turkey) or where certain activities apply only to some schools (France and the United Kingdom – Northern Ireland). Overall, top-level authorities across Europe advocate additional activities slightly more often at primary level than at lower secondary level. However, significantly fewer (eight) education systems support these activities at upper secondary level.

Remedial classes in compulsory subjects are the most common activity. These are required or recommended in schools in 15 systems in both primary and lower secondary education, but only at lower secondary level in Greece and Luxembourg. Leisure/cultural activities and sports are also promoted in about a third of the education systems. Other activities, such as help with homework, advanced level classes in compulsory subjects and classes in subjects not covered by the compulsory curriculum are less common.

There are policy differences between education systems in terms of the types of activities that should be provided as well as in the way they are delivered. In some systems, for example in Slovenia, schools should provide different types of free or subsidised activities to meet the needs of their students, depending on their interests or level of achievement. Often schools can choose which activities to provide and they use public funding to cover the costs of these activities. In a few countries, a range of free or subsidised provision is 'outsourced' to professionals not working in the school, but cooperating with the school. For example, this is the case in Luxembourg, Malta, the United Kingdom – Scotland and Iceland.

In **Luxembourg**, the municipalities are responsible for providing additional activities after school at primary education level. The municipality itself or private non-profit non-formal education providers run the activities, which are funded by the State, and parents have to pay a small contribution depending on their income. The ministry responsible for education has established a quality assurance system for non-formal education, which comprises an educational framework, a network of regional advisors and continuing professional development for staff.

In **Iceland**, there is a legal framework for 'leisure-time' centres in compulsory schools, which makes it obligatory for municipalities to offer after school activities in 'after school centres' for at least students in grades 1 to 4. Municipalities are also responsible for the training of staff. Fees may be charged.

Some systems provide free or subsidised activities that target specific learners, for example, low-achievers or disadvantaged students.

In **France**, primary schools in disadvantaged areas, the *'zones d'education prioritaire'*, are required to provide additional catch-up learning and activities of interest. In addition, *'Le plan mercredi'*, offers all students in primary and lower secondary education the opportunity to benefit from leisure activities on Wednesday afternoons, when there is no formal schooling.

In **Malta,** primary school students having difficulties in reading and writing are offered literacy tuition in small groups outside the normal school day, two or three times a week. Schools need to apply for this support from top-level authorities.

In the **United Kingdom (Northern Ireland),** under the 'extended school programme', funding is provided to schools in the most disadvantaged areas to offer students a wide range of activities outside the school day.

The additional activities described above do not necessarily take place every day and the hours offered may vary. However, some education systems operate 'all-day schools'. Six educational systems report having this type of school (Germany, Cyprus, Greece, Hungary, Austria and Portugal). 'All-day schools' are, however, not a uniform concept across these countries. Usually the term is used to distinguish between 'half-day schools', which provide four to six hours of instruction, from schools with an extended programme. All six systems have all-day schools at primary level, and in Germany, Hungary and Austria, they are also available at lower secondary level. However, all-day schools are not necessarily mainstreamed in the education system, i.e. not all schools at a specific educational level offer an extended school programme. In Greece and Portugal, all-day schools are mainstreamed but in Germany, Cyprus, Austria and Hungary they are not.

In **Hungary**, single structure primary and lower secondary schools provide instruction until 16.00, compulsory lessons ending at 14.00. At the request of parents, the school head may excuse students from the activities after 14.00. Some schools work as all-day schools, which distribute the compulsory lessons throughout the day, until 16.00.

In **Portugal**, the school day at primary level (grades 1 to 4) is extended to eight hours ('full day school'). This school programme favours physical and sports education, arts education and community engagement activities. Schools are obliged to offer 'full day school' but attendance is not compulsory.

Research points to the importance of ensuring the quality of the additional activities provided in schools outside normal hours. In this context, top-level guidance, a pedagogical framework for the content of additional activities, as well as the monitoring of the effectiveness and quality of these activities are considered to be particularly effective. Czechia, Luxembourg and Finland provide this kind of pedagogical framework, while in the United Kingdom – Scotland, it is under development.

In **Czechia**, '*školní družina*', ŠD (after-school centre) in primary education, and '*školní klub*', ŠK (school club) in lower secondary education, are obliged to have their own educational programme, which should be in line with the Framework Education Programme for basic education.

In **Finland**, additional morning and afternoon activities must follow a curriculum drawn up by the Finnish National Agency for Education.

Luxembourg and the United Kingdom – England, Wales and Northern Ireland, also systematically monitor the quality of these activities.

In the **United Kingdom (Wales)**, Estyn, the inspectorate, monitors how effectively schools use the Pupil Development Grant, which is provided by top-level authorities to schools to support them in helping overcome additional barriers faced by poorer students up to age 15, including via out-of-school activities.

It should be noted that in many education systems, even in those where top-level authorities do not explicitly require the provision of specific activities, the general rule is that schools cannot charge fees for any activity that is provided within the framework of the compulsory curriculum – whether it is provided during or outside the normal school day. However, they can charge fees for optional extra activities.

II.12.3. Long school holidays and additional activities in schools

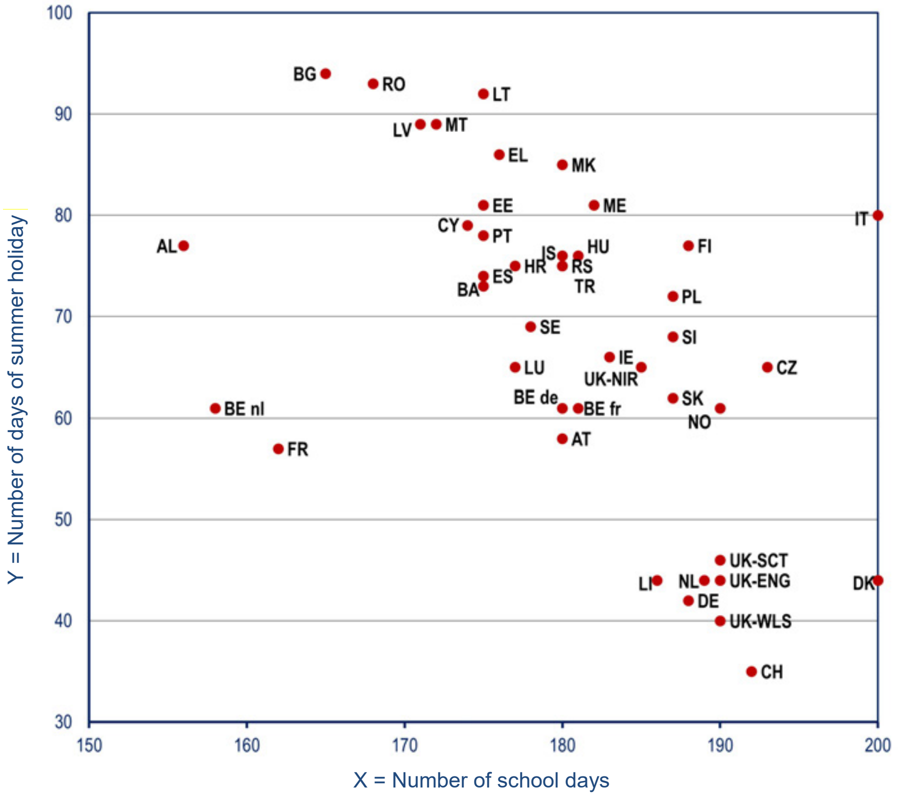
Empirical evidence has pointed to the negative effect of long school holidays on disadvantaged students' learning, and on the propensity of long holidays to increase the performance gap between socio-economically advantaged and disadvantaged pupils. Disadvantaged students do not have access to activities that nurture and challenge them during the long summer holidays, unlike their advantaged peers (Cooper et al., 1996; Kim, 2001; Lindahl, 2001). Modified school calendars, with shorter holidays, have been associated with improved educational performance for disadvantaged pupils (Cooper et al., 2003).

Taking research evidence in mind on the impact of long school holidays Figure II.12.4 shows the number of days in the summer holiday in primary education – the longest period of time with no formal instruction for school children. (There are other, usually shorter, holidays during the school year in all countries. These are taken into account only indirectly through the number of school days.) The days in the summer holiday are presented in relation to the number of school days in a school year in primary education in order to ascertain whether longer summer holidays correspond to fewer annual school days overall.

Figure II.12.4 shows that often the longer the summer holidays, the fewer the number of school days. For example, in Bulgaria and Romania where the summer holidays are the longest in Europe (94 and 93 days, respectively), the number of school days is relatively low (165 and 168 days, respectively). The lowest number of school days (156 days) are provided in Albania, with 76 days of summer holidays. In contrast, in Switzerland and the United Kingdom (Wales) the summer holidays are the shortest (35 and 40 days, respectively), and students receive instruction on 190 and 195 days, respectively.

However, in Belgium (Flemish Community) and France, despite the shorter summer holidays, the number of teaching days remain low. This suggests that in these countries, besides the summer holidays, there are several further shorter holiday periods. In contrast, in Italy, the long summer holiday together with a large number of school days imply that there are relatively few holidays for students apart from the summer break.

Figure II.12.4: Number of teaching days in the school year and days' holiday in the summer, primary education (ISCED 1), 2018/19 (143)



Source: Eurydice

Explanatory notes

The figure shows the number of teaching days in the school year and days' holiday in the summer in primary education. In some education systems the school year may be longer or shorter in some grades. In addition, there are regional or local variations in some education systems.

Country-specific notes

Germany: Variations exist between different *Lander*.
Switzerland: Variations exist between different cantons.
Bosnia and Herzegovina: Data refer to the Federation of B&H. In Republica Srpska, primary education: 187 school days and 72 days of summer holidays.

Research suggests that learning loss during the long summer holiday may be compensated for by additional opportunities for quality learning for all students. Learning opportunities provided during the summer holiday have proved to have a positive impact on academic performance. Quality summer schools targeting disadvantaged students can also contribute to narrowing the gap between the performance of advantaged and disadvantaged students (Cooper, 2001; McCombs, 2011).

Figure II.12.5 depicts free or publicly subsidised summer learning opportunities for students in primary and lower secondary education. Top-level authorities in less than a third of the education systems advocate that schools provide summer activities. In eight systems, summer activities are the responsibility of local authorities, while in 11 systems, schools make their own decisions. In many education systems, schools are closed over summer, and additional summer activities are not held; or they may be activities for which parents must pay a fee.

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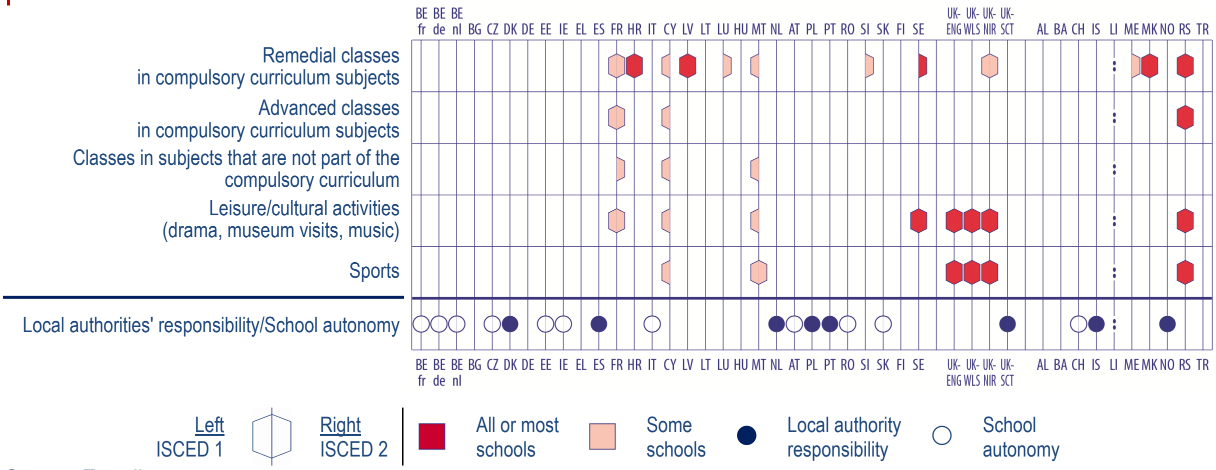
(143) Data presented in this figure was first published in European Commission/EACEA/Eurydice, 2018b. Data on the number of days of summer holidays are based on Figure 1 and data on the number of school days is based on Figure 2 of that report.

Figure II.12.5: Free or subsidised summer activites provided by schools, according to top-level regulations or recommendations (ISCED 1-2), 2018/19



Source: Eurydice.

Explanatory notes

Activities which are not subsidised or for which schools can charge fees are outside the scope of this figure.

Country-specific note

Spain: Local authorities and schools decide together on the additional activities to be provided by schools during summer holidays.

The two most common types of summer activities are those that help students in difficulty to catch up, and those that offer a variety of leisure and sport opportunities. It should be noted, however, that almost all the systems that advocate summer activities do refer to remedial classes.

In Croatia, Slovenia and North Macedonia, schools are required to provide remedial classes to students who have not met the minimum requirements to progress to the next grade; students may also have to take additional exams at the end of the summer holidays.

In **North Macedonia**, all schools are obliged to provide catch-up classes in June for those students who have failed in one or two subjects at the end of the sixth (end of primary education), the seventh, the eighth and ninth grades (lower secondary education). During the additional classes, students should prove that they have acquired the necessary learning outcomes to progress to the next grade. If they do not achieve these learning outcomes, they need to take a remedial exam at the end of June and at the end of August.

While in France, Cyprus and Sweden, summer activities are organised to offer additional learning opportunities for socio-economically disadvantaged students.

In **France**, activities are organised in schools in *'zones d'education prioritaire'* at primary and lower secondary levels.

In **Cyprus**, 'Summer Public Schools' are organised for primary school students. The objective is to offer recreational activities for students from vulnerable backgrounds. All students are eligible and all schools are encouraged to organise summer schools, but the participation rate is low. For this reason, these summer schools are usually organised by region. The school with the most applicants is chosen to organise the summer school. Children who do not live in the immediate proximity of the school are transported by their parents/guardians.

When assessing overall whether less instruction time (see Figures II.12.1-2) is coupled with more additional activities out of normal school hours (see Figure II.12.3), no relationship can be observed. Top-level authorities require or recommend that schools offer additional activities regardless of whether they have a high or relatively low number of hours of instruction for the compulsory curriculum. Similarly, the summer activities organised in schools (see Figure II.12.5) do not seem to be related to the length of the school holidays (see Figure II.12.4). However, top-level authorities in some of the countries with longer summer holidays do advocate for summer activities (Latvia, Malta, Montenegro and North Macedonia).

Part III

Education system features and equity

III.1. OUTCOME VARIABLES: INDICATORS OF EQUITY AND ACADEMIC SEGREGATION

Main findings

This chapter defines the main outcome variables – variables whose value depends on one or more explanatory variables – of the quantitative analysis: indicators of equity and academic segregation. The indicators of equity include two indicators on inclusion (one at primary and one at secondary level), and one indicator on the fairness dimension of equity. The two indicators of academic segregation (defined as the uneven average achievement level of students across schools) also distinguish between the primary and the secondary levels of education.

The relationships between these indicators reveal that:

- Degrees of academic segregation tend to be higher in secondary than in primary education, with the majority of education systems maintaining their relative position across the two education levels. As a result, there is an important correlation between academic segregation at primary and secondary levels.
- In secondary education, academic segregation is also closely linked to social segregation, which refers to the uneven distribution between schools of students from different socio-economic backgrounds.
- Without controlling for other factors, the higher the academic segregation between schools, the wider the gap between high- and low-achieving students, and the greater the impact of socio-economic background on student achievement. These relationships are further tested in Chapter III.3.

After the detailed presentation of the main features of education systems in Part II, this last part of the report turns to the analysis of the relationship between some of these systemic features of education and indicators of equity. For the purposes of the quantitative analysis, the systemic features of education are classified as explanatory variables, while the indicators of equity are considered as the main outcome variables (variables whose value depends on one or more explanatory variables). They are analysed together with indicators on academic segregation, which are assumed to play the role of intervening factors between the systemic features of education and equity. In other words, the indicators of academic segregation are classified both as outcome variables conditional on the systemic features of education, and as variables helping to explain the levels of equity in education systems.

The analysis is carried out over three chapters, the first of which covers the outcome variables: indicators of equity and academic segregation. This chapter thus defines these outcome variables and provides a first analysis of the relationships between them.

The second chapter then turns to analysing the relationship between education system features and educational equity in a bivariate context, that is, when each explanatory factor is analysed on its own, without controlling for other factors. Given the limited number of observations (42 education systems when all information is available), this is an essential first step towards understanding the interplay between the main features of education systems and the different dimensions of equity.

Finally, the third chapter will bring together all this information by mapping interactions, patterns and relationships through a path analysis. Path analysis allows for the modelling of more complex patterns of relationships, including the role of the intervening factors between the explanatory variables and indicators of equity.

III.1.1. Indicators of equity

In Chapter I.1, equity in education was defined as education provision which is both inclusive (i.e. all students receive at least a minimum amount of good quality education) and fair (i.e. student performance is largely independent of socio-economic background). In order to capture these two dimensions, Chapter I.2 presented equity indicators computed from the results of the latest rounds of international student assessment surveys.

The quantitative analysis of Part III also builds on these two dimensions of equity and on the indicators developed in Chapter I.2. The main indicator on the inclusion dimension has been operationalised as the performance gap between low- and high-achieving students, defined as the difference between the achievement of the 10th and the 90th percentile student (P10 and P90). As opposed to the absolute measure of the percentage of low achievers (also analysed in Chapter I.2), the achievement gap measures the 'minimum amount of good quality education' in relative terms: how far the performance of low achievers is behind that of high-achieving students in the same education system. This relative measure has been chosen because the percentage of low achievers as defined by international standards does not only depend on the inclusivity of education systems, but also on their effectiveness ([1]).

The fairness dimension of equity is operationalised as the correlation coefficient between student achievement and socio-economic background. This latter is defined through the number of books at home, which is a well-established theoretical proxy for the educational, cultural and economic background of families (see Chapter I.2). In addition, as a measure collected by all international assessment surveys, it allows for analysing PIRLS, TIMSS and PISA surveys together.

Chapter I.2 presented these indicators separately for the different surveys and subject areas (reading literacy and mathematics). For the quantitative analysis, information from the different surveys and/or subject areas was synthesised, keeping the difference, where necessary, between the different education levels (primary and secondary). Unfortunately, the number of Eurydice countries that have participated in a particular survey varies (see Table A1 in Annex II). In order to maximise the number of education systems for each equity indicator, the last two rounds of each international assessment survey in reading literacy and mathematics were included in the calculation, including results from the TIMSS eighth-grade mathematics survey.

Equity indicators from the different surveys (and their different subject areas) were combined in the framework of a confirmatory factor analysis. Confirmatory factor analysis is a statistical method that allows us to study the relationship between individual variables and combine them in a way that leads to the formation of theoretically informed latent variables ([2]).

([1]) See Chapter I.2. Nevertheless, as Chapter I.2 also explained, the difference between the 10th and 90th percentiles was selected because in almost all education systems, regardless of the education level or the subject area, the 10th percentile student is part of the low achievers group according to international standards.

([2]) Confirmatory factor analysis tests whether it is possible to combine these input variables by checking how well the derived composite score explains each of them. Table A15 in Annex II presents the estimated regression coefficients showing how well the composite indices predict the input variables. Within this framework, factor scores can also be computed for observations that have some missing values with the maximum likelihood estimation procedure. The different models of confirmatory factor analysis were estimated with Mplus. All the derived indices of equity were then standardised with a mean of 0 and a standard deviation of 1. The composite indicator values are included in Table A19 in Annex II.

This analysis resulted in three main equity indicators in the form of confirmatory factor analysis scores:

1. **Equity as inclusion**: Achievement gap (performance differences between low (P10) and high (P90) achievers) in **primary education** ([3]);
2. **Equity as inclusion**: Achievement gap (performance differences between low (P10) and high (P90) achievers) in **secondary education** ([4]);
3. **Equity as fairness**: Impact of socio-economic background on achievement (correlation between the number of books at home and student achievement), all levels ([5]).

For the fairness dimension of equity, given the high correlation between primary and secondary level variables, only one composite index was computed. These equity indicators will serve as the main outcome variables for the quantitative analysis. In other words, the quantitative analysis will explore the extent to which the different features of education systems can explain the variation in equity in its two dimensions: inclusion and fairness. However, before turning to this analysis, two additional indicators need to be defined which act as intervening variables between the explanatory variables (or systemic factors) and the indicators of equity.

III.1.2. Academic and social segregation

A potentially important factor influencing equity in education is the level of academic and social segregation between schools. Segregation occurs when students with low/high educational performance or those from low/high socio-economic backgrounds are concentrated within specific schools (see also Chapter II.10). The level of segregation influences the learning opportunities schools are able to offer and in turn, the levels of equity in the education system (OECD, 2019b). A number of the system-level features discussed in Part II of this report influence the level of social and academic segregation in the school system ([6]). These include, most notably, the availability of different school types, school choice and school admission policies, tracking, and even grade retention policies and practices. Conceptually, therefore, school segregation can be conceived of as an intervening variable between certain structural features of education systems and levels of equity.

School segregation may have an effect on levels of equity through 'school composition effects' (Thrupp, 1995). A school's social intake or average performance can influence the achievement of individual students (Thrupp, 1995; Thrupp, Lauder and Robinson, 2002; Benito, Alegre and Gonzàlez-Balletbò, 2014). Such school composition effects include peer group effects, as well as 'instructional' and 'school organisational and management' effects. The assumption is that school composition has an impact on the quality of instruction (course offer, teaching approaches, resources available, etc.), as well as on school organisation and management (staff relations, leadership, etc.) (Thrupp, 1995). It must also be borne in mind that these processes can also work the other way around, meaning that schools with a better reputation in terms of the quality of instruction or organisation might also attract a higher social mix of students.

This section analyses the levels of academic and social segregation between schools across European countries. Indices of academic and social segregation are defined as the percentage of the

([3]) Source surveys: PIRLS 2011 and 2016, TIMSS 4th grade mathematics 2011 and 2015.

([4]) Source surveys: PISA 2015 and 2018, reading literacy and mathematics.

([5]) Source surveys: PIRLS 2011 and 2016, TIMSS 4th and 8th grade mathematics 2011 and 2015, PISA 2015 and 2018, reading literacy and mathematics.

([6]) Certainly, besides the structural features of education systems, several factors outside the education system – e.g. residential segregation – can also contribute to levels of school segregation. Yet, the aim of this section is to link academic and social segregation to the structural features of education systems discussed in Part II.

variation in achievement scores/socio-economic background of students which is observed between schools (as opposed to within schools). Where school differences account for a greater percentage of the variation between students' achievement scores (or between their socio-economic backgrounds), education systems are more segregated and less inclusive, academically or socially (see also OECD, 2019b).

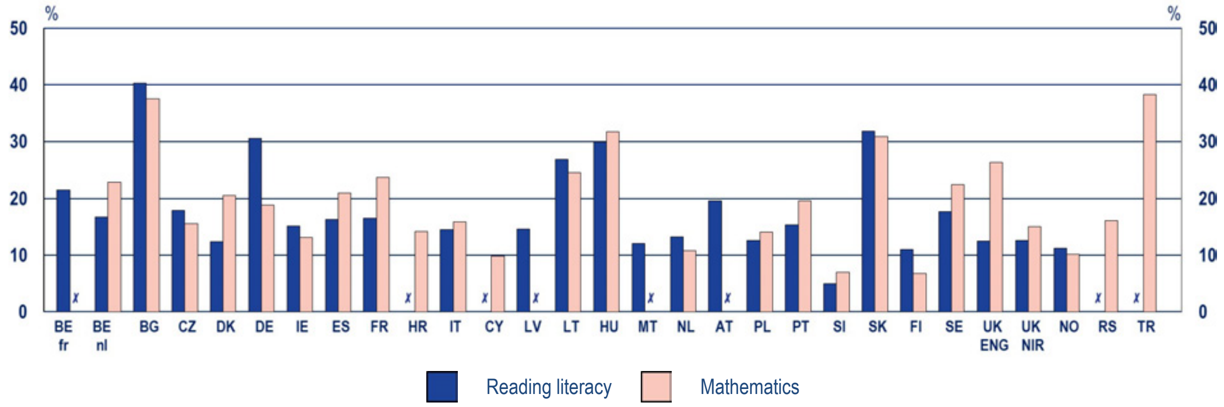
It is important to examine the degree of segregation from the primary level (ISCED 1), as differences in performance tend to persist throughout a student's educational career. However, based on the IEA surveys, in the absence of a continuous variable on the socio-economic background of students, only the index of academic segregation can be computed (depicted on Figure III.1.1). Figure III.1.2 then follows showing the indices of both academic and social segregation computed from PISA 2018 data.

Another important difference between IEA surveys on the one hand and PISA surveys on the other, is that while the former have grade-based samples, PISA selects students based on a particular age. This has consequences on equity indicators, and particularly on indicators of segregation. In OECD surveys, for example, 15-year-olds can be distributed across different schools, tracks or grades depending on the structural features of education systems. This means that achievement differences due to, for example, grade repetition contribute to within-school differences in some education systems, while increase between-school differences in others.

Therefore, in order to ensure better comparability across education systems and following the approach of the OECD in relation to PISA 2018, the estimation of segregation indices based on PISA surveys is restricted to schools which provide education programmes in the 'modal ISCED level' – i.e. the ISCED level in which the large majority of 15-year-old students are enrolled (OECD, 2019b, p. 247). This however might lead to an underestimation of school segregation in education systems with high percentages of grade repeaters – see Chapter II.7 – who might not be included in this restricted sample. This is especially true in comparison with the primary-level indicators computed on the basis of grade-based samples. For this reason, indices of academic and social segregation should be understood as a theoretical minimum in each education system; in reality, levels of segregation might be higher in both academic and social terms.

Figure III.1.1 shows relatively low academic segregation levels in primary education (see the comparison with Figure III.1.2). In both reading literacy and mathematics, most education systems have values below 20 %, which means that in most systems, differences between schools account for less than 20 % of the variation in achievement scores. Nevertheless, a few education systems stand out with relatively higher levels of academic segregation: Bulgaria, Lithuania, Hungary and Slovakia in both reading and mathematics, as well as the French Community of Belgium and Germany in reading, and the Flemish Community of Belgium, Denmark, Spain, France, Sweden, the United Kingdom – England and Turkey in mathematics.

Figure III.1.1: Indices of academic segregation in reading literacy (PIRLS 2016) and mathematics (TIMSS 2015) in the fourth grade



	BE fr	BE nl	BG	CZ	DK	DE	IE	ES	FR	HR	IT	CY	LV	LT	HU
Reading	21.5	16.7	40.3	17.9	12.4	30.5	15.2	16.3	16.5	✗	14.5	✗	14.7	26.8	29.9
Maths	✗	22.8	37.6	15.6	20.6	18.9	13.1	21.0	23.6	14.2	15.9	9.9	✗	24.5	31.7
	MT	**NL**	**AT**	**PL**	**PT**	**SI**	**SK**	**FI**	**SE**		**UK-ENG**	**UK-NIR**	**NO**	**RS**	**TR**
Reading	12.0	13.2	19.6	12.6	15.3	5.0	31.8	11.0	17.7		12.5	12.6	11.2	✗	✗
Maths	✗	10.8	✗	14.0	19.6	7.0	30.8	6.7	22.4		26.3	15.1	10.2	16.1	38.3

Source: IEA, PIRLS 2016 and TIMSS 2015 databases.

Explanatory notes

The index of academic segregation is calculated as 100*rho, where rho stands for the intraclass correlation of performance. The intraclass correlation, in turn, is the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools (see OECD, 2019b, p. 346).

The sampling design of the PIRLS and TIMSS surveys (whereby in most participating countries only one class of the fourth grade is selected per school) does not allow differentiating the variance that lies between schools from the variance that lies between classes within schools. This can become problematic if differences between classes within schools are large; however, if classes within schools are similar in their average performance, then the results are not distorted. Nevertheless, it is still possible to determine what percentage of the variation between students' achievement scores lies between given classes of schools and within classes in each school.

Within-school and between-school variances are shown in Annex II, Table A16.

Indices of both academic and social segregation have been computed for 15-year-old students based on the PISA 2018 database. Figure III.1.2 illustrates a strong relationship between academic and social segregation. As the figure shows, degrees of academic segregation differ more widely in secondary than in primary education. Most of the education systems with high degrees of academic segregation in primary education maintain this relative position at secondary level. However, segregation is often more pronounced at secondary than at primary level. For example, in Bulgaria, Hungary and Slovakia, the academic segregation index scores for schools in the fourth grade were almost all below 40 % (in some cases around 30 %), but for schools providing education for 15-year-olds, the scores are all above 40 % – and for Bulgaria (in reading) and for Hungary (in both subject areas), they are even above 50 %.

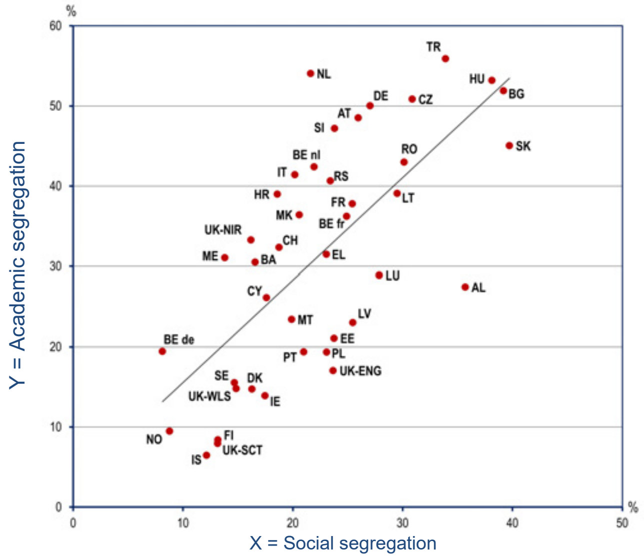
Besides these three systems, the levels of both academic and social segregation are relatively high in Czechia, Germany, Austria, Romania, Slovenia and Turkey ([7]). In the Netherlands, while the social segregation index score is just above 20 %, the academic segregation scores in both reading and

([7]) However, as mentioned under Figure III.1.2, in most of these education systems (in Czechia, Germany, Hungary, Austria, Romania and Slovenia), PISA sampling has been done in such a way that schools with more than one study programme were split into the units delivering these programmes (OECD, 2019a, p. 161). Therefore, separate programmes count as separate 'schools', which can increase the level of academic segregation in comparison to countries where such split has not been made.

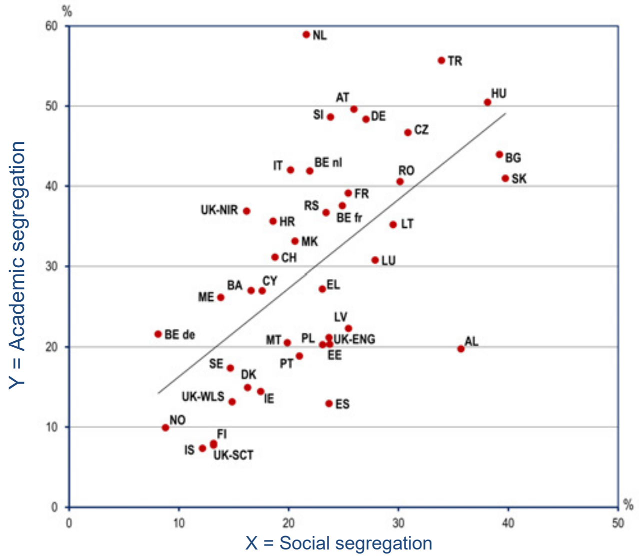
mathematics are among the highest. In contrast, in Albania, mid-range academic segregation scores go together with a very high social segregation index.

Figure III.1.2: Indices of academic and social segregation in reading literacy and mathematics for 15-year-old students in the modal ISCED level, 2018

III.1.2.A: Reading literacy



III.1.2.B: Mathematics



	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL
Academic segregation (A)	36.2	19.4	42.4	51.9	50.8	14.7	50.0	21.1	13.9	31.5	:	37.8	39.0	41.4	26.1	23.0	39.1	28.9	53.2	23.4	54.0
Academic segregation (B)	37.5	21.6	41.9	43.9	46.7	14.9	48.3	20.3	14.4	27.2	12.9	39.1	35.6	42.0	27.0	22.3	35.2	30.8	50.5	20.5	58.9
Social segregation	24.9	8.1	21.9	39.2	30.9	16.3	27.0	23.8	17.5	23.1	23.7	25.4	18.6	20.2	17.6	25.5	29.5	27.9	38.1	19.9	21.6

	AT	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
Academic segregation (A)	48.5	19.3	19.4	43.0	47.2	45.0	8.4	15.5	17.0	14.8	33.3	7.9	27.5	30.5	32.3	6.5	31.1	36.4	9.5	40.6	55.9
Academic segregation (B)	49.6	20.3	18.9	40.6	48.6	41.0	8.0	17.4	21.2	13.2	36.9	7.7	19.7	27.0	31.1	7.3	26.2	33.1	9.9	36.7	55.7
Social segregation	26.0	23.1	21.0	30.1	23.8	39.7	13.2	14.7	23.7	14.9	16.2	13.2	35.7	16.6	18.8	12.2	13.8	20.6	8.8	23.4	33.9

Source: OECD, PISA 2018 database.

Explanatory notes

See the definition of the index of academic segregation under Figure III.1.1.

The index of social segregation is calculated as 100*rho, where rho stands for the intraclass correlation of socio-economic status. The intraclass correlation, in turn, is the variation in student socio-economic status between schools, divided by the sum of the variation in student socio-economic status between schools and the variation in student socio-economic status within schools (see OECD, 2019b, p. 23).

The socio-economic status is measured by the economic, cultural and social status index (ESCS) calculated by the OECD.

The target population of the PISA surveys is an aged-based population and not a grade-based population. This means that depending on their structural features, education systems may differ in how 15-year-olds are distributed across different schools, pathways/tracks or grades. In order to ensure better comparability across education systems, in PISA 2018 the estimation of the segregation indices is restricted to schools with the 'modal ISCED level' for 15-year-old students. Practically, the modal ISCED level is the level at which the large majority of students in the sample are enrolled. The modal ISCED level may be either lower secondary (ISCED level 2) or upper secondary (ISCED level 3), or both (as in Czechia, Ireland, Luxembourg, Slovakia and Albania). In several countries, lower and upper secondary education are provided in the same school. As the restriction is made at the school level, some students from an ISCED level other than the modal one in the country were also included in the analysis (OECD, 2019b, p. 247). As ISCED levels are not available for Austria, the whole sample was used here to compute the indices of academic and social segregation. See Table II.C.1 in OECD (2019b, pp. 365-366) for the list of modal ISCED levels per country.

The sampling design of PISA surveys allows for different definitions of 'school' across education systems. As the OECD (2019a, p. 161) explains, in some countries, subunits within schools were sampled instead of schools, which may affect the estimate of the between-school variance and as a consequence, the intraclass correlation. In Czechia, Germany, Hungary, Austria, Romania and Slovenia, schools with more than one study programme were split into the units delivering these programmes. In the Netherlands, locations were listed as sampling units. In the Flemish Community of Belgium, each campus (or implantation)

of a multi-campus school was sampled independently, whereas the larger administrative unit of a multi-campus school was sampled as a whole in the French Community of Belgium.
Within-school and between-school variances are shown in Annex II, Table A17.

Education systems with the lowest degrees of academic and social segregation are Denmark, Ireland, Finland, Sweden, the United Kingdom (Wales and Scotland), Iceland and Norway. Finland, the United Kingdom (Scotland), Iceland and Norway have academic segregation indices below 10 %, which means that the differences between schools account for less than 10 % of the variation in students' achievement scores. As was shown in Chapter II.6, all these systems provide comprehensive education with no formal differentiated pathways or tracks for 15-year-old students. Nonetheless, low degrees of academic segregation might conceal within-school differences that are the consequences of course-by-course tracking (see Chapter II.6).

For this reason, it is important to examine, first, how academic and social segregation are related to the indicators of inclusion and fairness presented in Section III.1.1, and second, how the systemic factors outlined in Part II of this report influence the degree of school segregation in European education systems. This latter will be examined in more detail in Chapter III.2.

Given the high correlation between academic and social segregation indicators, and the availability of academic segregation indicators for both education levels, only academic segregation indices are used as intervening variables in the analysis. As with indicators of equity, indices of academic segregation were also merged into one composite indicator by educational level synthesising information from several surveys/subject areas ([8]). The confirmatory factor analysis thus resulted in two composite indicators:

- academic segregation in primary education ([9]);
- academic segregation in secondary education ([10]).

The two indicators of academic segregation correlate relatively highly, though the correlation is not sufficiently high for the two indicators to be merged ([11]). Yet, it will be important to test the potential impact of academic segregation at primary level on academic segregation at secondary level during the quantitative analysis.

III.1.3. Equity and academic segregation

Before turning to analysing the relationship between education system features and indicators of equity on the one hand, and academic segregation on the other (see Chapters III.2 and III.3), the final section of this chapter examines the relationship between the indicators of equity presented in Section III.1.1 and the indicators of academic segregation defined in Section III.1.2.

As Figure III.1.3 illustrates, this relationship is significant between indicators of academic segregation and indicators of both inclusion (the achievement gap between high and low achievers) and fairness (the impact of socio-economic background on student achievement). This means that without controlling for other factors, the higher the academic segregation between schools, the wider the gap between high- and low-achieving students, and the greater the impact of socio-economic background on student achievement. The relationship is especially strong between academic segregation and the

([8]) See Table A18 in Annex II for the input indicators and the standardised regression coefficients for the two derived indices. The composite indicator values are included in Table A19 in Annex II.
([9]) Source surveys: PIRLS 2011 and 2016, TIMSS 4th grade mathematics 2011 and 2015.
([10]) Source surveys: PISA 2015 and 2018, reading literacy and mathematics.
([11]) The Spearman correlation coefficient between the two indicators of academic segregation (primary and secondary level) is 0.35.

achievement gap at primary level, with academic segregation alone accounting for 41 % of the variance in the achievement gap in primary education.

Figure III.1.3: Bivariate relationships between indicators of academic segregation and equity

	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Number of observations
Achievement gap in primary education				
Academic segregation (primary education)	0.50**	0.64** (0.14)	0.41	30
Achievement gap in secondary education				
Academic segregation (primary education)	0.37**	0.27 (0.18)	0.07	42
Academic segregation (secondary education)	0.43**	0.37** (0.15)	0.13	42
Impact of socio-economic background on achievement				
Academic segregation (primary education)	0.37**	0.33* (0.16)	0.13	42
Academic segregation (secondary education)	0.36**	0.36** (0.15)	0.13	42

Source: Eurydice calculations.

Explanatory notes

The values of the table have been calculated on the basis of the three composite indicators of equity and the two composite indicators of academic segregation.

The table contains 1) the Spearman correlation coefficients between indicators of academic segregation and equity; 2) the parameter estimates of the five bivariate linear regression models that include academic segregation indicators as explanatory variables and equity indicators as outcome variables; and 3) the R^2 of these linear regression models.

In a small data set, using the Spearman (or rank) correlation reduces the risk of outliers having a large influence on the estimation. In addition, non-linear relationships are better grasped by the rank correlation.

Parameter estimates marked with a (**) are significant at 5 % level, estimates marked with a (*) are significant at 10 % level. Standard errors are in brackets after the parameter estimates. The R^2 – or the 'goodness of fit' – is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s).

III.2. BIVARIATE RELATIONSHIPS

Main findings

This chapter analyses bivariate relationships between selected education system features and indicators of equity: the gap between high- and low-achievers (inclusion indicator) and the impact of socio-economic background on student achievement (fairness indicator).

- The levels of equity in education systems are influenced by curricular differentiation and by two aspects of tracking (the earliest age at which students are first assigned to differentiated tracks or pathways and the size of the vocational sector). Most importantly, the age of first tracking is an important predictor of both the level of academic segregation and the fairness of education systems. The earlier tracking takes place, the higher the degree of academic segregation, and the stronger the impact of socio-economic background on student achievement.
- The impact school choice and school admissions policies have on equity strongly depends on the degree of differentiation between the different school types offered by education systems. Regulatory differentiation in these areas appears to be strongly related to greater academic segregation and a stronger impact of socio-economic background on student achievement.
- Grade repetition is positively associated with a wider student achievement gap in secondary education as well as a stronger impact played by socio-economic background on student achievement. However, the relationship is more notable for grade repetition rates up to 10 %.
- No statistically significant relationship was found between school autonomy and accountability indicators (individually or in combination) on the one hand, and the inclusion and fairness dimensions of equity on the other.
- In education systems where public expenditure per student is higher, the gap between high- and low-achieving students tends to be smaller. However, the correlation is statistically significant only in primary education. No evidence was found of a relationship between higher than average public funding and a reduced impact of socio-economic background on student achievement.
- Education systems with lower levels of academic segregation tend to have teachers specialised in dealing with low-achieving students. However, the association applies only to schools at secondary level.

The first step towards understanding how specific features of education systems (as analysed in Part II) influence the degree of equity is to examine their relationship with the equity indicators, without controlling for other factors. Hence, this chapter analyses bivariate relationships between selected system features and both the gap between high- and low-achievers (inclusion indicator) and the impact of socio-economic background on student achievement (fairness indicator). The selected system features are classified as explanatory variables for the purposes of the quantitative analysis, while the equity indicators are classified as outcome variables. More specifically, the present chapter combines Eurydice and PISA, PIRLS, TIMSS and Eurostat data to assess empirically whether and how stratification, standardisation, and support measures, in addition to funding and grade repetition (see Figure I.1.1), correlate to both the achievement gap (P90-P10) and the impact of socio-economic background on student achievement, while taking into account that academic segregation may act as intervening variable. Although participation in early childhood education and care (ECEC) has the potential to improve educational equity (see Chapter II.1), given that current ECEC regulations may be quite different from those that applied to the children now in primary or secondary education, this policy area is not analysed in this chapter.

Each section describes the relationship of the selected system features (tracking and curricular differentiation, school choice and admissions, grade repetition, school autonomy and accountability, support to students and funding) with the indicators of equity. The relationships between equity indicators and the features of educational systems have been studied mainly through computing correlation coefficients and testing hypotheses with bivariate linear regressions. The tables in each section present Spearman correlation coefficients, the linear regression parameter estimates and their standard errors, and the R^2 for each linear regression model. The Spearman correlation coefficient was chosen for two main reasons: first, because in a small data set it reduces the risk that some outliers have a large influence on the estimation, and second, because of the possibility of non-linear relationships which is better grasped by the rank correlation. In the case of some categorical variables, bivariate linear regressions were complemented by an ANOVA analysis. Some sections also contain multiple regression models, when it was important to test the impact of a variable when controlling for others within each theme. A correlation matrix for each sub-section presenting the relationships between explanatory variables is included in Annex II.

III.2.1. Tracking, curricular differentiation and equity

The first section of this chapter builds on Chapter II.6 on tracking, and to some extent on Chapter II.3 on school types, both linked closely to the stratification of education systems. As was discussed earlier, stratification denotes the extent of differentiation present in an education system. Stratification in an education system occurs when students are grouped into different classes, schools or school programmes based on their ability, interest, or other characteristics. Stratification is most often referred to in relation to tracking (assigning students to differentiated tracks or pathways) (see Chapter II.6), but can also be the result of the high number of school types, school choice policies or selective schooling. Except for curricular differentiation that is most closely related to tracking, other aspects of differentiation distinguished in Chapter II.3 will be analysed together with school choice and school admissions in the next section.

Tracking is one of the most important systemic factors influencing levels of equity in education systems. Based on the academic literature, Chapter II.6 listed the indicators that could potentially have an influence on the levels of educational equity in European education systems. This section concentrates on the most important factors highlighted in the literature: the earliest age at which students are assigned to a different track or pathway, the number of tracks, degrees of differentiation and the size of the vocational sector. As explained in Part II, previous research has found that early tracking, a large number of tracks and higher levels of differentiation all contribute to lower levels of educational equity.

Given the relatively high correlation between the number of tracks at ISCED level 2 and the earliest age of tracking, as well as the number of tracks at ISCED level 3 and curricular differentiation ([12]), three indicators are kept for the bivariate analysis:

- the indicator on curricular differentiation, which takes the value between 0 and 3 depending on the number of ISCED levels in which curricular differentiation exists in an education system;

([12]) The Spearman correlation coefficient between the number of tracks at ISCED level 2 and the age of first tracking is -0.67 ($p<0.01$), and the same coefficient between the number of tracks at ISCED level 3 and curricular differentiation is 0.61 ($p<0.01$). For more correlation coefficients between the explanatory variables, see Table A24 in Annex II.

- the age of first tracking based on Figure II.6.1 ([13]); and
- the size of the vocational sector, which is defined as the percentage of students in vocational tracks.

Both curricular differentiation and early tracking are expected to increase stratification and academic segregation in education systems at secondary level, and to contribute to a widening gap between high- and low-achievers as a consequence. At the same time, both early tracking and early curricular differentiation are seen as contributing to a larger association between socio-economic background and student achievement, mainly through reinforcing the parental background effect – as early achievement is more influenced by socio-economic background than in later years – but also by reducing the educational expectations of less privileged students (see Chapter II.6 for more details).

Evidence on the impact of having a relatively large or small vocational educational sector is less conclusive. However, given this report's limitations in being able to assess levels of equity only at grade 4 and age 15, the long-term effects of a strong vocational sector cannot be taken into account. Hence, the analysis can only focus on the contribution of the general-vocational differentiation in increasing or decreasing academic segregation or the different aspects of equity.

Figure III.2.1 shows the bivariate relationships between these indicators and academic segregation at secondary level on the one hand, and the impact of socio-economic background on achievement (the fairness dimension of equity) on the other. Given that tracking starts in lower secondary education at the earliest, its relationship with primary-level outcome variables is not analysed. The direct impact of the three indicators on the gap between high- and low-achievers is not significant (hence the omission from the table); their impact is indirect through the intervening variable of academic segregation (see Model 2 in Chapter III.3). Otherwise, this analysis confirms expectations on the impact of tracking on educational equity, with significant relationships between (some of) these indicators and academic segregation as well as the fairness dimension of equity.

Figure III.2.1: Indicators of tracking and curricular differentiation: bivariate relationships

	Academic segregation in secondary education			Impact of socio-economic background on achievement			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
Curricular differentiation (ISCED 1-3)	0.42**	0.31** (0.14)	0.11	0.44**	0.38** (0.13)	0.18	42
Age of first tracking	-0.69**	-0.33** (0.07)	0.39	-0.40**	-0.28** (0.07)	0.27	42
Size of the vocational sector	0.45**	0.02** (0.01)	0.17	0.19	0.01 (0.01)	0.01	39

Source: Eurydice calculations.

Explanatory notes

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are in brackets after the parameter estimates. The R^2 – or the 'goodness of fit' – is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s).

([13]) With the exception of Poland, where the age of first tracking valid for the reference period of international assessment surveys was used.

According to these results, the degree of academic segregation tends to be greater in education systems where:

- curricular differentiation exists at more ISCED levels (hence starts earlier); or
- tracking starts earlier; or
- the proportion of students in vocational education is greater.

Of the three indicators, it is the age of first tracking that has the strongest relationship with academic segregation, explaining 39 % of its variance within European education systems. It is followed by the size of the vocational educational sector, accounting for 17 % in the variance of academic segregation when not controlling for other systemic factors. A multiple regression model including both explanatory factors also produces significant parameter estimates. Such a model has an adjusted R^2 of 0.46, which means that the age of first tracking and the size of the vocational sector account for nearly half of the variation in degrees of academic segregation in European education systems (see Figure III.2.2).

Figure III.2.2: Tracking and academic segregation: multiple linear regression

	Outcome variable: academic segregation in secondary education			
Explanatory variables	Parameter estimate	Standardised estimate	Adjusted R^2	Number of observations
Age of first tracking	-0.31** (0.06)	-0.57	0.46	39
Size of the vocational sector	0.02** (0.01)	0.30		

Source: Eurydice calculations.

Explanatory notes

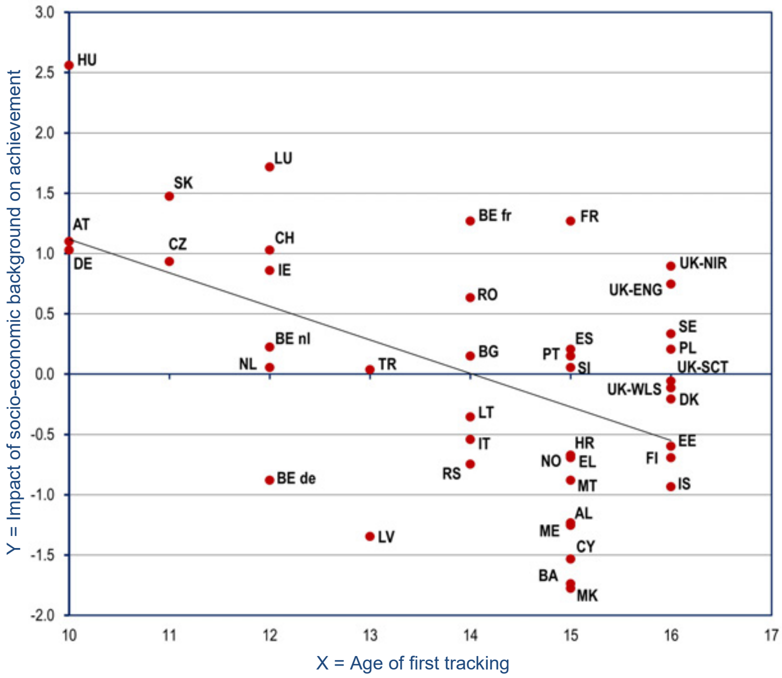
Parameter estimates marked with a (**) are significant at the 5 % level. Standard errors are in brackets after the parameter estimates.

Nevertheless, academic segregation on its own is not an indicator of equity (see Chapter III.1); it is important insofar as it influences the gaps between high- and low-achievers (inclusion) and the impact of socio-economic background on student achievement (fairness). The impact of the general-vocational differentiation on academic segregation depends on school structures (to what extent students in different tracks attend the same or separate schools), and these results can simply indicate larger degrees of separation in the case of a more sizeable vocational sector. Therefore, it is also important to note that the size of the vocational education sector does not seem to have a significant direct impact either on the fairness dimension of equity, or on the levels of inclusion in terms of the achievement gap between high- and low-achievers.

The impact of the age of first tracking on fairness, on the other hand, is significant. Both early tracking and curricular differentiation within general education are likely to reinforce the impact of socio-economic background on student achievement. The age of first tracking is again the strongest predictor of equity among the indicators analysed, explaining 27 % of the variance in the impact of student socio-economic background on their achievement within European education systems. The earlier tracking starts, the stronger the impact of socio-economic background on student achievement.

Figure III.2.3 shows the position of education systems with regard to the age of first tracking and the impact of socio-economic background on achievement. As the figure depicts, the majority of education systems with early tracking register a relatively high correlation between socio-economic background and achievement, thus have relatively low levels of educational equity. However, differences in equity levels do exist between countries with similar tracking systems, especially in the case of the education systems furthest from the regression line (for example between Hungary and Luxembourg on the one hand, and the German-speaking Community of Belgium and Latvia on the other). Such differences could most likely be explained by factors other than tracking itself.

Figure III.2.3: Age of first tracking and fairness



Explanatory notes

The X axis values are based on Figure II.6.1 (reference year: 2018/19).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a greater impact of socio-economic background on student achievement.

Country-specific note

Poland: The age of first tracking changed between 2017/18 (the time of the PISA 2018 survey) and 2018/19 (the reference year for other education systems). Therefore, for Poland, the age of first tracking valid for the reference period of international assessment surveys (16) is used for the analysis instead of the age depicted on Figure II.6.1 (15).

Source: Eurydice calculations.

Education systems on the right hand side of the figure start tracking at a later stage. These belong to different types of tracking systems as categorised in Chapter II.6; and as a result, equity levels differ more widely among them. The majority of systems with late tracking, a small number of tracks with high permeability between them and limited academic selection (Group 4 in Chapter II.6) can be found below the regression line and hence have higher equity levels (the exceptions are Spain and Sweden). In contrast, most of the systems relying more heavily on course-by-course tracking (Group 5 in Chapter II.6) are situated above the regression line and thus have relatively lower levels of equity (here the exception is Malta).

Curricular differentiation also has a significant influence on the impact of socio-economic background on student achievement. Nevertheless, when a linear regression model controls for the age of tracking, the separate impact of curricular differentiation remains significant only at the 10 % level. This is mostly due to the fact that the two indicators are not independent: curricular differentiation at lower secondary level is mostly due to early tracking. At the same time, most education systems where curricular differentiation starts earlier than tracking are among the education systems with lower levels of equity. The age of first tracking and curricular differentiation at ISCED level 1 together explain around one third of the variance in the fairness dimension of equity (see Figure III.2.4).

Figure III.2.4: Tracking, curricular differentiation and fairness: multiple linear regression

Explanatory variables	Outcome variable: impact of socio-economic background on achievement			
	Parameter estimate	Standardised estimate	Adjusted R^2	Number of observations
Age of first tracking	-0.31** (0.07)	-0.58	0.33	42
Curricular differentiation (ISCED 1)	0.86** (0.37)	0.30		
Age of first tracking	-0.23** (0.08)	-0.42	0.30	42
Curricular differentiation (ISCED 1-3)	0.24* (0.13)	0.26		

Source: Eurydice calculations.

Explanatory notes

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are in brackets after the parameter estimates.

III.2.2. School choice, school admissions and equity

School choice and school admissions policies, discussed in Chapters II.4 and II.5 respectively, may also be related to the stratification of education systems. The research literature indicates that by influencing school composition, free school choice may contribute to an increased social and academic stratification of the education system. In addition, studies also show that in education systems where schools are less socially diverse, the link between student educational achievement and their socio-economic status is stronger (see Chapter II.4).

The impact of free school choice also depends on school admissions policies which determine how schools decide on who is offered a place in a school. Greater school autonomy in admissions and the use of admissions criteria related to academic achievement may further allow an increase in the stratification of education systems.

Chapter II.4 examined both the assignment of students to schools based on their place of residence and the extent to which top-level policies allow parents to exercise school choice. It also looked at the provision of information to support school choice. Chapter II.5 presented indicators relating to the types of top-level policies on admissions criteria, as well as the use made of these criteria and the degree of school autonomy given to schools to make decisions in this area. In addition, Chapters II.4 and II.5 respectively examined whether the top-level policies on school choice and admissions differed according to the type of school (as identified in Chapter II.3). More precisely, they looked at whether there were differences between public schools with different curriculum or with different (parallel) age structures. The differences between public schools and government-dependent private schools were also examined. The indicators presented in Chapters II.4 and II.5 have been transformed into variables for the quantitative analysis (for the detailed indicator descriptions, see Table A23 in Annex II).

The relationships between these variables presented in the correlation matrix in Table A25 in Annex II highlight interesting patterns. First, a high positive correlation ([14]) was found between indicators on the main school choice regime (indicator 'school choice type' ([15])) and the possibility for schools to apply admissions criteria, signalling that in countries where families have more opportunities to choose a

([14]) The Spearman correlation coefficient is 0.50 (p<0.01).

([15]) Three types of education systems are distinguished by the variable 'school choice type': 1) preliminary assignment based on place of residence with no or only a restricted possibility to choose another public school; 2) preliminary assignment based on place of residence with unrestricted possibility for parents to choose another public school; and 3) free school choice with no preliminary assignment (see also Figures II.4.1 and II.4.2).

school, schools tend to be able to use admissions criteria to a larger extent, and, thus, admissions policies have a greater role in shaping school composition ([16]). And vice versa, where the use of admissions criteria in schools is more widespread, parents also tend to have more freedom to choose a school for their children.

Second, there is a relatively high correlation ([17]) between the degree of differentiation in admissions criteria within the public sector (which means that certain types of public school can use admissions criteria which are different from those used in most schools at primary and secondary levels) and the use of academic admissions criteria at lower secondary level. Differentiation in admissions is therefore likely to be based on academic selectivity.

Third, the higher the percentage of public institutions at primary level (thus the lower the percentage of private institutions), the lower the probability that information is provided by top-level authorities or by feeder schools for parents to support school choice ([18]). This is also confirmed by the positive correlation between the availability of such information and the relative size of the government-dependent private sector (above or below a 5 % share) ([19]).

Finally, indicators reflecting the differences ([20]) between public school types and between public and government-dependent private schools tend to correlate across policy areas (school choice and admissions). This allows for the construction of two composite indicators capturing the degree of differentiation in education systems:

- a composite public/private differentiation score, taking into account differentiation between public and government-dependent private schools in both school choice and school admissions policies; and
- a composite differentiation score taking account of all differences between school types, including the above composite score on public/private differentiation.

Figure III.2.5 presents the results of the bivariate analysis of the most important variables linked to school choice and school admissions and academic segregation in secondary education on the one hand, and the impact of socio-economic background on student achievement (the fairness dimension of equity) on the other. The listed system-level variables have no significant relationship either with the primary level outcome variables ([21]), or with the gap between high- and low-achievers (thus the inclusion dimension of equity) at secondary level.

([16]) These connections were examined at lower secondary level, as both the freedom of school choice and top-level regulations allowing schools to use admissions criteria are much more widespread at upper secondary level. However, data also confirms the same type of relationship at upper secondary level, and with stronger correlations.

([17]) The Spearman correlation coefficient is 0.54 ($p<0.01$).

([18]) The Spearman correlation coefficient is -0.52 ($p<0.01$).

([19]) The Spearman correlation coefficient is 0.55 ($p<0.01$).

([20]) Indicators on differences within the public sector or between public and government-dependent private schools are categorical variables referring to the number of ISCED levels at which such differences exist.

([21]) As will be shown in Chapter III.3, the size of the government-dependent sector as a binary variable has a significant impact on academic segregation at primary level if the amount of public expenditure per pupil is controlled for (see Model 1). However, this relationship was not significant in a bivariate context.

Figure III.2.5: Indicators of school choice, school admissions and equity: bivariate relationships

	Academic segregation in secondary education			Impact of socio-economic background on achievement			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
School choice type (ISCED 1-2)	-0.15	-0.21 (0.21)	0.02	0.31**	0.38* (0.20)	0.08	42
Differentiation in school choice policies within the public sector (ISCED 2)	0.50**	1.17** (0.33)	0.24	0.36**	0.95** (0.35)	0.15	42
Public/private differentiation in school choice policies (ISCED 1-2)	0.29*	0.29* (0.16)	0.08	0.36**	0.38** (0.16)	0.13	42
Academic admissions criteria (ISCED 2)	0.35**	0.67** (0.31)	0.10	0.44**	0.97** (0.29)	0.22	42
Differentiation in admissions policies within the public sector	0.22	0.16 (0.15)	0.03	0.05	0.13 (0.15)	0.02	42
Composite public/private differentiation score	0.32**	0.19* (0.10)	0.08	0.35**	0.23** (0.10)	0.12	42
Composite differentiation score: all differences between school types, public and private sectors	0.35**	0.15** (0.06)	0.12	0.28*	0.16** (0.06)	0.14	42
Percentage of public education institutions (ISCED 2)	0.22	0.01 (0.01)	0.04	-0.34**	-0.01 (0.01)	0.03	40
Percentage of government-dependent private institution (ISCED 2)	-0.30*	-0.01 (0.01)	0.04	0.41**	0.01 (0.01)	0.04	38

Source: Eurydice calculations.

Explanatory notes

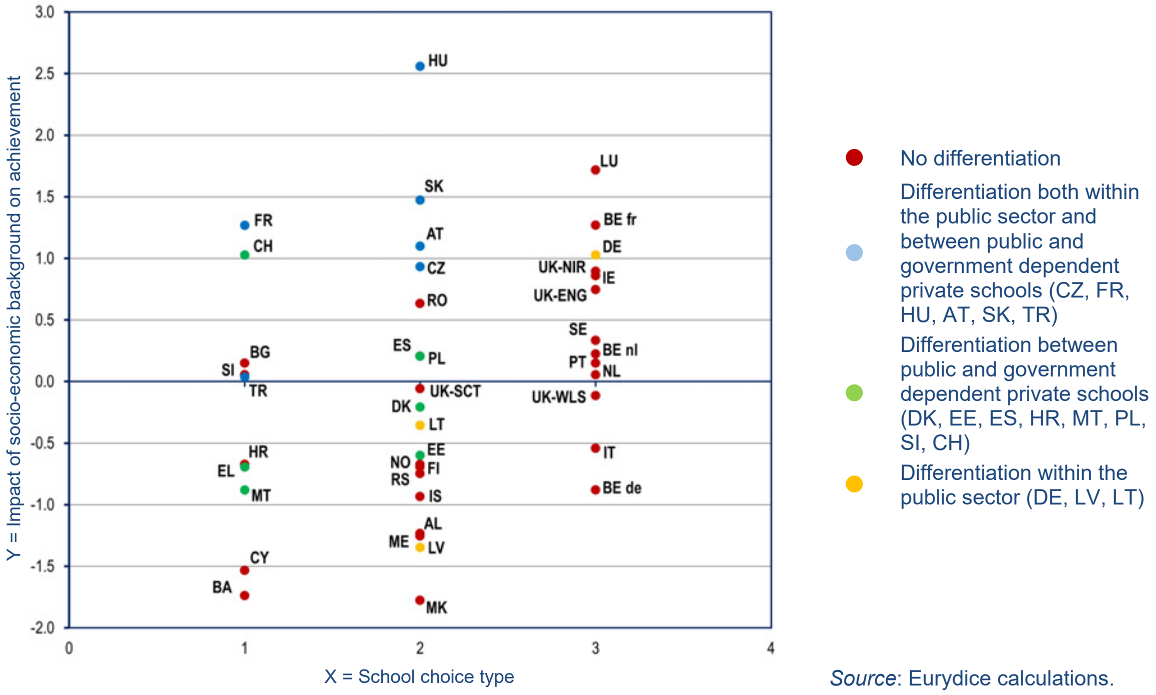
Three types of education systems are distinguished by the variable 'school choice type': 1) preliminary assignment based on place of residence with no or only a restricted possibility to choose another public school; 2) preliminary assignment based on place of residence with unrestricted possibility for parents to choose another public school; and 3) free school choice with no preliminary assignment (see also Figures II.4.1 and II.4.2). The variable refers to school choice policies at ISCED level 1 and 2. When school choice policies differ between the two ISCED levels, the regime with more freedom for parents was taken into account.

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are in brackets after the parameter estimates. The R^2 – or the 'goodness of fit' – is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s).

Contrary to expectations, this analysis cannot confirm a significant relationship between mainstream school choice policies (school choice type) and academic segregation at secondary level. Yet, the situation is somewhat different for the other outcome variable: the impact of socio-economic background on student achievement, or the fairness dimension of equity. The variable distinguishing between different school choice types has a significant impact – though only at the 10 % level – on the association between socio-economic background and student achievement (see also Figure III.2.6). In systems where parents have more freedom to choose a school, the impact of socio-economic background on student achievement tends to be somewhat greater. An ANOVA analysis also confirms that education systems with student assignment based on residence (categories 1 and 2 in Figure III.2.6) tend to have higher levels of equity than systems with completely free school choice (category 3 in Figure III.2.6) ([22]). In a pairwise comparison, differences between the group means are significant at the 10 % level.

([22]) The hypothesis of equality between the means of the two groups of education systems is rejected by the model (F = 3.94 and p = 0.054).

Figure III.2.6: School choice type, differentiation and fairness



Source: Eurydice calculations.

Explanatory notes

The X axis indicates the school choice type, 2018/19 (see explanation under Figure III.2.5).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a greater impact of socio-economic background on student achievement.

However, what seems to matter more for equity than the mainstream school choice type itself is the presence of different geographical assignment/school choice policies within the public school sector and between the public and government-dependent private school sector (see Figure II.4.3 and the colour-coding of education systems on Figure III.2.6). Differentiation within the public sector typically occurs in two ways. First, in some education systems, the geographical area on which school assignment is based is defined differently depending on the school type. Second, while students are typically assigned to schools based on their place of residence, there may be some instances where families may choose a certain type of public school (this is the case in countries with structural differentiation, see Figure II.3.3). Alternatively, instead of or in addition to the possibility of choosing between different types of public school, families may also freely choose government-dependent private schools instead of the preliminarily assigned public school.

According to Figure III.2.5, both forms of differentiation contribute to an increased academic segregation at secondary level, and to a greater impact of socio-economic background on student achievement. Differences in school choice policies across public school types account for 24 % in the variance of academic segregation and 15 % in the variation of the fairness dimension of equity across European education systems (without controlling for other factors). For public/private differentiation, the respective R^2 values are 8 % and 13 %.

Moreover, when the differentiation indicators are analysed controlling for the school choice type (one by one), both the indicator on the school choice type and the two differentiation indicators in two separate multiple regression models have significant parameter estimates at the 5 % level (see Figure III.2.7). The model including the public/private differentiation indicator as an explanatory variable has a greater explanatory value, as together with the school choice typology, they account for

38 % in the variation of the impact of socio-economic background on student achievement. The stronger impact of public/private differentiation is also confirmed by the third multiple regression model including all three explanatory factors. When both the school choice type and the level of public/private differentiation are controlled for, the parameter estimate of the variable on differences between public school types is significant only at the 10 % level.

Figure III.2.7: School choice, differentiation and fairness: multiple linear regressions

Explanatory variables	Outcome variable: impact of socio-economic background on achievement			
	Parameter estimate	Standardised estimate	Adjusted R^2	Number of observations
School choice type (ISCED 1-2)	0.46** (0.19)	0.34	0.23	42
Differentiation in school choice policies within the public sector (ISCED 2)	1.05** (0.33)	0.44		
School choice type (ISCED 1-2)	0.75** (0.19)	0.56	0.38	42
Public/private differentiation in school choice policies (ISCED 1-2)	0.65** (0.15)	0.61		
School choice type (ISCED 1-2)	0.73** (0.18)	0.54	0.43	42
Differentiation in school choice policies within the public sector (ISCED 2)	0.61* (0.32)	0.25		
Public/private differentiation in school choice policies (ISCED 1-2)	0.52** (0.16)	0.50		

Source: Eurydice calculations.

Explanatory notes

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are shown in brackets after the parameter estimates.

Besides the mainstream school choice type and the presence of differentiation, another dimension of school choice regimes is the availability of public information (provided either by top-level authorities or feeder schools) to support parental decision making (see Figure II.4.4). In order to complete the picture on the impact of school choice on equity, it was considered whether such information (when controlling for the school choice type and public/private differentiation) has the potential to alter the impact of school choice policies on equity. According to the results presented in Figure III.2.8, the availability of information does not have any significant impact on equity when school choice policies are controlled for.

Figure III.2.8: School choice, information and fairness: multiple linear regression

Explanatory variables	Outcome variable: impact of socio-economic background on achievement			
	Parameter estimate	Standardised estimate	Adjusted R^2	No. of obs.
School choice type (ISCED 1-2)	0.74** (0.20)	0.55	0.38	42
Public/private differentiation in school choice policies (ISCED 1-2)	0.64** (0.15)	0.61		
Availability of public information (ISCED 1-2)	0.03 (0.13)	0.03		

Source: Eurydice calculations.

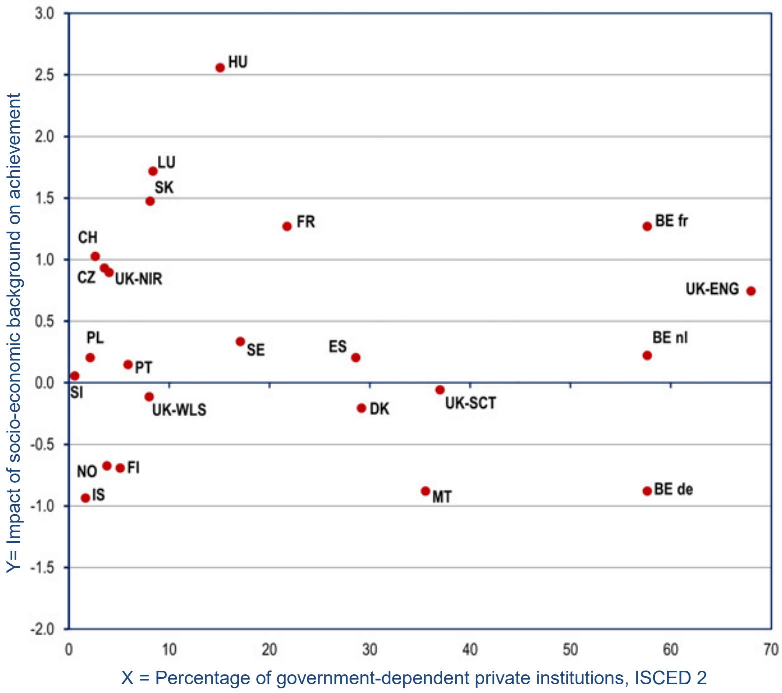
Explanatory notes

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are shown in brackets after the parameter estimates.

The degree of differentiation remains an important predictor of both academic segregation and fairness when examining the differentiation in school admissions policies alongside the differentiation in school choice policies. Regarding admissions criteria, both academic segregation and the impact of socio-economic background on student achievement tend to be more pronounced in systems where schools can apply academic admissions criteria when deciding on the enrolment of students at lower secondary level (this phenomenon is also linked, at least partly, to early tracking). In addition, where different policies apply in the public and government-dependent private sectors – including in both school choice and school admissions – this also has a significant impact on the two outcome variables analysed here. This means that in education systems where different school choice and school admissions policies apply in each sector there tends to be greater academic segregation at secondary level, and a stronger association between student socio-economic background and their achievement.

Certainly, the relative size of the public and private sectors differ between European education systems (see Figure II.3.1). However, the bivariate relationships between the size of the public and private sectors and academic segregation on the one hand, and the fairness dimension of equity on the other are not significant (see Figure III.2.5). In other words, the size of the public/private sector might not influence equity significantly on its own. Nevertheless, the Spearman correlation coefficient between the size of the public sector and the impact of socio-economic background on achievement is relatively high, signalling a potential non-linear relationship. The same is true for the percentage of government-dependent private institutions – its relationship with the fairness dimension of equity is non-linear. This non-linear relationship between the percentage of government-dependent private institutions and the fairness dimension of equity is illustrated by Figure III.2.9.

Figure III.2.9: Fairness and the percentage of government-dependent private institutions at ISCED 2



Explanatory notes

The X axis values are based Figure II.3.1.B (reference year: 2017). Only education systems with available Eurostat data on the percentage of government-dependent private institutions higher than 0 % are depicted on the figure.

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a greater impact of socio-economic background on student achievement.

Source: Eurydice calculations and Eurostat [educ_uoe_enra01].

Country-specific notes

Belgium: Data for Belgium was used for the three Communities of Belgium.

United Kingdom: Data is based on a combination of two Eurostat datasets, [educ_uoe_enra01] and [educ_uoe_enra13]. In general education, all government-dependent private institutions are based in England; while all vocational education institutions are government-dependent private institutions across the United Kingdom.

As the figure shows, while the impact of socio-economic background on student achievement shows no or only a mild positive relationship with the percentage of government-dependent private institutions up to around a 10 % threshold, this relationship becomes more clearly negative in education systems where the share of government-dependent private institutions is between 10-15 % and 40 %. In order to overcome this problem of non-linearity, a binary variable on the size of the government-dependent private sector was created for the multivariate modelling in Chapter III.3, differentiating between education systems with a percentage of pupils in government-dependent private institutions below or above 5 %.

Interestingly, the differentiation between the public and private sectors (see Figure III.2.6) tend to be greatest among countries with a mid-sized government-dependent private sector. Education systems with the largest government-dependent private sector (Belgium and the United Kingdom – England) have no policy differentiation between the two sectors; however, they have free school choice regimes.

Finally, the last variable to be analysed in a bivariate context is the composite score, which combines all forms of differentiation linked to school choice and school admissions across school types, both within the public sector and between the public and private sectors. This analysis confirms that if there are schools to which mainstream school choice policies do not apply, or if top-level policies on school choice or school admissions applicable to public and government-dependent private schools differ, then academic segregation in education systems increases, and the impact of socio-economic background on student achievement becomes more substantial (without controlling for other factors). The overall differentiation score accounts for 12 % in the variation of academic segregation in European education systems when looking at schools enrolling 15-year-old students in the modal ISCED level; and it explains 14 % in the variation of the fairness dimension of equity (see Figure III.2.5).

In sum, both the analysis of the bivariate relations and the multiple linear regressions suggest that mainstream (i.e. applicable to most schools) school choice and admissions policies should not be analysed in isolation. The elements of school choice and admissions policies which provide a different regulatory framework for certain school types contribute to the level of differentiation in education systems. This regulatory differentiation in school choice and admissions policies appears to be strongly related to a higher level of academic segregation and a stronger impact of socio-economic background on students' educational achievement.

III.2.3. Grade repetition and equity

The analysis in Part II showed that grade repetition remains the norm in Europe, especially at the secondary level (see Chapter II.7). Furthermore, based on the PISA 2018 data, it was shown that on average 4 % of secondary level students have repeated a grade at least once. While this is a relatively low rate, in some education systems it is much higher, exceeding 30 % (see Figure II.7.1).

Existing research on the impact of grade repetition on equity is not unequivocal (see the introduction of Chapter II.7), but there are reasons to expect that it might have a negative impact, both in terms of widening the gap between high- and low-achievers, and in making socio-economic background an even stronger predictor of student achievement. Studies have shown that disadvantaged students are more likely to repeat a grade and underperform and they are also more likely to leave school early (e.g. OECD, 2014b; Manacorda, 2012; Blanchard and Sinthon, 2011). Thus, a high percentage of grade repeaters may contribute to an increased stratification of education systems in terms of a reduction in the heterogeneity of student achievement within classes or grades.

In Section II.7.1, it was hypothesised that if grade repetition is bad for equity, then poorer equity results in education systems should be seen where grade repetition rates are higher. To assess whether an education system's approach towards grade repetition makes a difference to equity in education, a variable 'Grade repetition rules' was constructed, drawing on the same Eurydice data as Figure II.7.2. The variable indicates whether an education system has a more or less restrictive policy towards grade repetition. In particular, lower values suggest that either there is no grade repetition in place or that restrictions apply. In contrast, a higher value suggests that grade repetition exists and is unrestricted ([23]).

As Figure III.2.10 illustrates, in primary education there is no statistically significant relationship between academic segregation and the student achievement gap on the one side, and grade repetition rules on the other. Neither the Spearman correlation coefficient nor the bivariate regression coefficient are statistically significant.

Figure III.2.10: Grade repetition and equity: bivariate relationships

	Achievement gap in primary education			**Academic segregation in primary education**			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
Grade repetition rules (ISCED 1)	-0.12	-0.15 (0.32)	0.01	-0.10	-0.19 (0.34)	0.01	24
	Achievement gap in secondary education			**Academic segregation in secondary education**			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
Grade repetition rules (ISCED 1-3)	-0.11	-0.12 (0.11)	0.04	0.07	0.08 (0.10)	0.02	33
Percentage of grade repeaters	0.38**	0.03* (0.02)	0.07	0.31*	0.01 (0.02)	0.02	41
Degree of grade repetition	0.38**	0.43** (0.21)	0.10	0.22	0.20 (0.22)	0.02	41
	Impact of socio-economic background on achievement						No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2				
Grade repetition rules (ISCED 1-3)	-0.02	0.02 (0.12)	0.00				33
Percentage of grade repeaters	0.55**	0.04** (0.01)	0.17				41
Degree of grade repetition	0.49**	0.59** (0.20)	0.19				41

Source: Eurydice calculations.

Explanatory notes

The variable 'Grade repetition rules' draws on Figure II.7.2 and indicates on whether grade repetition in a given education system is not allowed (0), allowed with some restrictions (1) or allowed without any restrictions (2). Thus, 'Grade repetition rules' expresses a policy continuum ranging from no grade repetition at all to unrestricted grade repetition.

The variable 'Degree of grade repetition' is based on the variable 'Percentage of grade repeaters', which in turn draws on PISA 2018 data. In order to overcome the non-linearity problem, the values of the latter indicator have been divided in three groups: 'low extent of grade repetition' (0 % ≤ grade repeaters ≤ 5 %), 'medium' (5 % < grade repeaters ≤ 20 %), 'high' (grade repeaters > 20 %).

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are in brackets after the parameter estimates. The R^2 – or the goodness of fit – is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s).

Whereas grade repetition rules do not have an impact on equity at secondary level either, as the parameters in Figure III.2.10 indicate, the correlation between the extent of grade repetition, the two equity indicators (achievement gap and background impact) and academic segregation, is statistically

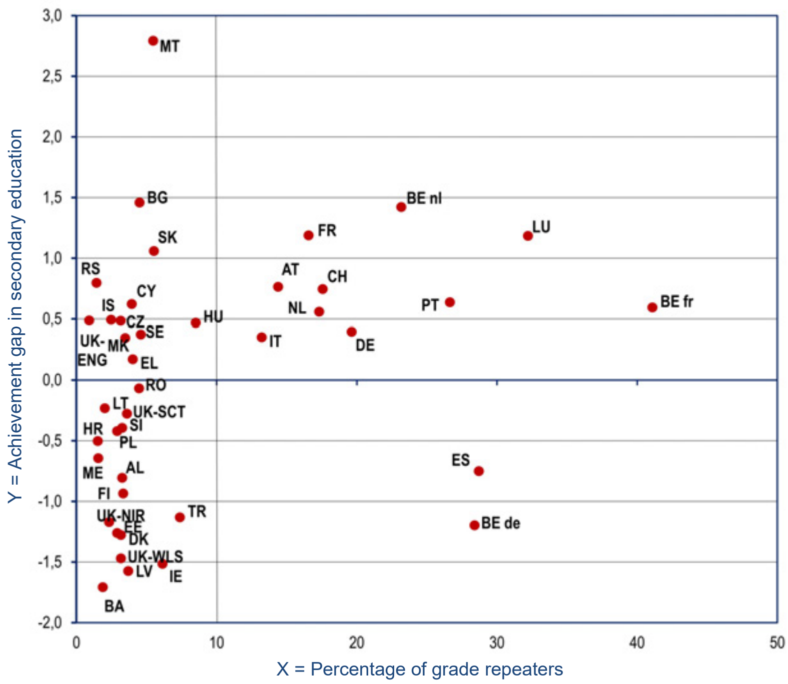
([23]) On the different possible restrictions on grade repetition, see Figure II.7.2.

significant and positive. In other words, in education systems where there is a higher rate of grade repetition, the socio-economic background plays a greater role in student achievement and the gap between low- and high-achieving students at secondary level is wider. Similarly, academic segregation rises when grade repetition rates rise. In short, the education systems where grade repetition is higher appear to be less equitable. However, this is not the whole story.

While the Spearman's coefficient values are statistically significant at the 5 % level and fairly high for the student achievement gap (rho = 0.38) and the impact of socio-economic background (rho = 0.55), the goodness of fit of the regression lines are relatively low (7 % and 17 %, respectively). This hints at a non-linear relationship between grade repetition rate and equity.

Figures III.2.11 and III.2.12 present the scatterplots between the two equity indicators and grade repetition and they show clearly a non-linear relationship.

Figure III.2.11: Percentage of 15-year old grade repeaters in relation to the student achievement gap in secondary education



Explanatory notes

The X axis indicates the percentage of 15-year old students who have repeated a grade at least once (see Figure II.7.1; reference year: 2018).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a wider student achievement gap (P90-P10).

Grade repetition rate below 10 %:

BG, CZ, DK, EE, IE, EL, CY, LV, LT, HU, MT, PL, RO, SI, SK, FI, SE, UK, AL, BA, IS, ME, MK, RS, TR.

Grade repetition rate above 10 %:

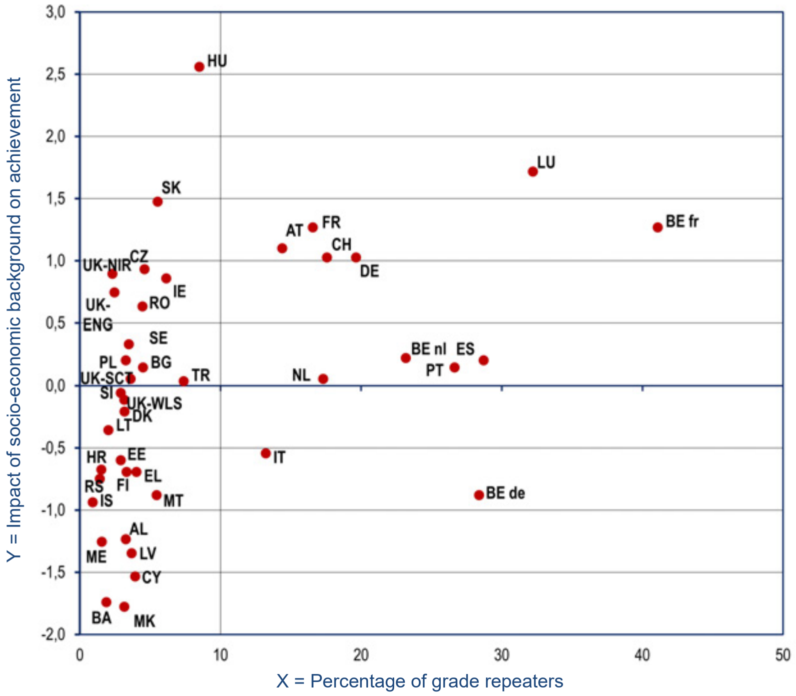
BE, DE, ES, FR, IT, LU, NL, AT, PT, CH.

Source: Eurydice calculations.

As the figures reveal, when the grade repetition rate is low (0 %-10 %), the relationship with equity is linear and positive. As grade repetition rates rise to 10 %, the achievement gap (see Figure III.2.11) and the importance of socio-economic background (see Figure III.2.12) rise as well. When the grade repetition rate exceeds 10 % it is no longer associated with equity.

Although a definite explanation of the non-linear relationship is beyond the scope or means of the present study, one possibility is that grade repetition has a differentiated impact if it is widespread or limited. If relatively few students repeat a grade, then maybe they are more likely to be stigmatised and feel alienated from the learning process. If, however, grade repetition is a relatively common practice, then maybe education systems are better prepared to deal with grade repeaters and/or students are less likely to feel stigmatised and alienated.

Figure III.2.12: Percentage of 15-year old grade repeaters and the impact of socio-economic background on achievement



Explanatory notes

The X axis indicates the percentage of 15-year old students who have repeated a grade at least once (see Figure II.7.1; reference year: 2018).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a greater impact of socio-economic background on student achievement.

Grade repetition rate below 10 %:

BG, CZ, DK, EE, IE, EL, CY, LV, LT, HU, MT, PL, RO, SI, SK, FI, SE, UK, AL, BA, IS, ME, MK, RS, TR.

Grade repetition rate above 10 %:

BE, DE, ES, FR, IT, LU, NL, AT, PT, CH.

Source: Eurydice calculations.

In any case, there can be no doubt that in education systems where grade repetition is low the relationship with both equity indicators is positive and statistically significant. To confirm this, but also to address the problem non-linearity would pose for the multivariate modelling (see Chapter III.3), the grade repetition rate was transformed into an ordinal variable ('Degree of grade repetition') where education systems are classified in three groups (low, medium and high grade repetition rates education systems) ([24]). An analysis of variance test (ANOVA) was then conducted which confirmed that the equity difference between the education systems is statistically significant. In particular, in relation to the student achievement gap at the secondary level, the hypothesis of equality between the mean of the three groups of countries is rejected [$F (2, 38) = 3.17$, $p = 0.05$]. Post hoc pairwise comparison shows that only the low grade repetition rate group mean differs from the medium group mean ([25]). In relation to the impact of socio-economic background, the ANOVA results reveal a statistically significant difference at the 5 % level again between the low grade repetition rate group and the medium and high rate groups [$F (2, 38) = 7.21$, $p = 0.01$]. Finally, in relation to academic segregation, the difference is statistically significant also at the 5 % level and it is found between the medium grade repetition rate group and the low and high rate groups [$F (2, 38) = 4.64$, $p = 0.02$].

A fairly strong, positive and statistically significant correlation between grade repetition and equity is in line with the findings of at least parts of the literature, but it still does not amount to a causal connection between the two. It is possible that another factor drives both grade repetition and equity, or that when we control for other variables the effect of grade repetition disappears. However, as the analysis in Chapter III.3 shows, this is not really the case. In other words, the extent of grade repetition

([24]) Naturally, the 'Degree of grade repetition' variable yields different parameter estimates in Table III.2.7, because of its different value coding. However, in terms of substance (direction of relationship and statistical significance), the results are essentially the same as those of variable 'Percentage of grade repeaters'.

([25]) The boxplot (not shown here) reveals that the greatest difference is to be found between the low grade repetition rate group and the medium and high grade repetition rates groups. Boxplots were used also for comparing the differences in academic segregation and socio-economic background impact.

in an education system plays an important role in equity in education. Before looking at the results of the multivariate modelling in the next chapter, it is worth highlighting another interesting finding from the bivariate analysis.

Although the correlation at the secondary education level between grade repetition and both the achievement gap and the impact of socio-economic background on student achievement is statistically significant, the correlation between the variables ‘Percentage of grade repetition’ and ‘Grade repetition rules’ is not (see Figure III.2.10). This suggests that there is no correlation between these two variables. In fact, the Spearman’s correlation coefficient between the ‘Percentage of grade repetition’ and ‘Grade repetition rules’ coefficient is not statistically significant (rho = -0.12, p = 0.51; see also Table A26 in Annex II). It appears, therefore, that a more restrictive policy toward grade repetition does not influence the actual rate of grade repetition in an education system, which is what really matters for equity in education. Put slightly differently, if we count the number of restrictions on grade repetition, from the beginning of primary education to the end of secondary, then education systems with more restrictions do not necessarily achieve lower grade repetition rates. Consequently, more restrictive grade repetition practices are not associated with better equity results at school level.

III.2.4. Autonomy, accountability and equity

The degree of school autonomy and the use of accountability tools together determine the extent to which education is standardised within an education system. As such, they are traditionally analysed along the standardisation dimension of Allmendinger’s (1989) framework.

The degree of school autonomy – the standardisation of input – usually refers to the extent of (de-)centralisation in human resource management, resource allocation, and teaching content and processes. Along these lines, Chapter II.8 distinguished between systems with high and low levels of standardisation, thus systems with low or high degrees of school autonomy. In between the two extremes, many education systems share responsibility with top-level and/or local authorities in the management of human resources, of public funds, or in defining teaching content. In addition to these main themes, Chapter II.5 analysed the degree of school autonomy in setting admissions criteria.

Accountability is viewed as the other dimension of standardisation, and refers to the standardisation of output, i.e. ensuring the quality of education across the whole system. The most widespread instrument to standardise output is centralised school leaving examinations, but other accountability tools, such as performance evaluation through standardised tests or external school evaluation, may also be used (see Chapter II.9).

High levels of school autonomy (low standardisation of input) in combination with the use of accountability tools (high standardisation of output) are often seen as a way of improving overall student achievement. At the same time, evidence suggests that a very high degree of school autonomy may lead to differences in the quality of provision and possibly create a hierarchy among schools in the form of academic segregation, which can have a negative effect on equity (see Chapter II.8).

This section analyses school autonomy and accountability indicators based on the information presented in Chapters II.8, II.9 and partly II.5 (school autonomy in admissions decisions). Regarding school autonomy, based on the categories outlined in Chapters II.8 and II.5 ([26]), five different school autonomy indicators were constructed ([27]):

- autonomy in managing human resources;
- autonomy in using public funds;
- autonomy in defining teaching content and processes;
- autonomy in admissions decisions;
- a composite school autonomy indicator including the four areas of school autonomy mentioned above.

As Chapter II.8 demonstrated, the levels of school autonomy in the first three areas show similar patterns within European education systems. However, autonomy for admissions seems to follow slightly different tendencies, showing weaker correlations with the other areas ([28]). Nevertheless, the relationship between the four areas of school autonomy are strong enough to compute the overall school autonomy indicator ([29]).

Chapter II.9 reviewed several accountability tools. It examined the presence of national examinations for certified qualifications across the three ISCED levels, testing either literacy or mathematics skills; the presence of other national standardised tests across the three ISCED levels, testing either literacy or mathematics skills; the use of performance data from the above examinations and/or other tests in external school evaluation; the public availability of performance data; and the presence of external school evaluations with results being publicly available or not.

In order to reduce the number of variables in the analysis, two composite indicators were computed based on the above information on school accountability:

- a composite performance monitoring score, which classifies education systems based on whether there are national examinations for certified qualifications and/or other standardised tests at ISCED level 1 and 2; and whether performance data from these examinations and tests is used in external school evaluation;
- a composite indicator on the publication of school-based information, which contains information on whether performance data from national examinations and/or other national tests and/or external evaluation reports are publicly available or not.

As mentioned above, previous research suggests that the impact of standardisation on equity depends on a complex interplay of the various dimensions of autonomy and accountability policies. As such, the input and output dimensions of standardisation are usually analysed in combination. While overall research evidence has not been conclusive, high degrees of school autonomy are expected to

([26]) The main categories of school autonomy are: 0) no autonomy, top-level responsibility; 1) no autonomy, local-level responsibility; 2) limited autonomy; 3) full school autonomy. Scores given for the sub-categories presented in Chapter II.8 were combined into the composite scores.

([27]) In order to overcome the problem of missing values (information not available for certain sub-categories in some education systems), derived indices were computed in the framework of Item Response Theory models. Scores for the missing information were generated through a maximum likelihood estimation, for which the CONQUEST software was used.

([28]) Spearman correlation coefficients between school autonomy in admissions decisions and autonomy in using public funds and defining teaching content and processes are 0.27 ($p<0.10$) and 0.46 ($p<0.01$) respectively. The Spearman correlation coefficient between autonomy in admissions decisions and autonomy in managing human resources is not significant. For other correlation coefficients, see Table A27 in Annex II.

([29]) The internal consistency of the composite scores was estimated by the Cronbach alpha.

increase academic segregation and the achievement gap within education systems. The (negative) impact of high levels of school autonomy on equity could potentially be offset by high levels of output standardisation (i.e. the implementation of several accountability tools).

Figure III.2.13 presents the results of the analysis on the relationship between school autonomy and the accountability variables mentioned above and selected indicators of equity and stratification. Equity indicators not displayed in the table have no significant relationship with any of the explanatory factors analysed here.

Figure III.2.13: Indicators of autonomy, accountability and equity: bivariate relationships

	Achievement gap in primary education			
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Number of observations
School autonomy composite score	-0.19	-0.49** (0.32)	0.14	30
• School autonomy in managing human resources	-0.31	-0.17* (0.09)	0.12	29
• School autonomy in using public funds	-0.28	-0.32** (0.14)	0.15	30
• School autonomy in defining teaching content and processes	-0.17	-0.32* (0.17)	0.11	30
• School autonomy in admissions decisions	0.02	0.01 (0.12)	0.00	30
Performance monitoring composite score	-0.07	-0.05 (0.19)	0.00	30
Publication of school-based information	0.22	0.06 (0.10)	0.01	30

	Academic segregation in secondary education			
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Number of observations
School autonomy composite score	-0.26*	-0.35* (0.18)	0.09	42
• School autonomy in managing human resources	-0.08	-0.02 (0.08)	0.00	41
• School autonomy in using public funds	-0.27*	-0.19* (0.11)	0.07	42
• School autonomy in defining teaching content and processes	-0.26*	-0.23* (0.12)	0.08	42
• School autonomy in admissions decisions	-0.04	0.03 (0.11)	0.00	42
Performance monitoring composite score	-0.02	-0.02 (0.13)	0.00	42
Publication of school-based information	-0.13	-0.06 (0.08)	0.01	42

Source: Eurydice calculations.

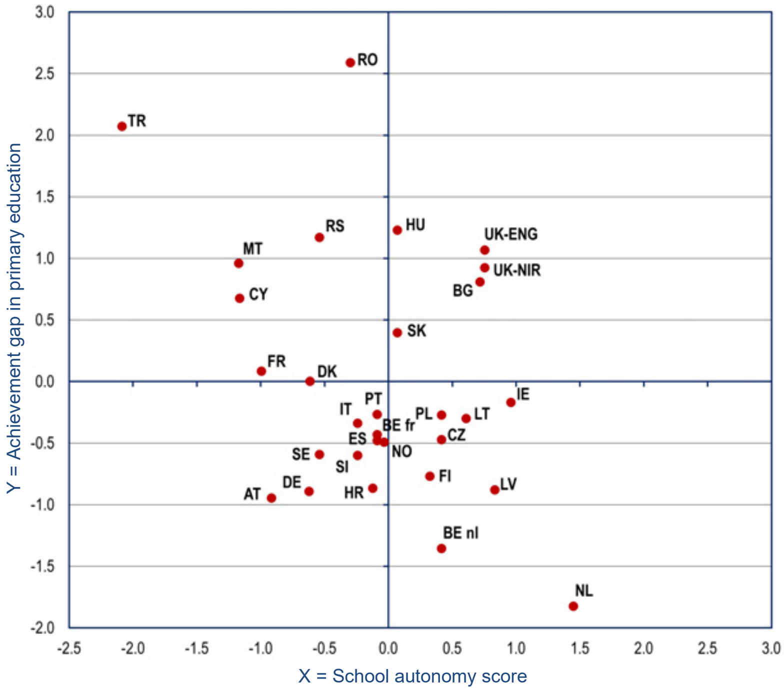
Explanatory notes

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are in brackets after the parameter estimates. The R^2 – or the 'goodness of fit' – is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s).

As the table shows, the analysis cannot confirm a significant relationship between any of the accountability indicators and equity; either on their own or when school autonomy levels are controlled for. One important factor to consider in this respect is that accountability measures (such as national examinations and other national tests, and to a somewhat lesser extent external school evaluations) are widely used in the majority of European systems and therefore there is little variation across education systems (see Chapter II.9).

At the same time, some bivariate linear regression models with school autonomy scores as explanatory variables have significant parameter estimates. According to Figure III.2.13, education systems with higher degrees of school autonomy – especially in the first three areas – tend to have smaller achievement gaps between high- and low-achieving students in the fourth grade. However, these results must be interpreted with caution. Figure III.2.14 plots the position of education systems with available data according to their inclusiveness in primary education and their degree of school autonomy. As the figure reveals, the results of the bivariate linear regression model are largely dependent on two education systems with extreme values on both axes: the Netherlands (high degree of autonomy, small achievement gap) and Turkey (low degree of autonomy, large achievement gap). For the education systems in the middle of the figure, there is no significant relationship between school autonomy and the inclusion dimension of equity.

Figure III.2.14: School autonomy and the achievement gap in the fourth grade



Explanatory notes

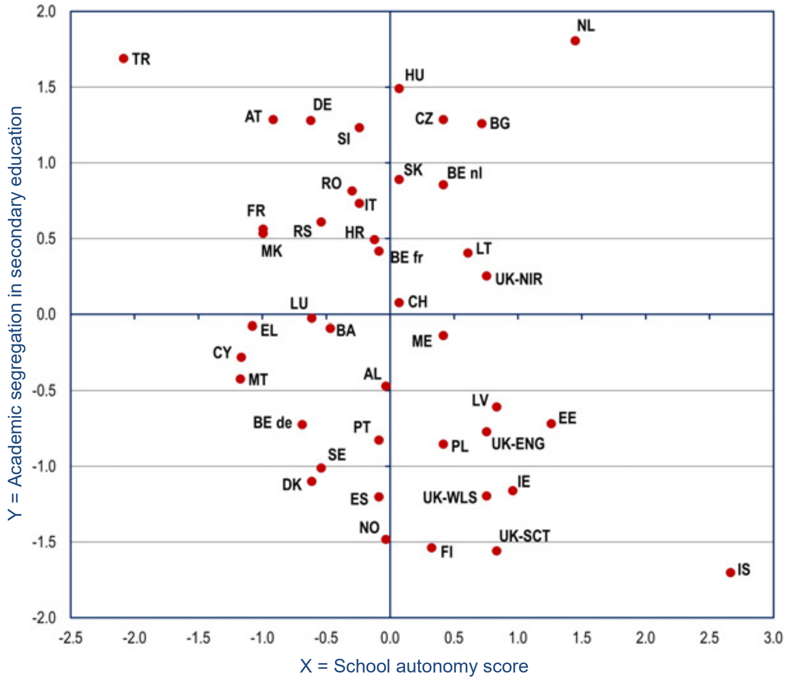
The X axis values are scores computed in the framework of Item Response Theory based on Chapter II.8 (reference year: 2018/19; see Table A20 in Annex II for the indicator values). A higher value suggests a higher degree of school autonomy (thus lower level of standardisation).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a wider student achievement gap (P90-P10).

Source: Eurydice calculations.

The same is true for the relationship between school autonomy and academic segregation at secondary level (see Figure II.2.15). Some parameter estimates of bivariate linear regression models with academic segregation as their outcome variable and separate school autonomy scores as their explanatory variable are significant at the 10 % level. However, these results are again mostly driven by the extreme cases of Iceland (high degree of school autonomy and a small achievement gap) and Turkey (low degree of autonomy, big achievement gap).

Figure III.2.15: School autonomy and academic segregation in the modal ISCED level for 15-year-old students



Explanatory notes

The X axis values are scores computed in the framework of Item Response Theory based on Chapter II.8 (reference year: 2018/19; see Table A20 in Annex II for the indicator values). A higher value suggests a higher degree of school autonomy (thus lower level of standardisation).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests greater student achievement differences between schools.

Source: Eurydice calculations.

For other equity indicators, none of the school autonomy scores as explanatory variables have significant parameter estimates. Therefore, overall, no significant relationship was found between input and output standardisation (individually or in combination) and the inclusion and fairness dimensions of equity. Thus, the analysis based on the Eurydice data collection cannot confirm previous hypotheses on either the potential impact of high school autonomy on equity, or on the potential role high levels of output standardisation (i.e. the implementation of several accountability tools) could play in offsetting it.

III.2.5. Funding, student support and equity

This final section brings together funding and student support, discussed in Chapters II.2, II.11 and II.12. Public funding is a precondition of providing support measures to low-achievers. To echo the main argument of Chapters II.2 and II.11, without funding there can be no schools or support measures. Schools need money to operate, and the more money they have at their disposal, the likelier they are to commit resources to supporting low-achieving or disadvantaged students. Nevertheless, the literature review suggested that the relationship between public funding and equity may not be linear. As explained in Chapter II.2, more money does not necessarily guarantee more equity in school-level education.

Besides the level of public funding, another funding-related dimension that potentially affects equity is private investment in education. In Chapter II.2, it was argued that although in principle public funding allows the ‘playing field to be levelled’, private investment in education may offset this. Since households with higher incomes can afford to spend more on education, a higher ratio of private to public expenditure on school-level education may have a negative effect on equity.

Chapter II.11 looked at the various measures education systems have in place to support low-achieving and/or disadvantaged students. While there is agreement in the literature that supporting students can help them improve their school performance, there is no agreement on what is the most effective type of support. Therefore, the current section examines a selection of the more promising types of support presented in Chapter II.11 and their relationship to the equity indicators. In particular, it examines the availability of: teachers specialised in dealing with poor performance; small group (or one-to-one) tutorials; and support from professionals, such as psychologists, social workers or speech and language therapists (see Figures II.11.1-3).

We also examine the relationship between instruction time (see Figure II.12.2) and equity. The 'instruction time' variable reflects the yearly average recommended instruction time (in hours) for the compulsory curriculum in primary education (2018/19). Even though instruction time is not a support measure in a strict sense (i.e. applying only to low-achieving or disadvantaged students), it can be used as a support measure proxy according to the following understanding ([30]): if more instruction time leads to better equity results, then one could argue that low-achieving and/or disadvantaged students would benefit if they received more hours of instruction ([31]). The instruction time data are drawn from European Commission/EACEA/Eurydice (2019d).

As in the previous sections, the Spearman correlation coefficients and the bivariate linear regression coefficients are used to test whether:

- there is a correlation between equity and the level of public funding (expressed in purchasing power standards) on school education;
- there is a correlation between equity and the ratio of private to public funding on school education;
- the relationship between equity and the two funding variables is linear;
- there is a correlation between equity and funding and the student support measures.

The results of the bivariate analysis, summarised in Figure III.2.16, offer an interesting mix of expected and surprising findings. Concerning equity in primary education, the level of public funding per student is shown to be negatively associated with academic segregation and the student achievement gap, which is in the expected direction. In other words, the higher the level of public funding per student, the less academic segregation there is in the education system, and the smaller the gap between high- and low-achieving students. What is more surprising perhaps, given the reservations about the effectiveness of public funding, is the strength of the correlation. As shown in Figure III.2.16, the correlation coefficients are statistically significant at the 5 % level and particularly high for both academic segregation (-0.57) and the level of public funding (-0.47).

([30]) Note also that, as shown in Figure II.11.4, the access rates to additional language of instruction lessons for low-achieving and low SES students tend to be the same as for all students. Therefore, it would be of little added value to use instead of instruction time the PISA variable 'Percentage of 15-year-old students attending a school which offers additional language of instruction lessons during school hours'.

([31]) As Carroll (1963, p. 723) found early on, 'the learner will succeed in learning a given task to the extent that he spends the amount of time that he needs to learn the task'.

Figure III.2.16: Funding, student support and equity: bivariate relationships

	Achievement gap in primary education			Academic segregation in primary education			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
Public funding per student (ISCED 1)	-0.47**	-0.00** (0.00)	0.28	-0.57**	-0.00** (0.00)	0.46	27
Ratio of private to public expenditure (ISCED 1)	0.33	5.90 (4.15)	0.08	0.17	2.81 (4.34)	0.02	24
Instruction time (ISCED 1)	-0.01	-0.00 (0.00)	0.02	-0.03	-0.00 (0.00)	0.04	29
Specialist teachers available (ISCED 1)	-0.09	-0.13 (0.13)	0.03	0.11	-0.00 (0.13)	0.00	30
Small group tutorials available (ISCED 1)	-0.03	-0.08 (0.14)	0.01	-0.26	-0.22 (0.13)	0.09	30
Professional support available (ISCED 1)	-0.17	-0.23 (0.16)	0.07	-0.03	-0.19 (0.16)	0.05	30

	Achievement gap in secondary education			Academic segregation in secondary education			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
Public funding per student	0.20	0.00 (0.00)	0.04	-0.32*	-0.00 (0.00)	0.07	35
Percentage of private to public expenditure	-0.06	-2.40 (3.95)	0.01	-0.07	-0.90 (4.00)	0.00	31
Specialist teachers available	0.10	0.03 (0.04)	0.02	-0.37**	-0.09** (0.03)	0.14	42
Small group tutorials available	0.29*	0.07* (0.04)	0.09	-0.20	-0.04 (0.04)	0.03	42
Professional support available	0.03	0.01 (0.04)	0.00	-0.03	-0.02 (0.04)	0.01	42

	Impact of socio-economic background on achievement			No. of obs.
	Spearman correlation	Linear regression – parameter estimate	Linear regression – R^2	
Public funding per student	0.03	0.00 (0.00)	0.01	35
Percentage of private to public expenditure	0.05	0.22 (3.21)	0.00	31
Specialist teachers available	0.17	0.03 (0.04)	0.00	42
Small group tutorials available	-0.04	-0.00 (0.04)	0.00	42
Professional support available	0.15	0.06 (0.04)	0.05	42

Source: Eurydice calculations.

Explanatory notes

Parameter estimates marked with a (**) are significant at the 5 % level, estimates marked with a (*) are significant at the 10 % level. Standard errors are in brackets after the parameter estimates. The R^2 – or the goodness of fit – is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s). Regression coefficients are not standardised.

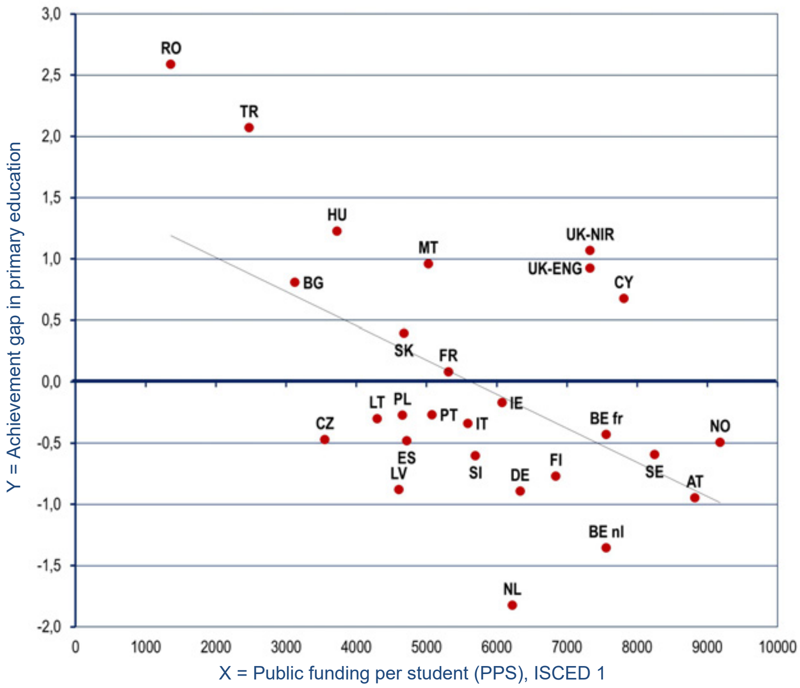
The secondary level explanatory variables incorporate the values for both primary and lower and upper secondary education (ISCED 1-3), except for 'Public funding per student' covering primary and lower secondary education (see Figure II.2.1). The underlying assumption is that funding and support measures for secondary education cannot affect equity in primary education. However, funding and support in primary education may also affect equity at the secondary level, given that education is a cumulative variable.

Data on instruction time is not examined at secondary level, because it is only available for general education. In some education systems, some students study in vocational education as from lower secondary education; however, no data is available on instruction time in vocational education at this level.

The relatively high R^2 values for public funding per student and for academic segregation indicate a good fit for the linear regression models, which in turn suggests that the relationship with the outcome variable (student achievement gap) is largely linear.

As the scatterplot between the student achievement gap and public funding per student reveals, the relationship is indeed linear (see Figure III.2.17). Even though there are a few outliers, namely, the Netherlands and the United Kingdom (England and Northern Ireland), the overall trend is downwards, illustrating that higher than average public funding is closely associated with a narrower student achievement gap (i.e. more inclusion) in primary education ([32]).

Figure III.2.17: Level of public funding per student (PPS) in relation to the student achievement gap in primary education



Explanatory notes

The X axis indicates the level of public funding per student expressed in purchasing power standards (PPS). See Table A21 in Annex II.

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a wider student achievement gap (P90-P10).

Only education systems with available Eurostat data and confirmatory analysis scores are depicted on the figure.

Country-specific note

Given the lack of Eurostat education funding data at the sub-national level, the same values were used for all the education systems in Belgium (French and Flemish Communities) and the United Kingdom respectively.

Source: Eurydice calculations and Eurostat [educ_uoe_fine09].

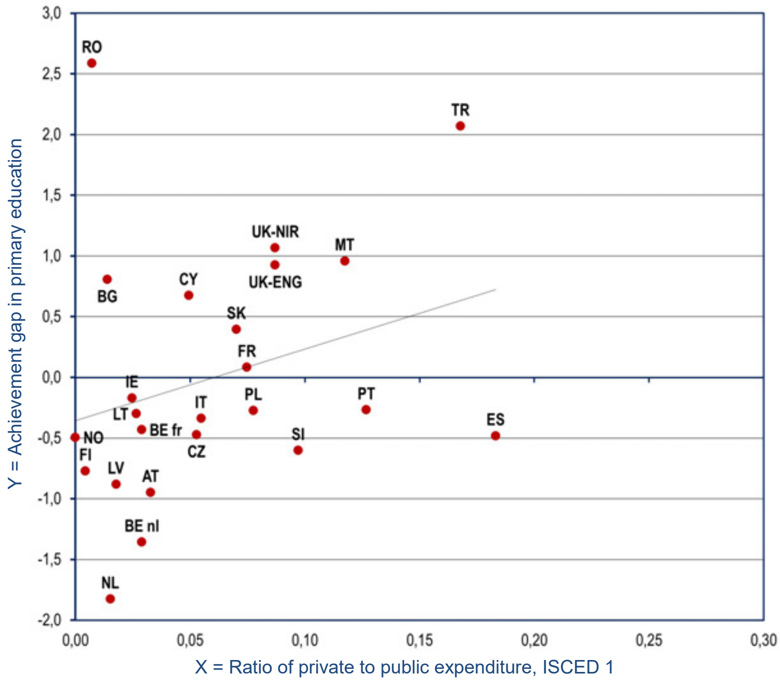
At first glance, the ratio of private to public expenditure on education does not appear to be related at all to equity. Neither the Spearman coefficient nor the linear regression coefficient are statistically significant (see Figure III.2.16). However, given that the *p* value (0.12) of the correlation coefficient is only marginally higher than the statistical significance threshold (0.10), it is also worth examining the relationship visually.

Looking at the scatterplot of Figure III.2.18, it is obvious that the pattern is not as neat as that of Figure III.2.17. In other words, taking into account the coordinate values of all the education systems, there appears to be no relationship between the ratio of private to public expenditure on primary education and equity. However, if a few outlier cases are excluded, a relationship does start to appear ([33]). Of course, this is only a hypothetical scenario, but it may be worth examining more closely in the future.

([32]) Despite the extreme values of Romania and Turkey, they form a clear part of the downward trend on the scatterplot. Removing them would bring the R^2 value down from 0.28 to 0.07.

([33]) As it stands, the R^2 (goodness of fit) for the bivariate relationship depicted in Figure III.2.18 is 0.08, which is rather low. If the outlier value of Romania is removed, the R^2 grows to 0.25. If both Romania and Spain are removed, then the R^2 becomes 0.41. If all three outliers are removed, namely, Romania, Spain and Turkey, then the goodness of fit parameter is 0.24.

Figure III.2.18: Percentage of private to public expenditure in primary education and the student achievement gap



Explanatory notes

The X axis indicates the ratio or private to public expenditures for ISCED 1. The data refer to the year 2016 (see also Table A22 in Annex II).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests a greater impact of socio-economic background on student achievement.

Only education systems with available Eurostat data and confirmatory analysis scores are depicted on the figure.

Country-specific note

Given the lack of Eurostat education funding data at the sub-national level, the same values were used for all the education systems in Belgium French and Flemish Communities) and the United Kingdom respectively.

Source: Eurydice calculations and Eurostat [educ_uoe_fine02].

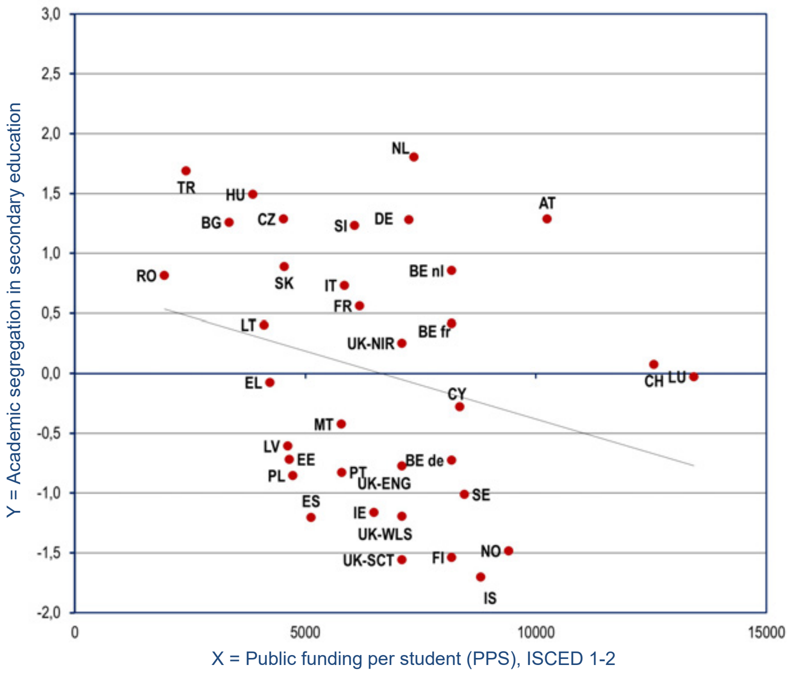
None of the relationships between the student support variables for primary education is statistically significant (see Figure III.2.16). Nevertheless, it is interesting to note a relatively high correlation between instruction time and the level of public funding per student (with a correlation coefficient of 0.49, $p = 0.004$; see Table A28 in the Annex). To the extent that increased instruction time implies increased teaching needs and consequently increased expenses on teachers' salaries, then it is not surprising that the correlation is high and statistically significant. However, the causal relationship is only a hypothesis, which cannot be further examined here.

As far as secondary education is concerned, the funding and student support variables portray a mixed relationship with equity. On the one hand, there is no statistically significant relationship between any of the funding variables or any of the support variables with the impact of socio-economic background on student achievement (see Figure III.2.16). On the other hand, some of the support variables have a statistically significant relationship with the inclusion dimension of equity or with academic segregation, and, at first impression, the level of public funding per student also appears to be related to academic segregation.

More specifically, the bivariate analysis results show that the average public funding is statistically significantly associated to academic segregation, but caution is advised. While the correlation coefficient is moderately high (-0.32) and significant at the 10 % level, the linear regression coefficient is not and the R^2 is low (0.07). This suggests that either there is no relationship between public funding per student and academic segregation or it is not linear.

Looking at Figure III.2.19, it is clear that there is no real association between the level of public funding per student and academic segregation in secondary education. In some education systems, academic segregation (i.e. student achievement differences between schools) is low and public spending per student is high, while in others segregation is low but spending is also low.

Figure III.2.19: Level of public funding per student (PPS) in relation to academic segregation in secondary education



Explanatory notes

The X axis indicates the level of public funding per student expressed in purchasing power standards (PPS). The data refer to the year 2016 (see also Figure II.2.1).

The Y axis values are confirmatory factor analysis scores (see Chapter III.1 and Table A19 in Annex II). A higher value suggests greater academic segregation (student achievement differences between schools).

Only education systems with available Eurostat data are depicted on the figure.

Country-specific note

Given the lack of Eurostat education funding data at the sub-national level, the same values were used for all the education systems in Belgium and the United Kingdom respectively.

Source: Eurydice calculations and Eurostat [educ_uoe_fine09].

For instance, as many as 17 education systems spend less public money per student than Austria, Luxembourg or Switzerland, yet they fare better in terms of academic segregation. Therefore, the reasons behind academic segregation have little to do with the level of public funding per student.

Contrary to primary education, the availability of teachers specialising in dealing with low-performing students in secondary education appears to be associated with a smaller degree of academic segregation. This is the only statistically significant coefficient among the examined correlations between academic segregation and support measures (see Figure III.2.16). Interestingly enough, the correlation between specialist teacher availability and the student achievement gap is not statistically significant. This implies that if there is any relationship between inclusion and this particular support measure it will only be indirectly via academic segregation. In other words, being able to rely on teachers specialising with low-achieving students may lead to smaller performance differences between schools which, in turn, may have a positive effect on equity.

The only student support measure in primary or secondary education that appears to have a direct relationship to equity is the availability of one-to-one tuition or small group tutorials in schools in secondary education. However, the correlation coefficient is positive rather than the expected negative, but it is difficult to believe that small group teaching increases rather than decreases the student achievement gap. Therefore, if there is any causal relationship between the two variables, it is probably the other way around. Maybe small group teaching is more likely to be offered in education systems where the student achievement gap in secondary schools tends to be higher.

To sum up, the bivariate analysis showed that there is a strong correlation between public funding per student and equity in terms of the student achievement gap, which is largely linear, but it is confined in primary education. Thus, in education systems where more public money per student is spent at the primary level, the achievement gap between high and low achieving students tends to be smaller. Against the hypothesis posited here, a relatively higher private expenditure on education does not come with less equity, regardless of the school education level, because the two variables do not correlate. Finally, student support measures may matter for equity to a certain extent, but it is difficult to discern an overall pattern. On the one hand, none of the support measures examined here appear to reduce the importance of students' family background. On the other, having teachers specialised in dealing with low-performing students is associated to less academic segregation at the secondary level (but not necessarily to more equity).

III.3. MULTIVARIATE MODELLING

Main findings

This chapter presents three path analysis models testing the relationship between educational system features and equity. Two models are related to the inclusion dimension of equity (operationalised as the performance difference between high- and low-achieving students, separately for primary and secondary education), and one to the fairness dimension (operationalised as the correlation between socio-economic background and student performance). The general findings can be summarised as follows:

- Academic segregation acts as an important intervening factor between institutional features of education systems and the achievement gap, at both primary and secondary levels. However, when significant institutional features are controlled for, the impact of socio-economic background on performance is independent from the degree of academic segregation.
- The degree of academic segregation at primary level influences the achievement gap at this level as well as the degree of academic segregation at secondary level. Academic segregation at primary level, in turn, is shaped by the level of public funding per pupil and the size of the government-dependent private sector, with higher levels of public funding and a small government-depending private sector lowering the degree of academic segregation.
- There is a high correlation between levels of fairness in primary and secondary education. However, regarding the other dimension of equity, inclusion, its levels depend on different factors in primary and secondary education and, as such, the relationship between education levels is weaker. Inclusive education systems do not necessarily remain inclusive once stratification measures such as tracking are introduced.
- The age of first tracking and the extent of grade repetition influence both the fairness and the inclusiveness of education systems, either directly or indirectly. Early tracking combined with a large vocational sector contributes to higher degrees of academic segregation at secondary level.
- The impact of socio-economic background on student performance is greater in systems with early tracking, a high degree of grade repetition, and extensive differentiation between different school types in terms of school choice and school admissions policies.

The final chapter in Part III brings together all the structural features of education systems discussed in Chapter III.2 to see how their complex interplay might influence equity in education. The main method used in this chapter is path analysis (see e.g. Bryman and Cramer, 1990). Path analysis allows for the modelling of more complex patterns of relations, including the role of intervening factors between the explanatory and the main outcome variables ([34]). As explained below, one of this chapter's hypotheses is that academic segregation acts as an intermediary factor between other structural features of education systems and equity, path analysis is therefore the most suitable method for modelling the complexity of the relationships between education system features and equity.

([34]) Path analysis was chosen instead of a series of linear regressions, because linear regressions cannot model indirect relationships where an intervening variable plays an important role between the main outcome and explanatory variables.

This chapter presents three path analysis models, one for each indicator of equity:

1. Achievement gap in primary education: performance difference between low (P10) and high (P90) achievers in grade 4 (inclusion dimension);
2. Achievement gap in secondary education: performance difference between low (P10) and high (P90) achievers among 15-year-olds (inclusion dimension);
3. Impact of socio-economic background on achievement: correlation between the number of books at home and student performance, primary and secondary education combined (fairness dimension).

In addition to more specific hypotheses, the following general hypotheses are tested through the multivariate modelling:

- Academic segregation acts as an intervening factor between systemic features identified in Chapter III.2 and indicators of equity, in both primary and secondary education.
- Levels of equity in primary education influence levels of equity in secondary education. Similarly, the degree of academic segregation in primary education influences the degree of academic segregation in secondary education.

Regarding the choice of system-level explanatory factors, all variables discussed and analysed in a bivariate context in Chapter III.2 were chosen on the basis of their policy relevance as well as previous research findings. The modelling is hence largely based on the results of the bivariate analysis. Variables with a significant relationship with the outcome variables were tested in a multivariate context ([35]), keeping in mind the limitations imposed by the number of observations (maximum 42 at secondary level and maximum 30 at primary level).

Having tested a number of alternative models, the best fit models are presented here. Goodness of fit indices assess how adequately the theoretical model describes the relationships between the included variables. Naturally, these models should not be regarded as the only possible combination of explanatory variables predicting the different dimensions of equity. Other variables that were beyond the scope of this report may yield different paths to equity in education. In addition, the results of the bivariate analyses are important and should be regarded as complementary to the path analysis.

III.3.1. Achievement gap in primary education

The first equity indicator is the achievement gap between high- and low-performing pupils in primary education (grade 4). As such, it is linked to the inclusion dimension of equity, thus to whether all students receive at least a minimum amount of good quality education – in relative terms. According to this chapter's hypotheses, one of the major factors influencing this gap is the degree of academic segregation in education systems. This hypothesis has been confirmed in a bivariate context, as academic segregation alone accounts for 41 % of the variance in the achievement gap in primary education (see Chapter III.1, Figure III.1.3).

Are there any other factors besides academic segregation that can influence directly the inclusion dimension of equity in primary education? And what are the main systemic factors shaping the degree of academic segregation? The bivariate analysis presented in Chapter III.2 confirmed a significant relationship between academic segregation and the amount of public funding per pupil at ISCED level 1. This implies that the overall academic segregation level – thus the extent of achievement differences between schools – is contingent upon the amount of public funding allocated to primary education taking into account the number of pupils.

([35]) Given that the bivariate analysis could not confirm a statistically significant impact of either input standardisation (degree of school autonomy) or output standardisation (accountability) on equity, these indicators were not tested through the models.

In addition to testing the impact of the amount of public funding per pupil in a path analysis model, we also tested whether public/private differentiation influences the degree of academic segregation – and in turn, the level of equity – controlling for the amount of public funding per pupil. Two indicators of public/private differentiation were examined specifically: the percentage of private to public expenditure and the relative size of the government-dependent private sector (below or above a 5 % share). Examining the former means investigating the potential impact of public/private differentiation in terms of sources of funding (including the contribution parents have to make). Looking at the latter puts the emphasis on differentiation in regulatory terms (given that government-dependent private institutions are also funded – at least partially – from public sources, but are controlled by non-governmental bodies and are often under a different regulatory framework), or based on the level of competition between schools (see Chapter II.3). The hypothesis is that besides the actual amount, it also matters how public funding is distributed among public and government-dependent private institutions.

Controlling for the level of public funding, the impact of the percentage of private to public expenditure was not significant. In contrast, the size of the government-dependent private sector has a significant, positive impact on the degree of academic segregation: a larger government-dependent private sector (with a share of more than 5 %) goes together with higher degrees of academic segregation in primary education.

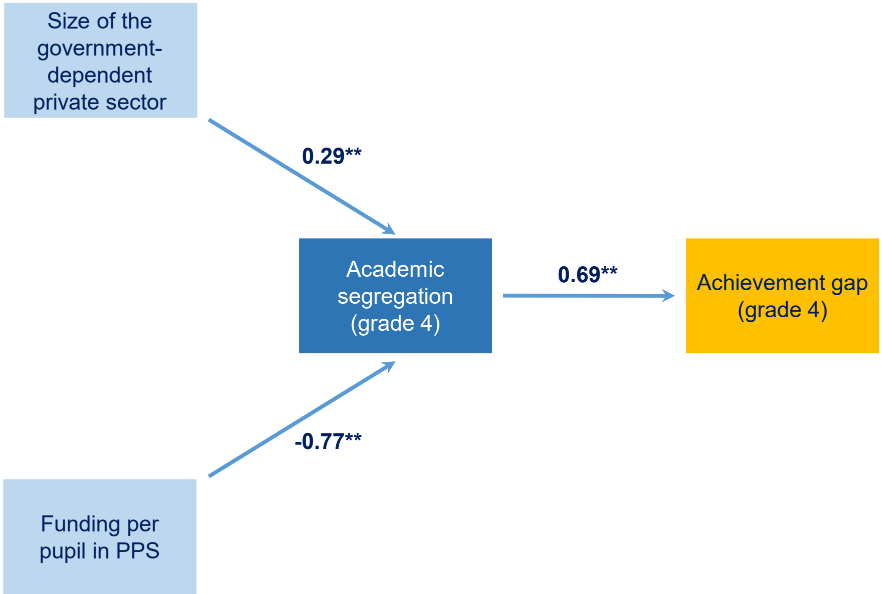
The results of the analysis are shown on Figure III.3.1 depicting Model 1. The figure illustrates the tested relationships between the two explanatory variables (in light blue), academic segregation as the intervening variable (in dark blue), and the primary level achievement gap as the main outcome variable (in yellow). Standardised parameter estimates are shown next to the arrows illustrating the hypothesised direction of influence.

In line with the hypotheses put forward, the higher the level of public funding per pupil in an education system at ISCED level 1, the lower the degree of academic segregation, and in turn, the smaller the achievement differences between high- and low-achieving students. However, in education systems with similar public funding per pupil ratios, academic segregation tends to be more pronounced in systems where more than 5 % of pupils are enrolled in government-dependent private education institutions.

An important form of differentiation at primary level, therefore, is public/private differentiation, and specifically, the distinction between public and government-dependent private institutions. Many institutional structures that increase the stratification of education systems do not exist at this level: tracking (and in the large majority of systems, also academic selection) start at the beginning of lower secondary education at the earliest and ability grouping is less pronounced. However, the analysis suggests that the presence of a sizeable government-dependent private sector – be it through free school choice, regulatory differentiation or simply an increased competition – contributes to the stratification of education systems already at this level ([36]). Yet, it also has to be kept in mind that the effect of this differentiation is only significant when funding per pupil ratios are controlled for. The effect of public funding itself – as shown by the standardised parameter estimates on the figure – is much more fundamental.

([36]) As Section III.2.2 in Chapter III.2 showed, education systems with a relatively large government-dependent private sector have either a free school choice policy, or a strong differentiation between school types in school choice and school admissions policies. Furthermore, Chapters II.3, II.4 and II.5 highlighted, on the one hand, the relative autonomy of government-dependent private institutions in many education systems in setting their curricula and/or admissions criteria, and on the other hand the application of different school choice regulations.

Figure III.3.1: Model 1 on the achievement gap in primary education



Source: Eurydice.

Explanatory notes

Parameter estimates are standardised. Estimates marked with a (**) are significant at the 5 % level, while those marked with a (*) are significant at the 10 % level.

The R^2 values are 0.47 for the achievement gap, and 0.64 for academic segregation. The fit indices for the model are: Chi-Square = 1.086, degrees of freedom = 2, p = 0.58, CFI = 1.000, TLI = 1.067, RMSEA (Root Mean Square Error of Approximation) = 0.000.

Given the lack of Eurostat data on the public funding per student ratio at sub-national level, the same values were used for all education systems with available equity data in Belgium and the United Kingdom respectively.

The size of the government-dependent private sector is a binary variable distinguishing education systems with a share of government-dependent private institutions below or above 5 %.

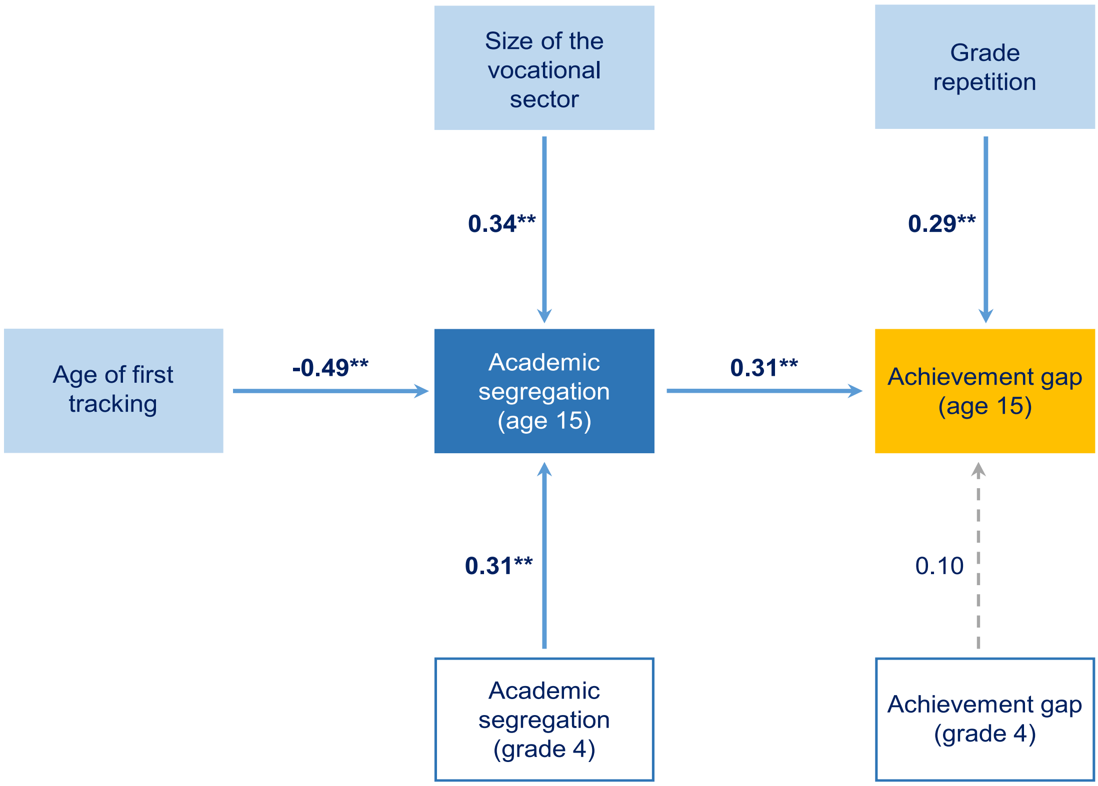
Model 1 also confirms the first general hypothesis about the importance of academic segregation for equity. At primary level, it is the sole factor with a direct impact on the performance gap between high- and low-achieving students. Academic segregation, therefore, is greatly important for the inclusion dimension of equity at primary level.

III.3.2. Achievement gap in secondary education

The second equity indicator, similarly to the first, addresses the inclusion dimension of equity, this time at secondary level. As mentioned above, this is again defined as the achievement gap between high- and low-performing 15-year-old students. Given that in this dimension of equity there are separate indicators for primary and secondary education, this model can test both of the chapter's general hypotheses: first, regarding the effect of academic segregation on achievement differences between students, and second, regarding the relationship between equity at primary and secondary levels.

As with Model 1, the hypotheses behind Model 2 are also based on the results of the bivariate analysis. As Chapter III.2 showed, systemic factors linked to the stratification of education systems are much more important in shaping both the degree of academic segregation and equity at secondary level than they were at primary level. The best fit model presented on Figure III.3.2 confirms these results.

Figure III.3.2: Model 2 on the achievement gap in secondary education



Source: Eurydice.

Explanatory notes

Parameter estimates are standardised. Estimates marked with a (**) are significant at the 5 % level, while those marked with a (*) are significant at the 10 % level.

The R^2 values are 0.23 for the achievement gap, and 0.57 for academic segregation. The fit indices for the model are: Chi-Square = 4.225, degrees of freedom = 5, p = 0.518, CFI = 1.000, TLI = 1.048, RMSEA (Root Mean Square Error of Approximation) = 0.000.

Given the lack of Eurostat data on the size of vocational sector at sub-national level, the same values were used for all education systems in Belgium and the United Kingdom respectively.

The degree of grade repetition is a categorical variable with three values: 'low' (0 % ≤ grade repeaters ≤ 5 %), 'medium' (5 % < grade repeaters ≤ 20 %), and 'high' (grade repeaters > 20 %).

Model 2 also presents the hypothesised and tested relationships between systemic factors as explanatory variables (in light blue), academic segregation at secondary level as the intervening variable (in dark blue), and the secondary level achievement gap as the main outcome variable (in yellow). Academic segregation and equity at primary level were also tested as explanatory variables (in white). Standardised parameter estimates are shown next to the arrows illustrating the hypothesised direction of influence; dashed arrows signify the non-significance of the depicted relationship.

According to Model 2, the three main factors influencing the degree of academic segregation at secondary level are 1) the age of first tracking; 2) the size of the vocational sector; and 3) the degree of academic segregation at primary level. The earlier tracking starts and the more students are assigned to vocational tracks ([37]), the higher the degree of academic segregation in secondary

([37]) As was described in Chapter III.2, this report can only analyse the relationship between the general-vocational differentiation and academic segregation; the long-term effects of a strong vocational sector cannot be taken into account. In addition, the impact of this general-vocational differentiation on academic segregation depends on school structures (to what extent students in different tracks attend the same or separate schools), and these results can simply indicate larger degrees of separation in the case of a more sizeable vocational sector.

education, even when previous levels of academic segregation are controlled for. The age of first tracking in fact influences academic segregation at secondary education to a larger extent than primary-level academic segregation.

The degree of academic segregation, in turn, has a significant influence on the achievement gap between high- and low-performing 15-year-old students. This relationship between academic segregation and the achievement gap is therefore also confirmed at secondary level. At this level of education, however, academic segregation is not the only factor with a direct impact on the inclusion dimension of equity: the degree of grade repetition also has a significant relationship with performance differences between high- and low-achievers. The higher the degree of grade repetition, the larger this achievement gap.

At the same time, the relationship between the achievement gaps at primary and secondary level is not statistically significant in this model. This means that there are different factors at play in this dimension of equity in primary and secondary education, and the achievement differences observed at primary level do not necessarily predict the performance gaps detected at secondary level. Nevertheless, the performance differences between students at primary level are not completely excluded from the model: academic segregation at primary level can influence achievement gaps at secondary level through its impact on academic segregation at secondary level.

The general hypotheses, therefore, are only partially confirmed by Model 2. On the one hand, the intervening role of academic segregation appears significant at secondary level as well. Furthermore, the degree of academic segregation at primary level does have a significant relationship with that at secondary level. On the other hand, student performance gaps in primary and secondary education appear to be largely independent from each other. Systemic factors at secondary education level, therefore, have the potential to alter the direction of earlier steps in the path towards the inclusiveness of education systems.

III.3.3. Impact of socio-economic background on student achievement

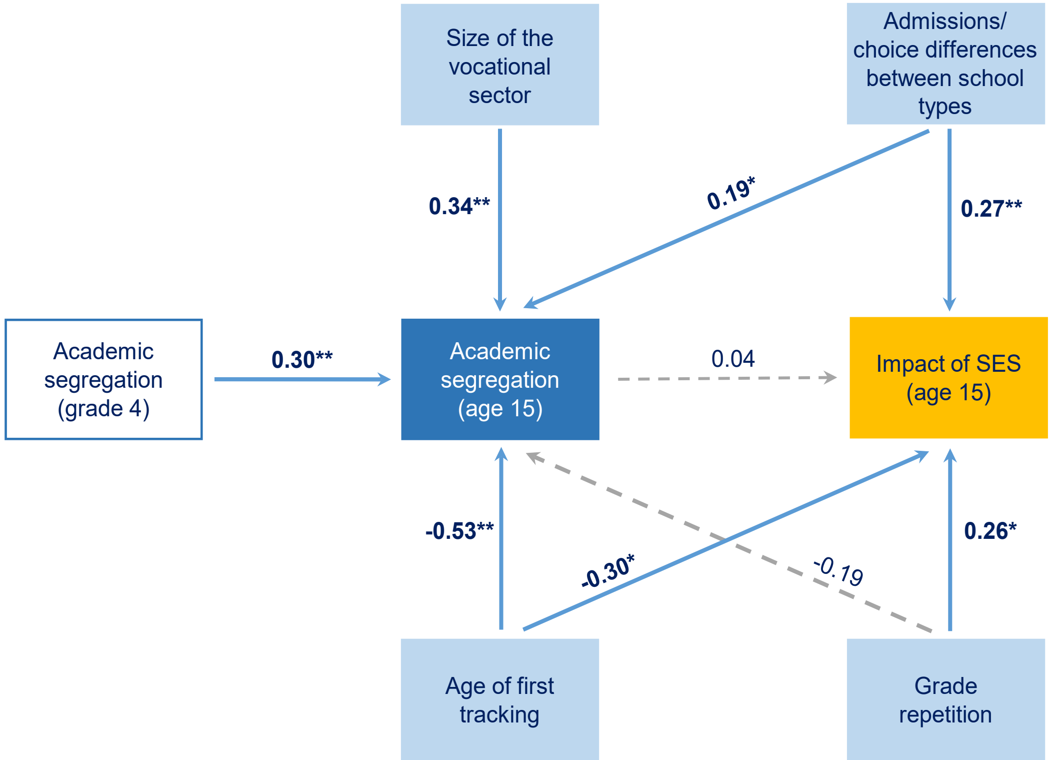
The third and final indicator of equity addresses the fairness dimension, thus the extent to which student achievement is dependent on socio-economic background. As described in Chapter III.1, this indicator has been computed from the correlation coefficients between student performance and the number of books at home, synthesising information from all available international assessment surveys testing students at both primary and secondary education levels. The general hypothesis on the relationship between levels of equity in primary and secondary education is thus not tested by the model ([38]), but was tested during the construction of the indicator.

The third model depicted on Figure III.3.3 follows the same colour-coding as Model 2 in illustrating relationships between explanatory, intervening and outcome variables. Model 3 presents the most complex pattern of relations out of the three. Standardised parameter estimates also differ more widely in terms of their level of statistical significance.

Both the bivariate analysis and Model 2 confirmed the importance of institutional factors in determining the level of stratification in education systems at secondary level. Model 3 reveals that very similar factors influence the inclusion and fairness dimensions of equity – though the dynamics of the relationships are not entirely the same.

([38]) As stated in Chapter III.1, this has been already confirmed to a large extent by the high correlation between primary and secondary level variables.

Figure III.3.3: Model 3 on the impact of socio-economic background on student achievement



Source: Eurydice.

Explanatory notes

Parameter estimates are standardised. Estimates marked with a (**) are significant at the 5 % level, while those marked with a (*) are significant at the 10 % level.

The R^2 values are 0.38 for the impact of socio-economic background, and 0.63 for academic segregation. The fit indices for the model are: Chi-Square = 1.982, degrees of freedom = 2, p = 0.371, CFI = 1.000, TLI = 1.002, RMSEA (Root Mean Square Error of Approximation) = 0.000.

Given the lack of Eurostat data on the size of the vocational sector at sub-national level, the same values were used for all education systems in Belgium and the United Kingdom respectively.

The degree of grade repetition is a categorical variable with three values: 'low' (0 % ≤ grade repeaters ≤ 5 %), 'medium' (5 % < grade repeaters ≤ 20 %), and 'high' (grade repeaters > 20 %).

On the one hand, Model 3 also confirms the role of the age of first tracking, the size of the vocational sector and the level of academic segregation in primary education in determining the degree of academic segregation at secondary level. The earlier tracking takes place, the more students are oriented towards vocational pathways, or the higher the degree of academic segregation at primary level, the more extensive the academic segregation at secondary level. In other words, early tracking, a large vocational sector and academic segregation at primary level all contribute to greater differences between schools in terms of their average student performance ([39]). In addition, in this model, another systemic factor also has a significant, though less pronounced impact on academic segregation: the differentiation between school types in school choice and school admissions policies. To recall, this variable has been computed as a composite score combining all forms of differentiation linked to school choice and school admissions across different school types, including those within the public sector and between the public and government-dependent private sectors (see Chapter III.2, section III.2.2). In Model 3, greater academic segregation is associated with more extensive differentiation.

([39]) As it was defined in Chapter III.1, high academic segregation means that a higher percentage of variation in student performance is explained by between-school differences.

On the other hand, an important difference between Model 2 and Model 3 (i.e. between having the inclusion or the fairness dimension of equity as the main outcome variable) is that in Model 3, when controlling for other factors, the level of academic segregation in secondary education does not have a significant impact on equity as fairness. Despite having a significant relationship with the fairness dimension of equity in a bivariate context (see Chapter III.1), academic segregation does not act as an intervening variable in Model 3. Instead, systemic factors influence the level of equity directly. Model 3 therefore does not confirm our general hypothesis on the role of academic segregation in determining levels of educational equity.

Three main factors have a statistically significant direct impact on the association between socio-economic background and student achievement. The first and strongest factor – with a parameter estimate which is significant at the 5 % level – is the extent of differentiation in school choice and school admissions policies. More extensive differentiation (that is, differentiation across more levels of education, policy areas or types of school – public as well as government-dependent private) can contribute to a stronger association between socio-economic background and student performance, thus decreasing the fairness of education systems. Second, early tracking does not only contribute to greater academic segregation and in turn, larger differences between high- and low-achieving students; it also increases the impact of socio-economic background on student performance. Finally, higher degrees of grade repetition are also associated with lower degrees of fairness and a stronger relationship between socio-economic background and achievement.

III.3.4. Conclusion

This chapter presented three path analysis models mapping how the complex interplay between education system features might influence equity in education. Two models were constructed to predict the inclusiveness of education systems and one to analyse institutional dynamics shaping the fairness dimension of equity. Besides testing the specific hypotheses on the impact of certain systemic factors, the models also aimed to test two general hypotheses: first, that academic segregation acts as an intervening factor between systemic features and indicators of equity, in both primary and secondary education; and second, that levels of equity in primary education influence levels of equity in secondary education.

The three models only partially confirmed these two general hypotheses. Regarding the first hypothesis, the models confirmed that academic segregation is an important intervening factor between the inclusiveness of education systems and their institutional features. At primary level, academic segregation is the only factor with a statistically significant direct influence on performance differences between high- and low-achieving students, and academic segregation remains an important predictor of this achievement gap at secondary level. However, when important institutional features are controlled for, the fairness of education systems is largely independent of the degree of academic segregation.

Concerning the second hypothesis, the confirmation again remains partial. On the one hand, the levels of fairness in primary and secondary education correlate highly – this has been tested when constructing the indicator for all education levels. Likewise, the degrees of academic segregation at primary level influence the same features of education systems at secondary level. On the other hand, the levels of inclusion in primary and secondary education depend on different factors and as such are not necessarily related to each other. Inclusive education systems do not necessarily remain inclusive once stratification measures such as tracking are introduced.

This brings us to the impact of specific institutional features of education systems and how they shape equity in education. In this respect, the models show quite a different picture for primary and secondary education. The two models including the secondary level of education highlight the importance of education system features linked closely to the stratification of education systems in decreasing equity levels. Specifically, early tracking, high degrees of grade repetition, and differentiation between school types in school choice and school admissions policies all contribute to lower equity levels in education systems. The inclusiveness of education systems is determined by – directly or indirectly – the different features of tracking (the age of first tracking and the size of the vocational sector) and the degree of grade repetition (whether it is relatively low, medium level or high). The age of first tracking and grade repetition, together with school choice and school admissions policy differentiation also influence the fairness of education systems, thus strengthening the association between socio-economic background and student achievement.

Most of these stratifying features of education systems, however, either do not exist at primary level, or only to a lesser extent. Therefore, at this early educational stage, different dynamics are at play. The most important predictor of the inclusiveness of education systems at primary level is nevertheless academic segregation (which, in essence, is linked to the stratification of education systems). Yet, the degree of academic segregation is mainly influenced by the amount of public funding per pupil in primary education. Hence, according to our modelling, the higher the per pupil public funding at primary level, the more even the distribution of student performance across schools – which hints at the presence of smaller quality differences. All the more so, as the positive impact of public funding on equity can also be offset by a larger government-dependent private sector (where more than 5 % of pupils are enrolled), potentially introducing additional differences into the education system.

Despite these differences between the education levels in the explanatory variables, academic segregation remains an important factor explaining levels of equity in both primary and secondary education. This means that systemic stratification starting at primary level as well as early public investment have the potential to have a lasting impact.

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I. General terms

Additional activities beyond the school day: structured or unstructured activities provided by the school before or after the normal school day. They may include help with homework, additional instruction in certain subjects or recreational activities. Additional activities are associated with an increased opportunity to learn, which can benefit disadvantaged students. All-day schooling may also provide these additional activities.

Additional resources for schools with large numbers of disadvantaged students: these resources include extra educational staff, professional development opportunities, reduced teaching time, extra-curricular activities, etc. In this context what constitutes 'large numbers of disadvantaged students' is defined at national level. The top-level education authorities may allocate these resources to the regional or local authority, or give them directly to the school. The types of activities funded by these additional resources may be predetermined or varying degrees of autonomy may be permitted (see also European Commission/EACEA/Eurydice, 2019c, Indicator 2.5).

Admissions criteria: criteria used to decide who is offered a place in a school or in a programme. These criteria may be related to students' academic achievements (see Academic admission criteria) and/or other non-academic student characteristics (see Non-academic admission criteria).

Academic admission criteria: admission criteria related to students' academic achievement or abilities. The most commonly used ways of assessment of academic achievement for school admission are standardised national tests, school entrance exams, previous academic achievement and recommendations from previous school/teachers.

Academic segregation: in this report, the term is used in a broader sense referring to the uneven distribution between schools of students with different achievement levels.

All-day schooling: schooling aiming to provide learning and enrichment opportunities for students over the full working day (e.g. 8 or 9 a.m. to 5 or 6 p.m.). It may refer to an extended school day, where compulsory instruction is spread throughout the day; or a normal school day with additional learning activities provided to students before or after compulsory instruction.

Appointment of teachers: the procedure(s) for obtaining a teaching position at a particular school, and not to the initial recruitment to the profession (see also European Commission/EACEA/Eurydice, 2018a, Figure 2.4).

Better working conditions (for teachers): measures taken to attract good teachers to disadvantaged schools (non-financial incentives) as well as to ease the burden on existing staff thus improving retention. The measures may include reduced teaching time, reduced class sizes, improved job security, access to mentoring/coaching and others.

Compulsory (core) curriculum: the compulsory subjects that must be taught to all students. The compulsory curriculum is defined by central education authorities and includes the compulsory flexible subjects chosen by schools as well as the compulsory subjects with a flexible timetable. Local authorities, schools, teachers and/or students may have varying degrees of freedom to choose subjects and/or allocate compulsory instruction time. (For detailed definitions of curriculum categories see European Commission/EACEA/Eurydice, 2019d.)

Curricular differentiation: the practice whereby schools provide different core curricula which may be linked, but not necessarily, to differentiated tracks/pathways/streams. Core curricula can be regarded as different if they include different compulsory subjects/curriculum content, and/or a different stated (minimum) instruction time for the same subjects/curriculum content.

Decision-making process: the main stages of a process which is followed in order to reach a decision – proposal, consent and final approval. Consent means that a stakeholder has to agree to the proposed action; final approval refers to the last step of the decision-making process where a stakeholder has to endorse a proposal agreed by other stakeholders. Stakeholders who have to be merely informed or consulted, but who are not required to consent to a proposed action, are not considered as participants in the decision-making process.

Differentiated tracks/pathways/streams: clearly distinct education pathways which students can follow during secondary education. Typically, these pathways differ in their focus offering general, vocational, or technical education (see Curricular differentiation) and they often lead to a different type of certificate at the end of the programme. Different tracks/streams/pathways can be provided in the same school or by specific types of school.

Disadvantaged students: students from low socio-economic backgrounds often including those from racial, ethnic minority or immigrant backgrounds. These students are at risk of underperforming at school. Definitions of 'disadvantage' vary between countries. Note that learning difficulties or physical disabilities are not included.

Education institutions by sector:

1. **Public education institution**: an institution is classified as public if it is controlled and managed:
   - directly by a public education authority or agency of the country where it is located or,
   - either by a government agency directly or by a governing body (council, committee, etc.), most of whose members are either appointed by a public authority of the country where it is located or elected by public franchise (UNESCO-UIS, 2019).
2. **Private education institution:** an institution is classified as private if:
   - it is controlled and managed by a non-governmental organisation (e.g. a church, a trade union or a business enterprise, or a foreign or international agency); or
   - its governing board consists mostly of members not appointed by a public agency (UNESCO-UIS, 2019).
   - The terms 'government-dependent' and 'independent' refer only to the degree of a private institution's dependence on funding from government sources; they do not refer to the degree of government direction or regulation (UNESCO-UIS/OECD/Eurostat, 2018).

     A **government-dependent private education institution** is one that either receives at least 50 per cent of its core funding from government agencies or one whose teaching personnel are paid by a government agency – either directly or through government.

     A **government independent private education institution** is one that either receives less than 50 per cent of its core funding from government agencies or those whose teaching personnel are not paid by a government agency – either directly or through government.

External school evaluation: the evaluation of schools (external or internal) focusing on the activities carried out by school staff in order to monitor or improve school quality and/or student results, but without seeking to assign responsibility to individual staff members. External school evaluation is conducted by evaluators who report to an education authority and who are not directly involved in the activities of the school being evaluated. Evaluation which is conducted by specialist evaluators and concerned with specific tasks (relating to accounting records, health, safety, archives, etc.) is not regarded as external school evaluation (see also European Commission/EACEA/Eurydice, 2015).

General education: comprises education programmes designed to develop learners' general knowledge, skills and competencies, as well as literacy and numeracy skills, often to prepare participants for more advanced education programmes at the same or a higher ISCED level and to lay the foundation for lifelong learning. These programmes are typically school- or college-based. General education includes education programmes designed to prepare participants for entry into vocational education but do not prepare them for employment in a particular occupation, trade or class of occupations or trades, nor lead directly to a labour market-relevant qualification (see UNESCO-UIS 2012, p. 14).

International Standard Classification of Education (ISCED): has been developed to facilitate comparisons of education statistics and indicators across countries on the basis of uniform and internationally agreed definitions. The coverage of ISCED extends to all organised and sustained learning opportunities for children, young people and adults, including those with special educational needs, irrespective of the institutions or organisations providing them or the form in which they are delivered.

The current classification – ISCED 2011 or 'ISCED' (UNESCO-UIS, 2012) – refers to the following levels of education:

ISCED 0: Pre-primary education

Programmes at level 0 (pre-primary), defined as the initial stage of organised instruction, are designed primarily to introduce very young children to a school-type environment, i.e. to provide a bridge between the home and a school-based atmosphere. Upon completion of these programmes, children continue their education at level 1 (primary education).

ISCED level 0 programmes are usually school-based or otherwise institutionalised for a group of children (e.g. centre-based, community-based, home-based).

Early childhood educational development (ISCED level 010) has educational content designed for younger children (in the age range of 0 to 2 years). Pre-primary education (ISCED level 020) is designed for children aged at least 3 years.

ISCED 1: Primary education

Primary education provides learning and educational activities typically designed to provide students with fundamental skills in reading, writing and mathematics (i.e. literacy and numeracy). It establishes a sound foundation for learning, a solid understanding of core areas of knowledge and fosters personal development, thus preparing students for lower secondary education. It provides basic learning with little specialisation, if any.

This level begins between 5 and 7 years of age, is compulsory in all countries and generally lasts from four to six years.

ISCED 2: Lower secondary education

Programmes at ISCED level 2, or lower secondary education, typically build upon the fundamental teaching and learning processes which begin at ISCED level 1. Usually, the educational aim is to lay the foundation for lifelong learning and personal development that prepares students for further educational opportunities. Programmes at this level are usually organised around a more subject-oriented curriculum, introducing theoretical concepts across a broad range of subjects.

This level typically begins around the age of 11 or 12 and usually ends at age 15 or 16, often coinciding with the end of compulsory education.

ISCED 3: Upper secondary education

Programmes at ISCED level 3, or upper secondary education, are typically designed to complete secondary education in preparation for tertiary or higher education, or to provide skills relevant to employment, or both. Programmes at this level offer students more subject-based, specialist and in-depth programmes than in lower secondary education (ISCED level 2). They are more differentiated, with an increased range of options and streams available.

This level generally begins at the end of compulsory education. The entry age is typically age 15 or 16. Entry qualifications (e.g. completion of compulsory education) or other minimum requirements are usually needed. The duration of ISCED level 3 varies from two to five years.

ISCED 4: Post-secondary non-tertiary education

Post-secondary non-tertiary programmes build on secondary education to provide learning and educational activities to prepare students for entry into the labour market and/or tertiary education. It typically targets students who have completed upper secondary (ISCED level 3) but who want to improve their skills and increase the opportunities available to them. Programmes are often not significantly more advanced than those at upper secondary level as they typically serve to broaden rather than deepen knowledge, skills and competencies. They are therefore pitched below the higher level of complexity characteristic of tertiary education.

ISCED 5: Short-cycle tertiary education

Programmes at ISCED level 5 are short-cycle tertiary education, and are often designed to provide participants with professional knowledge, skills and competencies. Typically, they are practice-based and occupation-specific, preparing students to enter the labour market. However, these programmes may also provide a pathway to other tertiary education programmes.

Academic tertiary education programmes below the level of a Bachelor's programme or equivalent are also classified as ISCED level 5.

ISCED 6: Bachelor's or equivalent level

Programmes at ISCED level 6 are at Bachelor's or equivalent level, which are often designed to provide participants with intermediate academic and/or professional knowledge, skills and competencies, leading to a first degree or equivalent qualification. Programmes at this level are typically theory-based but may include practical elements; they are informed by state of the art research and/or best professional practice. ISCED 6 programmes are traditionally offered by universities and equivalent tertiary educational institutions.

ISCED 7: Master's or equivalent level

Programmes at ISCED level 7 are at Master's or equivalent level, and are often designed to provide participants with advanced academic and/or professional knowledge, skills and competencies, leading to a second degree or equivalent qualification. Programmes at this level may have a substantial research component but do not lead to the award of a doctoral qualification. Typically, programmes at this level are theory-based but may include practical components and are informed by state of the art research and/or best professional practice. They are traditionally offered by universities and other tertiary educational institutions.

ISCED 8: Doctoral or equivalent level

Programmes at ISCED level 8 are at doctoral or equivalent level, and are designed primarily to lead to an advanced research qualification. Programmes at this ISCED level are devoted to advanced study and original research and are typically offered only by research-oriented tertiary educational institutions such as universities. Doctoral programmes exist in both academic and professional fields.

Local authorities: the authorities responsible for territorial units below regional level. They may comprise elected representatives or they may be administrative divisions of central authorities.

Low-achieving students: students performing below the expected level of attainment in one or more school subjects. Low achievement may be expressed in absolute terms (e.g. a low grade) or in relative terms (e.g. students who underperform compared to the majority of the class or, in other words, their results are significantly lower than the class average).

National/standardised tests: tests carried out under the responsibility of the top-level education authority during ISCED levels 1, 2 and 3. The procedures for the administration and marking of these tests, as well as the setting of content and the interpretation and use of results are decided at the top-level. All students take the tests under similar conditions and tests are marked in a consistent way. National standardised tests are separate from but often in addition to the national examinations leading to certificates taken at the end of an ISCED level. Tests designed at school level on the basis of a centrally designed framework of reference are not considered as national standardised tests. International surveys such as PISA are not considered although the results may be used for national purposes.

National examinations for certified qualifications: formal examinations administered at the end of ISCED levels 1, 2 or 3. They are similar to other national tests in that they are carried out under the responsibility of top-level authorities and the examination procedures are standardised. Passing these examinations results in the award of a certificate or other official proof of having successfully completed a particular level or full course of education.

Non-academic admission criteria: a variety of admissions criteria that are not related to students' academic achievement. These include criteria related to students' socio-economic background, place of residence, the presence of siblings or family members in the school, religious affiliation or agreement to the school's instruction or ideological orientation, etc.

One-to-one tuition: a form of individualised learning support where one student is being taught or given learning support by one teacher (or teaching assistant).

Previous academic achievement: achievement demonstrated by school grades/marks in one or more subjects from one or more school years at the previous educational level, or by a portfolio providing evidence of learning outcomes achieved.

Programme: a recognised set or sequence of educational activities designed and organised to achieve predetermined learning objectives or accomplish a specific set of educational tasks over a sustained period. Within an educational programme, educational activities may also be grouped into sub-components variously described in national contexts as 'courses', 'modules', 'units', and/or 'subjects' (see UNESCO-UIS 2012, p. 79). At ISCED levels 2/3, different programmes often have different orientations (general, vocational, technical, etc.).

Public subsidies: refer to government financial transfers to schools as well as financial aid to students (e.g. scholarships, child allowances contingent on student status, tax benefits related to study fees).

Recommendation from previous schools: written recommendations usually provided by teachers or a board from the previous school/ educational level or grade; they often include information on the student's academic achievement and sometimes information on his/her psychological, social competences. The recommendations on the most suitable type of education or track for a student may be binding or non-binding.

Remedial classes/education: additional learning support provided by qualified professional staff in schools to students who are not meeting the expectations for their age group in one or more subjects. Also known as catch-up classes.

Schools: any type of education institution providing general or vocational education for students at ISCED levels 1 to 3.

School autonomy:

- '**Full school autonomy**' means that the school alone takes decisions within the limits set by national/local legislation or regulations. Guidelines can nevertheless be provided by the education authority but they do not restrict school autonomy.
- '**Limited school autonomy**' means that the responsibility is shared with top-level and/or local education authorities. Examples of such practices include:
  - ❖ schools take decisions together with the top-level and/or local education authority or submit proposals for approval;
  - ❖ schools take decisions based on a set of options predetermined by the top-level and/or local education authority;
  - ❖ schools have some autonomy in the area concerned, although some decisions must be referred to the top-level and/or local education authority;
- '**No school autonomy**' means that decisions are taken only by the top-level or local education authority, although the school may be consulted at a particular stage of the process.
- '**Not applicable**' means that the element under consideration does not exist in the given education system, and therefore no decisions are made by schools or education authorities at any level.

School catchment area: a geographical area within which a school providing education at primary, lower and/or upper secondary level (ISCED 1-3) must enrol or give priority admission to resident children when they first enrol to school or transfer from one educational level to another. Public schools and government-dependent private schools as well as different school types, including vocational schools, may share the same catchment area, or they may have a different geographical catchment area.

School day: the set time during the day when (apart from breaks) all students must be in school and follow instruction related to compulsory curriculum.

School entrance examinations: written tests and/or oral interviews organised by individual schools in one or more subjects. The exams are also scored and evaluated by staff in individual schools. Schools may publish the requirements in advance.

Selective differentiation: a form of differentiation existing where schools within the same sector following the same curriculum and operating within a uniform structure, still differ in how they define their admission criteria. One form of selective differentiation is academic selectivity, while another is selectivity based on religious affiliation.

Social segregation in schools: in this report, the term is used in a broader sense referring to the uneven distribution between schools of students with different socio-economic background.

Structural differentiation: different models of primary and secondary education existing in parallel within an education system (also called parallel education structures). Students may therefore enrol in separate types of school at different ages, which means that different groups of students experience transitions between schools at different points (ages) in their schooling.

Top-level or top-level authority: the highest level of authority with responsibility for education in a given country, usually located at national (state) level. However, for Belgium, Germany, Spain and the United Kingdom, the *Communautés*, *Länder*, *Comunidades Autónomas* and the devolved administrations respectively are either wholly responsible or share responsibilities with the state level for all or most areas relating to education. Therefore, these administrations are considered as the top-level authority for the areas where they hold the responsibility, while for those areas for which they share the responsibility with the national (state) level, both are considered to be top-level authorities.

Top-level strategy/action plan: an official policy document developed by top-level authorities in an effort to achieve an overall goal. A strategy can comprise a vision, identify objectives and goals (qualitative and quantitative), describe processes, authorities and people in charge, identify funding sources, make recommendations, etc.

Tracking: the assignment of students to a differentiated track, pathway or stream of education.

Teaching assistant: an individual who assists a teacher with instructional responsibilities. Teaching assistants may assist in the classroom, but may also serve as the sole instructor for a class or group of students. Also referred to as ‘teachers' aide’ or ‘education assistant’.

Types of school: different types of school (ISCED 1-3) may differ in the way they are controlled, managed or funded (public or private), or they may offer different core curricula (curricular differentiation) and/or they may form part of parallel educational structures (structural differentiation). In addition, in a minority of education systems, schools within the same sector following the same curriculum and operating within a uniform structure still differ in how they define their admission criteria (selective differentiation).

Vocational education and training (VET): education programmes at ISCED level 2 and/or 3 which are intended to provide learners with the knowledge, skills and competencies specific to a particular occupation, trade, or class of occupations or trades. Such programmes may have work-based components (e.g. apprenticeships, dual-system education programmes), but they must include at least part-time school-based education. Successful completion of such programmes leads to labour market-relevant, vocational qualifications acknowledged as occupationally-oriented by the relevant national authorities and/or the labour market (see UNESCO-UIS 2012, p. 14).

II. Statistical terms

Confirmatory factor analysis: a type of factor analysis in which a pre-specified set of common factors, with some variables constrained to have zero factor loadings, is tested for consistency with the correlations of observed variables (Everitt and Skrondal, 2010).

Correlation coefficient: an index that quantifies the linear relationship between a pair of variables. The coefficient takes values between −1 and 1, with the sign indicating the direction of the relationship and the numerical magnitude its strength. Values of −1 or 1 indicate that the sample values fall on a straight line. A value of zero indicates the lack of any linear relationship between the two variables. Spearman's rho is a rank correlation coefficient, that is, a coefficient depending on the ranks of the variables and not on their observed values (Everitt and Skrondal, 2010).

Outcome variable: a variable whose value depends on the value of one or more explanatory variables. In this report, the main outcome variable is equity.

Factor analysis: a procedure that postulates that the correlations or covariances between a set of observed variables arise from the relationship of these variables to a small number of underlying, unobservable, latent variables, usually known as the common factors (Everitt and Skrondal, 2010).

Explanatory variables: variables which seek to 'predict' or 'explain' the outcome variable. In this report, the main explanatory variables are education system features and academic segregation.

Intervening variable: a variable 'intervening' between an explanatory variable and an outcome variable. In this report, the term applies to the academic segregation variable hypothesised to be influenced by certain education system features. In turn academic segregation influences the main outcome variable: equity.

Item Response Theory (IRT): a set of statistical models and methods designed to measure abilities from items answered in ability tests (Everitt and Skrondal, 2010; on IRT see, for example, De Ayala, 2013).

Linear regression: a linear approach to modelling the relationship between an outcome variable and one or more explanatory variables. If the model has one explanatory variable, it is called simple or bivariate linear regression. For more than one explanatory variable, it is called multiple linear regression. In linear regression, the observations are assumed to be the result of random deviations from an underlying linear relationship (depicted as a straight line) between an outcome variable and an explanatory variable. The smaller the deviations from the underlying relationship (i.e. the smaller the distance of the observations from the line), the better the fit of the model to the observed values (see also R square).

Median: the value separating the lower half of a continuous data range from the higher. For example, in the range '0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10' the median value is '5'.

Path analysis: a tool for evaluating the interrelationships among variables by analysing their correlational structure (Everitt and Skrondal, 2010). Path analysis allows the measurement of both direct and indirect effects on the main outcome variable. The relationships are modelled by a path diagram (see e.g. Bryman and Cramer, 1990).

Percentile: the percentile X (with $0 \leq X \leq 100$) of a variable is the value of the variable below which are X per cent of the observations in the dataset. For example, a percentile 25 (denoted P25) of

EUR 1 000 for an income variable means that 25 % of people in that sample earn less than EUR 1 000. P0 is the minimum and P100 the maximum.

R square: the R^2 (or the 'goodness of fit') is the proportion of the variance in the outcome variable that is predictable from the explanatory variable(s).

Significance level: the probability of wrongly rejecting the null hypothesis (the hypothesis that there is no difference or no association) when it is true. For example, a significance level of 0.05 indicates a 5 % risk of concluding that a relationship exists when in reality there is no relationship.

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
BE fr	**14**	ISCED 3	5	Regular secondary education – General	Enseignement secondaire ordinaire général de transition	CESS = Certificat d'enseignement secondaire supérieur	yes
				Regular secondary education – Transition-stream technical and artistic education	Enseignement secondaire ordinaire technique et artistique de transition	CESS = Certificat d'enseignement secondaire supérieur	yes
				Regular secondary education – Qualification-stream technical and artistic education	Enseignement secondaire ordinaire technique et artistique de qualification	CESS = Certificat d'enseignement secondaire supérieur	yes
				Regular secondary vocational education	Enseignement secondaire ordinaire professionnel de plein exercice	CE = Certificat d'études (de 6°Professionnelle)	no
				Regular secondary dual vocational education	Enseignement secondaire ordinaire professionnel en alternance	CE = Certificat d'études (de 6°Professionnelle)	no
BE de	**12**	ISCED 2	4	General secondary education	Allgemeinbildender Sekundarunterricht		
				Technical secondary education	Technischer Übergangsunterricht		
				Technical secondary education	Technischer Befähigungsunterricht		
				Vocational secondary education	Berufsbildender Sekundarunterricht		
	(14)	ISCED 3	4	General secondary education	Allgemeinbildender Sekundarunterricht	Abschlusszeugnis der Oberstufe des allgemeinbildenden Sekundarunterrichts	yes
				Technical secondary education	Technischer Übergangsunterricht	Abschlusszeugnis der Oberstufe des technischen Sekundarunterrichts, Unterrichtsform: technischer Übergang	yes
				Technical secondary education	Technischer Befähigungsunterricht	Abschlusszeugnis der Oberstufe des technischen Sekundarunterrichts, Unterrichtsform: technische Befähigung	yes
				Vocational secondary education	Berufsbildender Sekundarunterricht	Abschlusszeugnis der Oberstufe des berufsbildenden Sekundarunterrichts	yes
BE nl	**12**	ISCED 2	2	Stream A (General)	A Stroom		
				Stream B (Vocational)	B Stroom		
	(14)	ISCED 3	5	General secondary education	Algemeen secundair onderwijs	Diploma Secondary Education	yes
				Secondary education in the arts	Kunstsecundair onderwijs	Diploma Secondary Education	yes
				Technical secondary education	Technisch secundair onderwijs	Diploma Secondary Education	yes
				Vocational secondary education	Beroepssecundair onderwijs	Certificate Vocational Secondary Education	no
				Part-time vocational secondary education	Deeltijds beroepssecundair	Certificate Vocational Secondary Education	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
BG	**14**	ISCED 3	14	General profiled secondary education (11 profiles)	Sredno obshto obrazovanie-profilirano	High school diploma	yes
				VET programmes (first, second and third degree)	Profesionalni programi	High school diploma and certificate for professional qualification	some
CZ	**11**	ISCED 2	1 ([1])	General lower secondary education	Druhý stupeň / gymnázium		
	(15)	ISCED 3	5	Upper secondary general education with a Maturita examination (gymnasium)	Střední vzdělání s maturitní zkouškou (všeobecné – gymnázium)	Certificate on Maturita examination	yes
				Upper secondary general education with a Maturita examination (lyceum)	Střední vzdělání s maturitní zkouškou (všeobecné – lyceum)	Certificate on Maturita examination	yes
				Upper secondary vocational education with a Maturita examination	Střední vzdělání s maturitní zkouškou (odborné)	Certificate on Maturita examination	yes
				Upper secondary education with VET certificate	Střední vzdělání s výučním listem	VET certificate	no
				Upper secondary education	Střední vzdělání	No specific certificate, only the report on the final VET examination	no
DK	**16**	ISCED 3	6	Higher General Examination Programme (stx)	Almen studentereksamen (stx)	Upper Secondary School Leaving Examination	yes
				Higher Preparatory Examination (hf)	Hf-eksamen (hf)	Higher Preparatory Examination	yes
				Higher Commercial Examination programme (HHX)	Merkantil studentereksamen (hhx)	Higher Technical Examination	yes
				Higher Technical Examination programme (HTX)	Teknisk studentereksamen (htx)	Higher Commercial Examination	yes
				Vocational Programme including General Upper Secondary Exam (eux)	Erhvervsgymnasial studentereksamen (eux)	Upper Secondary School Leaving Examination	yes
				Vocational Programme EUD	Eud – Erhvervsuddannelse for unge	Higher Vocational Examination	no
DE	**10**	ISCED 2	5	Gymnasium (grades 5/7-9/10)	Gymnasien (Klassen 5/7-9/10)		
				Intermediate schools	Realschulen		
				Secondary general schools	Hauptschulen		
				Comprehensive schools (grades 5-10)	Integrierte Gesamtschulen (Klassen 5/7-10)		
				Schools with several educational programmes	Schularten mit mehreren Bildungsgängen		

([1]) Structural differentiation.

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
DE	(16)	ISCED 3	7	General upper secondary education	Gymnasyale Oberstufe	Allgemeine Hochschulreife	yes
				Fachgymnasium (general programme)	Fachgymnasium (allgemeinbildender Bildungsgang)	Allgemeine Hochschulreife	yes
				Berufsfachschulen (general higher education entrance qualification)	Berufsfachschulen (Allgemeine Hochschulreife)	Allgemeine Hochschulreife	yes
				Fachoberschulen, two-year programme (first qualification)	Fachoberschulen, zweijährig (Erstausbildung)	Fachhochschulreife	yes
				Berufsfachschulen (occupational qualification)	Berufsfachschulen (berufliche Qualifikation)	Vocational qualification in a specific occupation	no
				Dual System	Berufsschulen (Duales System)	Vocational qualification in a specific occupation	no
				One-year programmes at training institutions/schools for health care and social professions	Einjährige Programme an Ausbildungsstätten/Schulen für Gesundheits- und Sozialberufe	Vocational qualification in a specific occupation	no
EE	**16**	ISCED 3	3	General secondary education	Üldkeskharidus	Upper secondary leaving certificate	yes
				Vocational secondary education	Kutsekeskharidus	Vocational Education Institution Leaving Certificate	yes
				Vocational courses based on basic education	Kutseõpe põhihariduse baasil	Vocational qualification certificate and/or Vocational Education Institution Leaving Certificate	no
IE	**12**	ISCED 2	2	Junior Certificate Level 1			
				Junior Certificate Level 2			
	(15)	ISCED 3	3	Established Leaving Certificate		Established Leaving Certificate	yes
				Leaving Certificate Vocational Programme		Leaving Certificate Vocational Programme	yes
				Leaving Certificate Applied		Leaving Certificate Applied	no
EL	**15**	ISCED 3	3	General High School	Geniko Lykeio	General Upper Secondary School (General Lyceum) Certificate	yes
				Vocational High School	Epaggelmatiko Lykeio (EPAL)	Vocational Upper Secondary School (EPAL) Certificate and EPAL Specialisation Diploma	yes
				Vocational School	Epaggelmatikes Sholes (EPAS) OAED	Vocational School (EPAS) Diploma	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
ES	**15**	ISCED 3	3	4th grade of Compulsory Secondary Education + Non-compulsory Secondary Upper Education (Bachillerato)	4º curso de Educación Secundaria Obligatoria + Bachillerato	Bachillerato	yes
				4th grade of Compulsory Secondary Education + Intermediate Vocational Training	4º curso de Educación Secundaria Obligatoria + Formación Profesional de Grado Medio	Technician	no
				Basic Vocational Training	Formación Profesional Básica	Certificate of Basic Vocational Training	no
FR	**15**	ISCED 3	4	General secondary education	Enseignement général du second degré (Baccalauréat général)	Baccalauréat général	yes
				General secondary education	Enseignement général du second degré (Baccalauréat technologique)	Baccalauréat technologique	yes
				Vocational secondary education	Enseignement professionnel du second degré (Baccalauréat professionnel)	Baccalauréat professionnel	yes
				Vocational secondary education preparing to Certificat d'aptitude professionnelle (CAP)	Enseignement professionnel du second degré conduisant au CAP ou équivalent	Certificat d'aptitude professionnelle (CAP)	no
HR	**15**	ISCED 3	4	General upper secondary education programmes (gymnasium programmes)	Gimnazijski programi	General upper secondary education certificate / State Matura certificate	yes
				Four or five-years vocational education programmes	Strukovni programi obrazovanja u trajanju četiri ili pet godina	Four-years and five-years vocational upper secondary education qualification	yes
				Three-years vocational education programmes	Strukovni programi obrazovanja u trajanju tri godina	Three-years vocational upper secondary education qualification	no
				One or two-years vocational education programmes	Strukovni programi obrazovanja u trajanju do dvije godine	One-year and two-years vocational upper secondary education qualification	no
IT	**14**	ISCED 3	5	Liceo education	Istruzione liceale	Diploma di istruzione secondaria superiore	yes
				Technical Institute	Istituti Tecnici	Diploma di istruzione secondaria superiore	yes
				State Vocational and Education Institutes (five-year study course)	Istituti Professionali	Diploma di istruzione secondaria superiore	yes
				Vocational Education and Training (3 years)	Istruzione e formazione professionale	Qualifica professionale	no
				Vocational Education and Training (4 years)	Istruzione e formazione professionale	Diploma professionale	no
CY	**15**	ISCED 3	3	Upper Secondary General Education	Lykio	Apolytirio Lykeiou	yes
				Upper Secondary Technical and Vocational Education	Techniki & Epagelmatiki Scholi	Apolytirio Technikis Scholis	yes
				Apprenticeship System	Sistima Mathiteias	Apolytirio Technikis Scholis	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
LV	**13**	ISCED 2	5	General education pathway	Vispārizglītojošais virziens		
				Mathematics, sciences and technical pathway	Matemātikas, dabaszinību un tehnikas virziens		
				Humanities and social sciences	Humanitārais un sociālais virziens		
				Vocational education within general education	Profesionālas ievirzes izglītības programma		
				Vocational lower-secondary education	Arodizglītība un pamata izglītība		
	(16)	ISCED 3	5	General education pathway	Vispārizglītojošais virziens	General education certificate	yes
				Mathematics, sciences and technical pathway	Matemātikas, dabaszinību un tehnikas virziens	General education certificate	yes
				Humanities and social sciences	Humanitārais un sociālais virziens	General education certificate	yes
				Vocational education within general education	Profesionālais virziens	General education certificate	yes
				Professional/vocational education	profesionālā vidējā	Vocational education certificate	yes
LT	**14**	ISCED 2	2	General lower secondary (basic) education	Pagrindinio ugdymo programos		
				Vocational education	Profesinio mokymo programos		
	(17)	ISCED 3	3	General upper secondary education	Vidurinio ugdymo programos	Brandos atestatas	yes
				Vocational education programmes aimed at the acquisition of a professional qualification and secondary education	Profesinio mokymo programa kartu su vidurinio ugdymo programomis	Brandos atestatas ir profesinio mokymo diplomas	yes
				Vocational education programmes aimed at the acquisition of a professional qualification	Profesinio mokymo programos, neįgijant vidurinio išsilavinimo	Profesinės kvalifikacijos pažymėjimas	no
LU	**12**	ISCED 2	2	Classical Secondary Education	Enseignement secondaire classique		
				General Secondary Education	Enseignement secondaire général		
	(15)	ISCED 3	5	Classical Secondary Education	Enseignement secondaire classique	General Certificate of Secondary Education – Advanced Level	yes
				General Secondary Education	Enseignement secondaire général	General Certificate of Secondary Education – Advanced Level	yes
				Technician's diploma	Formation professionnelle initiale menant au diplôme de technicien (DT)	Diplôme de technicien	yes
				Initial vocational training leading to the vocational aptitude diploma (DAP)	Formation professionnelle de base menant au diplôme d'aptitude professionnelle (DAP)	Diplôme d'aptitude professionnelle	no
				Certificate of professional competence	Formation professionnelle de base menant au certificat de capacité professionnelle (CCP)	Certificat de capacité professionnelle	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
HU	**10**	ISCED 2	1 ([2])	General lower secondary education	Felső tagozat / Gimnázium		
	(14)	ISCED 3	4	General secondary school	Gimnázium	Secondary school leaving certificate	yes
				Secondary vocational school	Szakgimnázium	Secondary school leaving certificate and a basic qualification registered in the National qualification register at ISCED level 354	yes
				Vocational school (basic qualification)	Szakközépiskola	Basic qualification registered in the National qualification register at ISCED level 353	no
				Vocational school (basic qualification plus two years)	Szakközépiskola (Érettségi)	Basic qualification registered in the National qualification register at ISCED level 353 and a secondary school leaving certificate	yes
MT	**15**	ISCED 3	5	Junior college		Matriculation Certificate	yes
				Higher secondary schools		Matriculation Certificate	yes
				Institute of Tourism Studies (ITS)		Different qualifications depending on the programme at different MQF levels from level 2 to 6.	yes
				Malta College of Arts, Science and Technology (MCAST)		Different qualifications depending on the programme: MCAST Advanced Diploma (MQF 4); MCAST Diploma (MQF 3); MCAST Foundation Certificate (MQF 2); MCAST Introductory Certificate (MQF 1), MCAST Award (MQF 1).	yes
				Alternative Learning Programme (ALP)		Certificate at MQF 2	no
NL	**12**	ISCED 2	3	Junior general secondary education (VWO)	VWO		
				Junior general secondary education (HAVO)	HAVO		
				Pre-vocational secondary education (VMBO)	VMBO		
	(15)	ISCED 3	5	Senior general secondary education (VWO)	VWO	VWO	yes
				Senior general secondary education (HAVO)	HAVO	HAVO	yes
				Vocational education, middle-management training	MBO-middenkaderopleiding (Niveau 4)	MBO-middenkaderopleiding (Niveau 4)	yes
				Vocational education, professional training	MBO-vakopleiding (Niveau 3)	MBO-vakopleiding (Niveau 3)	no
				Vocational education, basic vocational training	MBO-basisberoepsopleiding (Niveau 2)	MBO-basisberoepsopleiding (Niveau 2)	no

([2]) Structural differentiation.

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
AT	**10**	ISCED 2	2	Academic secondary school, lower level	Allgemein bildende höhere Schule, Unterstufe		
				New secondary school	Neue Mittelschule		
	(14)	ISCED 3	6	Academic secondary school, upper level	Allgemeinbildende höhere Schule, Oberstufe	Reifeprüfung	yes
				Special type of academic upper secondary school	Oberstufenrealgymnasium	Reifeprüfung	yes
				Pre-vocational school	Polytechnische Schule	Jahreszeugnis	no
				VET college	Berufsbildende höhere Schule	Abschlusszeugnis	yes
				VET school	Berufsbildende mittlere Schule	Jahreszeugnis	no
				Vocational school for apprentices	Berufsschule	Lehranschlussprüfung	yes
PL	**15**	ISCED 3	4	General secondary school	Liceum ogólnokształcące	Maturity certificate (świadectwo dojrzałości)	yes
				Technical secondary school	Technikum	Vocational qualifications (kwalifikacje zawodowe) + Maturity certificate (świadectwo dojrzałości)	yes
				Stage I sectoral vocational school	Szkoła branżowa I stopnia	Vocational qualifications (kwalifikacje zawodowe)	no
				Stage I sectoral vocational school + Stage II sectoral vocational school	Szkoła branżowa I stopnia + Szkoła branżowa II stopnia	Vocational qualifications (kwalifikacje zawodowe) + Maturity certificate (świadectwo dojrzałości)	yes
PT	**15**	ISCED 2	2	Basic Education	Ensino Básico		
				Education and training courses (CEF), Integrated Programme for Education and Training (PIEF) and Alternative Pathways	Cursos de Educação-Formação (CEF), Percursos Integrados de Educação-Formação (PIEF), Percursos Currículares Alternativos		
		ISCED 3	3	Upper secondary education – Scientific-humanistic courses	Ensino secundário – Cursos científico-humanísticos	Upper secondary diploma	yes
				Upper secondary education – Vocational courses	Ensino secundário – Cursos profissionais	Upper secondary diploma and professional qualification level 4	yes
				Upper secondary Education and Training Courses, type 5, 6, 7 (CEF)	Cursos de Educação – Fomação de nível Secundário	Upper secondary diploma and professional qualification level 4	yes

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
RO	**14**	ISCED 3	4	General education	Liceu teoretic	Diploma liceu	yes
				Upper secondary-high school (vocational)	Liceu vocational	Diploma liceu si certificat de competente	yes
				Upper secondary-high school (technological)	Liceu tehnologic	Diploma liceu si certificat de competente	yes
				Upper secondary-vocational school	Scoala profesionala	Diploma de scoala profesionala si certificat de competente	no
SI	**15**	ISCED 3	4	Upper secondary general education	Srednje splošno izobraževanje (gimnazija)	Spričevalo o splošni maturi; General matura certificate	yes
				Upper secondary technical education	Srednje tehniško in strokovno izobraževanje	Spričevalo o poklicni maturi; vocational matura certificate	yes
				Upper secondary vocational education	Srednje poklicno izobraževanje	Spričevalo o zaključnem izpitu; school leaving exam certificate	no
				Upper secondary short vocational education	Nižje poklicno izobraževanje	Spričevalo o zaključnem izpitu; school leaving exam certificate	no
SK	**11**	ISCED 2	2	Lower secondary education (primary school)	Nižšie stredné vzdelanie (základná škola)		
				Lower secondary education (8-years gymnasium)	Nižšie stredné vzdelanie (8 ročné gymnázium)		
	(15)	ISCED 3	3	General upper secondary education	Úplné stredné všeobecné vzdelanie (Maturita)	Maturita	yes
				Vocational upper secondary education	Úplné stredné odborné vzdelanie (Maturita)	Maturita	yes
				Secondary vocational education	Stredné odborné vzdelanie	Výučný list	no
FI	**16**	ISCED 3	2	General upper secondary education	Lukiokoulutus	General upper secondary certificate and matriculation examination	yes
				Vocational upper secondary education and training	Ammattikoulutus	Vocational qualification	yes
SE	**16**	ISCED 3	2	Upper secondary school (general)	Gymnasieskolan, högskoleförberedande program	Högskoleförberedande examen	yes
				Upper secondary school (vocational)	Gymnasieskolan, yrkesprogram	Yrkesexamen	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
UK-ENG	**16**	ISCED 3	5	Study programme with A Levels as the substantial qualification		A Levels (Level 3)	yes
				Study programme with a technical/vocational Level 2 qualification as the substantial qualification		Technical Certificate (Level 2)	no
				Study programme with technical/vocational Level 3 qualification as the substantial programme		Technical Level Qualification (Tech Level) (Level 3), e.g. BTEC Nationals	yes
				Apprenticeship Level 2		Intermediate Apprenticeship (Level 2), e.g. BTEC Firsts	no
				Apprenticeship Level 3		Advanced Apprenticeship (Level 3)	yes
UK-WLS	**16**	ISCED 3	5	Study programme with A Levels as the substantial qualification		A Levels (Level 3)	yes
				Study programme with a technical/vocational Level 2 qualification as the substantial qualification		Level 2 vocational/technical qualification	no
				Study programme with technical/vocational Level 3 qualification as the substantial programme		Level 3 vocational/technical qualification	yes
				Apprenticeship Level 2		Foundation Apprenticeship (Level 2)	no
				Apprenticeship Level 3		Apprenticeship (Level 3)	yes
UK-NIR	**16**	ISCED 3	5	Study programme with A Levels as the substantial qualification		A Levels (Level 3)	yes
				Study programme with a technical/vocational Level 2 qualification as the substantial qualification		Level 2 vocational / technical qualification	no
				Study programme with technical/vocational Level 3 qualification as the substantial programme		Level 3 vocational / technical qualification	yes
				Apprenticeship Level 2		Level 2 Apprenticeship	no
				Apprenticeship Level 3		Level 3 Apprenticeship	yes
UK-SCT	**16**	ISCED 3	3	Senior Phase (S4-S6)		Advanced Higher	yes
				Further education institutions		National Vocational Qualifications	no
				Apprenticeship		Apprenticeship	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
AL	**15**	ISCED 3	3	Gymnasium	Gjimnaz	Certificate	yes
				Vocational high schools	Shkolla te mesme profesionale	Certificate	yes
				Oriented high schools	Shkolla te mesme te orientuara	Certificate	yes
BA	**15**	ISCED 3	3	General upper secondary education	Opšte srednje obrazovanje	Secondary School Diploma	yes
				Technical vocational secondary education – IV stepen	Srednje stručno tehničko obrazovanje-IV stepen	Secondary School Diploma	yes
				Vocational secondary education – III stepen	Srednje stručno obrazovanje-III stepen	Secondary School Diploma	no
CH	**12**	ISCED 2	3	School type with basic requirements			
				School type with intermediate requirements			
				School type with advanced requirements			
	(15)	ISCED 3	6	Baccalaureate schools	Gymnasiale Maturität, maturité gymnasiale, maturità	Baccalaureate (Gymnasiale Maturität, maturité gymnasiale, maturità)	yes
				Upper secondary specialised schools	Fachmittelschule, école de culture générale, scuola specializzate	Specialised school certificate	yes
				Upper secondary specialised baccalaureate	Fachmaturitätsschule, maturité spécialisée, maturità specializzata	Specialised baccalaureate	yes
				Vocational baccalaureate	Berufsmaturität, maturité professionnelle, maturità professionale	Vocational baccalaureate (Berufsmaturität, maturité professionnelle, maturità professionale)	yes
				Three or four-year VET programme	Berufliche Grundbildung mit Eidgenössischem Fähigkeitszeugnis / formation professionnelle initiale aboutissant à un certificat fédéral de capacité / formazione professionale di base della durata di due anni con attestato federale di capacità	Federal VET diploma	yes
				Two-year VET programme	Berufliche Grundbildung mit Berufsattest / formation professionnelle initiale de deux ans / formazione professionale di base di due anni	Federal VET certificate	no
IS	**16**	ISCED 3	4	General upper secondary education/(grammar school)	Bóknámsbraut til stúdentsprófs	Stúdentspróf (Matriculation examination)	yes
				A general program (comprehensive school) at the start of upper secondary level	Almenn námsbraut framhaldsskóla, styttri en 2 ár	Próf af almennri braut	no
				Certified indentured trades	Löggilt iðngrein	Sveinspróf	no
				Vocational programmes at the upper secondary level	Starfsnámsbrautir framhaldsskólastigs	Réttindapróf á framhaldsskólastigi or hæfnispróf á framhaldsskólastigi or grunndeild iðngreina	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
LI	:	:	:	:	:	:	:
ME	**15**	ISCED 3	4	General secondary education	Opšte srednje obzovanje	Qualification level IV	yes
				Four-year secondary vocational education with external vocational exam (matriculation exam)	Četvorogodišnje srednje stručno obrazovanje sa eksternim stručnim ispitom (matura)	Qualification level IV	yes
				Three-year secondary vocational education with internal vocational exam	Trogodišnje srednje stručno obrazovanje (sa internim stručnim ispitom)	Qualification level III	no
				Lower vocational education	Niže stručno obrazovanje	Qualification level II	no
MK	**15**	ISCED 3	4	General upper secondary education	Gimnazija / Sredno obrazovanie – redovno opsto	Upper Secondary General Education Diploma	yes
				Upper secondary vocational education-regular vocational education / technical education (IV years)	(Cetirigodisno) Sredno strucno obrazovanie – redovno strucno; (Cetirigodisno) Sredno tehnicko obrazovanie	Vocational qualification (vocational certificate)	yes
				Upper secondary vocational education (3 years)	(Trigodisno) Strucno obrazovanie za zanimanje	Vocational qualification (vocational diploma)	no
				Vocational skilling (2 years)	(Dvegodisno) Strucno osposobuvanje	Upper Secondary Technical Diploma	no
NO	**16**	ISCED 3	7	General studies	Sudeiforberedende program	School leaving certificate – general education (Vitnemål for videregående skole – studieforberedende)	yes
				General education with specialisation (4 programmes: music, dance and drama; sport; media and communication; art design and architecture)	Studieforberedende program med studiespesialisering	School-leaving certificate – general education with general studies specialisation (Vitnemål videregående skole – studiespesialisering)	yes
				Upper secondary, vocational programmes	Videregående opplæring, yrkesfaglige utdanningsprogram	Trade Certificate or Journeyman's Certificate (Fag- /svennebrev)	no
RS	**14**	ISCED 3	3	Grammar schools	Gimnazije	Diploma	yes
				Vocational schools – 4 years	Četvorogodišnja srednja stručna škola	Diploma	yes
				Vocational schools – 3 years	Trogodišnja srednja stručna škola sa specijalizacijom	Vocational certificate	no

	Age of tracking	ISCED level	Number of tracks	Name in English	Name in original language	ISCED 3 qualification	Access to ISCED 6
TR	**13**	ISCED 3	5	General Upper Secondary Education Programmes	Genel Ortaöğretim	Diploma of General Upper Secondary Education	yes
				Open High School	Açık Ortaöğretim Lisesi	Diploma of Open High School	yes
				Vocational and Technical Upper Secondary Education Programmes	Mesleki ve Teknik Ortaöğretim	Diploma of Vocational and Technical Upper Secondary Education	yes
				Anatolia Imam and Preacher High School	Anadolu İmam Hatip Lisesi	Diploma of Anatolia Imam and Preacher High School	yes
				Open Vocational High School	Mesleki Açıköğretim Lisesi	Diploma of Open Vocational High School	yes

Annex II: Statistical tables

Table A1: List of education systems covered in this report participating in the latest rounds of international assessment surveys

	PIRLS 2011	PIRLS 2016	TIMSS 2011, grade 4	TIMSS 2011, grade 8	TIMSS 2015, grade 4	TIMSS 2015, grade 8	PISA 2015	PISA 2018
BE fr	✓	✓					✓	✓
BE de							✓	✓
BE nl		✓	✓		✓		✓	✓
BG	✓	✓			✓		✓	✓
CZ	✓	✓	✓		✓		✓	✓
DK	✓	✓	✓		✓		✓	✓
DE	✓	✓	✓		✓		✓	✓
EE							✓	✓
IE	✓	✓	✓		✓	✓	✓	✓
EL							✓	✓
ES	✓	✓	✓		✓		✓	✓
FR	✓	✓			✓		✓	✓
HR	✓		✓		✓		✓	✓
IT	✓	✓	✓	✓	✓	✓	✓	✓
CY					✓		✓	✓
LV		✓					✓	✓
LT	✓	✓	✓	✓	✓	✓	✓	✓
LU							✓	✓
HU	✓	✓	✓	✓	✓	✓	✓	✓
MT	✓	✓	✓			✓	✓	✓
NL	✓	✓	✓		✓		✓	✓
AT	✓	✓	✓				✓	✓
PL	✓	✓	✓		✓		✓	✓
PT	✓	✓	✓		✓		✓	✓
RO	✓		✓	✓			✓	✓
SI	✓	✓	✓	✓	✓	✓	✓	✓
SK	✓	✓	✓		✓		✓	✓
FI	✓	✓	✓	✓	✓		✓	✓
SE	✓	✓	✓	✓	✓	✓	✓	✓
UK-ENG	✓	✓	✓	✓	✓	✓	✓	✓
UK-WLS							✓	✓
UK-NIR	✓	✓	✓		✓		✓	✓
UK-SCT							✓	✓
AL							✓	✓
BA								✓
CH							✓	✓
IS							✓	✓
ME							✓	✓
MK				✓			✓	✓
NO	✓	✓	✓	✓	✓	✓	✓	✓
RS			✓		✓			✓
TR			✓	✓	✓	✓	✓	✓
Total	25	25	25	11	25	10	40	42

Source: IEA, OECD.

PART I.

Table A2: Estimates of the 10th and 90th percentile performance, estimated percentage of students above the Intermediate International Benchmark, and estimated correlation coefficients between the number of books at home and achievement scores in reading literacy in the fourth grade (PIRLS 2016)

	P10	S.E.	P90	S.E.	% of students above the Intermediate International Benchmark	S.E.	Correlation coefficient	S.E.
BE fr	407.77	4.68	583.54	3.57	64.60	1.43	0.354	0.022
BE nl	446.13	3.64	600.74	2.05	80.03	1.32	0.305	0.022
BG	439.84	7.47	653.22	3.52	82.63	1.64	0.445	0.025
CZ	455.64	4.65	625.02	2.38	85.24	0.93	0.393	0.024
DK	456.97	4.16	628.41	2.85	85.56	0.98	0.319	0.018
DE	435.43	6.74	629.08	3.10	81.07	1.38	0.360	0.027
IE	472.30	5.25	655.69	3.24	89.39	0.88	0.405	0.019
ES	441.66	3.90	607.44	2.05	79.85	0.97	0.251	0.017
FR	420.03	3.72	595.34	3.68	71.90	1.18	0.345	0.020
IT	461.40	5.37	627.32	2.76	86.79	1.03	0.219	0.022
LV	474.73	3.62	635.56	3.79	90.01	0.83	0.273	0.019
LT	458.71	5.49	632.49	2.89	86.08	1.08	0.342	0.020
HU	451.66	5.80	645.26	3.06	85.06	1.04	0.472	0.020
MT	328.40	5.49	560.32	2.33	44.58	1.10	0.164	0.016
NL	466.12	3.37	618.96	2.17	87.69	0.89	0.278	0.021
AT	454.00	4.81	619.93	2.40	84.38	1.13	0.393	0.017
PL	470.16	4.59	652.41	2.29	88.81	0.74	0.339	0.017
PT	442.31	4.03	610.58	3.29	79.19	1.29	0.273	0.023
SI	444.32	3.69	629.07	2.75	82.82	0.94	0.334	0.022
SK	429.85	8.56	625.87	2.95	80.71	1.26	0.466	0.027
FI	481.41	4.62	646.87	2.48	91.34	0.77	0.310	0.021
SE	465.12	4.02	635.37	3.51	87.84	0.94	0.358	0.018
UK-ENG	455.14	3.29	654.97	2.89	85.54	0.74	0.395	0.014
UK-NIR	460.24	5.39	662.18	2.22	87.03	0.79	0.390	0.017
NO	473.90	4.37	639.91	3.15	89.79	0.90	0.287	0.022

Source: Eurydice calculations based on IEA, PIRLS 2016 database.

Explanatory notes

The PIRLS reading achievement scale was established in PIRLS 2001 based on the achievement of all participating countries, treating each country equally. The scales have a typical range of achievement between 300 and 700. A centre point of 500 was set to correspond to the mean of overall achievement at the first data collection, with 100 points set to correspond to the standard deviation. Achievement data from each subsequent PIRLS assessment have been reported on these scales, so that increases or decreases in achievement may be monitored across assessments. PIRLS uses the scale centre point as a point of reference that remains constant from assessment to assessment.

P10 and P90 refer to the 10th and 90th percentile.

The percentage of low achieving students is defined as the percentage of students not achieving the Intermediate International Benchmark, which is set at a score of 475 on the scale.

The number of books at home as reported by students (variable ASBG04) is expressed in the following categories: 1: None or very few (0-10 books); 2: Enough to fill one shelf (11-25 books); 3: Enough to fill one bookcase (26-100 books); 4: Enough to fill two bookcases (101-200 books); 5: Enough to fill three or more bookcases (more than 200).

The percentiles, the percentage of students above the low achievement benchmark and the correlation coefficients were computed using all five plausible values (students' reading achievement scores).

Table A3: Estimates of the 10th and 90th percentile performance, estimated percentage of students above the Intermediate International Benchmark, and estimated correlation coefficients between the number of books at home and achievement scores in mathematics in the fourth grade (TIMSS 2015)

	P10	S.E.	P90	S.E.	% of students above the Intermediate International Benchmark	S.E.	Correlation coefficient	S.E.
BE nl	467.68	3.48	623.77	3.01	87.88	0.88	0.310	0.024
BG	412.63	9.59	623.80	5.86	75.12	2.08	0.306	0.040
CZ	437.07	2.81	616.14	3.02	78.42	1.10	0.331	0.021
DK	440.03	5.27	632.64	4.10	80.32	1.29	0.324	0.023
DE	436.72	4.15	604.30	2.95	76.73	1.09	0.374	0.018
IE	451.14	4.37	636.41	4.00	83.85	1.05	0.377	0.018
ES	413.67	4.77	591.84	2.34	67.43	1.42	0.287	0.018
FR	390.09	4.62	583.58	4.06	58.07	1.77	0.354	0.022
HR	415.44	3.94	583.77	2.47	67.46	1.17	0.266	0.020
IT	413.25	4.75	595.68	2.61	68.68	1.41	0.220	0.021
CY	414.97	4.56	623.30	3.07	73.76	1.29	0.231	0.020
LT	440.77	5.08	623.57	4.68	80.65	1.13	0.321	0.020
HU	411.74	6.71	634.83	2.68	74.91	1.47	0.482	0.020
NL	456.59	2.67	600.80	2.69	82.98	1.02	0.245	0.024
PL	440.62	3.96	623.93	2.63	79.83	1.03	0.327	0.021
PT	447.24	3.86	632.48	3.13	81.76	1.09	0.290	0.023
SI	430.39	3.28	605.24	2.92	75.48	1.21	0.252	0.022
SK	391.20	5.16	592.89	3.35	65.04	1.42	0.445	0.018
FI	448.26	3.45	618.93	2.68	82.20	1.00	0.269	0.018
SE	427.64	4.87	603.61	3.14	74.91	1.60	0.364	0.020
UK-ENG	437.80	5.06	651.34	3.56	80.02	1.21	0.340	0.018
UK-NIR	456.15	5.28	675.23	3.31	85.86	1.08	0.378	0.023
NO	458.70	5.63	637.53	3.48	85.73	1.01	0.314	0.020
RS	403.46	7.37	624.75	3.57	71.65	1.56	0.266	0.025
TR	353.78	6.59	597.73	3.64	57.09	1.32	0.317	0.022

Source: Eurydice calculations based on IEA, TIMSS 2015 database.

Explanatory notes

The TIMSS mathematics achievement scale was established in TIMSS 1995 based on the achievement of all participating countries, treating each country equally. The scales have a typical range of achievement between 300 and 700. A centre point of 500 was set to correspond to the mean of overall achievement at the first data collection, with 100 points set to correspond to the standard deviation. Achievement data from each subsequent TIMSS assessment have been reported on these scales, so that increases or decreases in achievement may be monitored across assessments. TIMSS uses the scale centre point as a point of reference that remains constant from assessment to assessment.

P10 and P90 refer to the 10th and 90th percentile.

The percentage of low achieving students is defined as the percentage of students not achieving the Intermediate International Benchmark, which is set at a score of 475 on the scale.

The number of books at home as reported by students (variable ASBG04) is expressed in the following categories: 1: None or very few (0-10 books); 2: Enough to fill one shelf (11-25 books); 3: Enough to fill one bookcase (26-100 books); 4: Enough to fill two bookcases (101-200 books); 5: Enough to fill three or more bookcases (more than 200).

The percentiles, the percentage of students above the low achievement benchmark and the correlation coefficients were computed using all five plausible values (students' reading achievement scores).

Table A4: Estimates of the 10th and 90th percentile performance, estimated percentage of 15-year-old students above the low achievement benchmark, and estimated correlation coefficients between the number of books at home and achievement scores in reading literacy (PISA 2018)

	P10	S.E.	P90	S.E.	% of students above the low achievement benchmark	S.E.	Correlation coefficient	S.E.
BE fr	345.06	4.69	607.88	3.86	76.18	1.11	0.424	0.022
BE de	359.62	12.07	602.25	9.34	79.40	2.21	0.274	0.061
BE nl	358.59	6.44	633.27	3.24	80.69	1.29	0.405	0.015
BG	289.74	4.51	557.14	5.18	52.90	1.69	0.357	0.017
CZ	362.29	4.27	616.40	2.78	79.26	1.12	0.411	0.018
DK	380.38	3.00	618.15	2.64	84.00	0.68	0.345	0.014
DE	353.95	4.53	632.25	3.45	79.31	1.05	0.462	0.018
EE	401.81	3.46	643.31	3.10	88.95	0.59	0.326	0.015
IE	398.12	3.53	634.55	2.80	88.20	0.67	0.418	0.015
EL	326.18	4.89	582.86	3.93	69.48	1.51	0.320	0.016
ES	:	:	:	:	:	:	:	:
FR	355.40	3.54	621.89	3.58	79.06	0.74	0.461	0.015
HR	362.01	4.62	594.33	3.20	78.42	1.16	0.297	0.015
IT	345.11	4.62	598.18	3.37	76.73	0.97	0.337	0.014
CY	294.83	2.90	553.83	2.56	56.29	0.72	0.263	0.015
LV	359.98	3.23	594.68	2.68	77.56	0.75	0.285	0.016
LT	350.60	2.66	597.07	1.82	75.64	0.75	0.366	0.014
LU	325.26	2.09	612.05	2.83	70.71	0.57	0.481	0.011
HU	345.60	3.99	601.76	3.65	74.73	0.91	0.498	0.017
MT	294.83	3.25	593.14	3.27	64.11	0.82	0.287	0.020
NL	343.72	4.44	620.54	3.30	75.91	1.03	0.402	0.019
AT	349.84	3.73	612.04	2.89	76.38	1.02	0.443	0.017
PL	384.23	3.59	635.97	3.96	85.32	0.75	0.385	0.016
PT	362.11	4.00	612.55	2.66	79.78	0.92	0.382	0.016
RO	297.37	6.00	553.56	5.86	59.16	2.15	0.409	0.018
SI	371.91	3.05	613.56	2.78	82.12	0.66	0.384	0.015
SK	326.29	3.95	589.54	3.28	68.59	0.98	0.472	0.015
FI	386.71	4.23	642.99	3.04	86.46	0.71	0.323	0.016
SE	360.04	5.70	640.46	3.47	81.61	1.03	0.398	0.015
UK-ENG	371.88	5.21	634.25	4.13	82.80	1.05	0.387	0.017
UK-WLS	358.59	5.79	608.28	4.51	77.94	1.50	0.351	0.018
UK-NIR	368.43	5.78	623.22	5.63	82.15	1.20	0.402	0.022
UK-SCT	383.16	3.57	627.48	4.66	84.55	0.92	0.380	0.020
AL	303.32	2.90	510.36	3.29	47.76	1.09	0.314	0.017
BA	302.90	2.80	508.72	4.06	46.32	1.64	0.238	0.019
CH	344.70	4.61	615.20	4.04	76.37	1.08	0.452	0.019
IS	331.71	3.97	608.70	3.33	73.64	0.86	0.287	0.020
ME	309.86	2.06	534.18	2.02	55.58	0.69	0.271	0.012
MK	267.91	2.68	513.40	2.40	44.86	0.73	0.275	0.015
NO	356.23	4.33	631.79	2.86	80.71	0.77	0.303	0.013
RS	312.48	3.93	565.82	3.51	62.30	1.52	0.311	0.016
TR	350.93	4.14	581.01	3.06	73.87	1.05	0.403	0.020

Source: Eurydice calculations based on OECD, PISA 2018 database.

Table A5: Estimates of the 10th and 90th percentile performance, estimated percentage of 15-year-old students above the low achievement benchmark, and estimated correlation coefficients between the number of books at home and achievement scores in mathematics (PISA 2018)

	P10	S.E.	P90	S.E.	% of students above the low achievement benchmark	S.E.	Correlation coefficient	S.E.
BE fr	368.44	4.52	614.39	4.59	77.21	1.19	0.438	0.024
BE de	396.21	11.83	603.57	9.26	84.90	2.46	0.304	0.059
BE nl	384.11	5.99	638.25	3.61	82.66	1.30	0.415	0.015
BG	311.45	4.64	562.85	5.72	55.59	1.67	0.311	0.018
CZ	377.58	4.58	619.01	3.14	79.61	1.10	0.398	0.019
DK	400.77	2.59	613.43	2.78	85.43	0.64	0.336	0.015
DE	372.86	4.15	620.71	3.22	78.90	1.07	0.437	0.017
EE	419.00	2.88	627.63	2.68	89.78	0.64	0.327	0.018
IE	397.25	3.25	598.78	3.01	84.31	0.82	0.387	0.017
EL	333.85	4.65	564.93	3.77	64.16	1.47	0.316	0.017
ES	364.94	2.35	593.50	2.17	75.30	0.62	0.367	0.009
FR	370.12	3.43	611.14	3.25	78.74	0.82	0.454	0.016
HR	353.51	3.94	576.88	3.86	68.84	1.27	0.294	0.015
IT	363.30	4.74	604.80	3.94	76.18	1.11	0.328	0.016
CY	325.31	2.85	571.26	2.44	63.14	0.71	0.264	0.015
LV	392.61	3.15	599.47	3.08	82.68	1.01	0.281	0.016
LT	361.92	3.62	598.36	2.75	74.36	0.92	0.359	0.014
LU	353.48	2.90	610.83	2.41	72.78	0.70	0.469	0.012
HU	360.10	4.02	597.30	3.66	74.36	1.01	0.516	0.017
MT	334.27	3.44	598.89	3.54	69.75	0.98	0.297	0.022
NL	394.19	4.81	637.62	3.64	84.25	1.08	0.413	0.019
AT	373.63	4.37	617.65	3.28	78.92	1.18	0.428	0.017
PL	398.20	3.80	630.75	4.24	85.28	0.78	0.381	0.017
PT	361.73	3.77	614.00	3.61	76.72	1.04	0.401	0.017
RO	309.56	5.45	553.52	6.94	53.45	2.26	0.407	0.019
SI	392.23	2.97	621.88	2.83	83.57	0.64	0.395	0.014
SK	353.32	5.40	610.29	3.10	74.91	1.08	0.462	0.015
FI	399.00	3.42	611.81	2.51	85.02	0.74	0.317	0.015
SE	382.68	4.64	618.23	3.26	81.19	1.03	0.405	0.015
UK-ENG	382.72	4.88	622.75	3.68	77.21	1.19	0.363	0.018
UK-WLS	380.51	5.40	591.95	4.38	84.90	2.46	0.333	0.022
UK-NIR	376.59	6.45	599.88	5.30	82.66	1.30	0.379	0.022
UK-SCT	366.64	6.04	610.10	5.67	55.59	1.67	0.327	0.032
AL	332.45	3.07	543.61	3.48	79.61	1.10	0.243	0.023
BA	303.30	3.17	514.20	4.43	85.43	0.64	0.260	0.019
CH	391.30	3.46	635.97	4.31	78.90	1.07	0.422	0.017
IS	374.02	4.21	608.82	2.96	89.78	0.64	0.270	0.021
ME	323.52	2.23	537.95	2.07	84.31	0.82	0.276	0.014
MK	275.02	2.88	515.82	3.50	64.16	1.47	0.286	0.016
NO	380.67	3.85	616.70	3.05	75.30	0.62	0.298	0.015
RS	324.37	4.29	575.55	3.87	78.74	0.82	0.306	0.016
TR	342.56	3.76	570.63	3.99	68.84	1.27	0.379	0.024

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes for Tables A4 and A5

PISA scores are set in relation to the variation in results observed across all test participants. There is theoretically no minimum or maximum score in PISA; rather, the results are scaled to fit approximately normal distributions, with means around 500 score points and standard deviations around 100 score points. PISA scales are divided into proficiency levels (1 to 6) corresponding to increasingly more difficult tasks. For each proficiency level identified, descriptions were generated to define the kinds of knowledge and skills needed to complete those tasks successfully. Each proficiency level corresponds to a range of about 80 score points. Hence, score-point differences of 80 points can be interpreted as the difference in described skills and knowledge between successive proficiency levels.

Because the PISA sample is defined by a particular age group, rather than a particular grade, in many countries, students who sit the PISA assessment are distributed across two or more grade levels. Based on this variation, past reports have estimated the average score-point difference across adjacent grades for countries in which a sizeable number of 15-year-olds are enrolled in at least two different grades. These estimates take into account some socio-economic and demographic differences that are also observed across grades. On average across countries, the difference between adjacent grades is about 40 score points (see more in OECD, 2019).

P10 and P90 refer to the 10th and 90th percentile.

The percentage of low-achieving students is defined as the percentage of students who score below the baseline level of proficiency (Level 2) on the PISA mathematics, reading and/or science scales. In reading literacy, this corresponds to not achieving 407.47 score points; in mathematics, to not achieving 420.07 score points.

The number of books at home as reported by students (variable ST013Q01TA) is expressed in the following categories: 1: 0-10 books; 2: 11-25 books; 3: 26-100 books; 4: 101-200 books; 5: 201-500 books; 6: More than 500 books.

The percentiles, the percentage of students above the low achievement benchmark and the correlation coefficients were computed using all ten plausible values (students' reading literacy achievement scores).

Country-specific note

Spain: The OECD has decided to defer the publication of the PISA 2018 reading results for Spain, both national and sub-regional. Spain's data met PISA 2018 Technical Standards; however, some data show implausible student-response behaviour. Consequently, the comparability of Spain's results in reading cannot be assured.

PART II.

Table A6: Estimates on the percentage of 15-year-old students who spent more than one year in ECEC (PISA 2018)

	N	Weighted N	Estimated %	S.E.
BE fr	2291	35886.9	97.58	0.32
BE de	334	632.9	98.34	0.77
BE nl	3833	52396.4	98.22	0.23
BG	3955	35738.9	94.07	0.43
CZ	5442	67402.7	94.22	0.37
DK	5515	43573.2	94.98	0.37
DE	3573	475272.2	96.60	0.37
EE	3947	8401.4	96.14	0.36
IE	2560	27124.5	58.10	0.94
EL	4298	63640.7	80.04	0.81
ES	29437	331783.6	95.86	0.19
FR	4691	570512.9	96.95	0.26
HR	3722	20030.3	80.90	0.82
IT	9083	398229.1	94.20	0.39
CY	3602	4980.7	85.15	0.54
LV	3763	11309.1	96.06	0.32
LT	3918	13872.7	88.05	0.55
LU	3440	3600.2	90.02	0.44
HU	4202	70537.8	96.88	0.35
MT	2349	2740.8	85.37	0.66
NL	3492	139303.4	89.88	0.64
AT	4938	54249.5	92.31	0.49
PL	3166	179566.8	82.42	1.00
PT	4085	65817.9	85.25	0.63
RO	3852	112569.1	94.75	0.48
SI	4249	11517.5	89.80	0.55
SK	4530	33535.0	90.72	0.55
FI	3434	34092.7	75.85	0.88
SE	3892	65617.8	93.31	0.45
UK-ENG	2537	245435.8	68.53	0.90
UK-WLS	1717	14051.0	76.78	0.97
UK-NIR	723	5829.8	39.68	1.03
UK-SCT	1753	26374.8	73.80	0.86
AL	3735	16534.6	68.61	1.02
BA	1605	7138.4	67.45	1.45
CH	4162	50192.8	86.16	1.01
IS	2351	2766.9	98.21	0.28
ME	3188	3372.4	77.46	0.73
MK	:	:	:	:
NO	3936	37457.7	96.42	0.31
RS	1812	16723.8	32.35	0.88
TR	1646	215386.5	41.94	1.41

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated based on the PISA 2018 variable DURECEC ('Duration in early childhood education and care') and are based on students' replies.

Table A7: Estimates on the percentage of 15-year-old students who spent more than one year in ECEC, by socio-economic status (PISA 2018)

	Low SES students					High SES students			
	N	Weighted N	Estimated %	S.E.		N	Weighted N	Estimated %	S.E.
BE fr	568	8825.0	95.89	1.06	**BE fr**	577	9082.6	98.63	0.46
BE de	82	158.4	97.56	1.75	**BE de**	86	158.0	98.09	1.89
BE nl	909	13073.5	98.00	0.48	**BE nl**	990	13134.4	98.43	0.38
BG	907	8700.8	91.56	0.95	**BG**	1042	9020.4	94.90	0.75
CZ	1122	16165.3	90.37	1.04	**CZ**	1688	17211.4	96.22	0.52
DK	1674	10679.3	93.08	0.72	**DK**	1219	10972.2	95.60	0.69
DE	872	117270.4	95.24	0.75	**DE**	920	120472.3	97.89	0.54
EE	924	2050.2	93.85	0.87	**EE**	1023	2143.2	98.06	0.42
IE	586	6225.0	53.31	1.73	**IE**	706	7480.4	64.07	1.61
EL	970	14915.5	74.98	1.50	**EL**	1146	16851.7	84.73	1.20
ES	6400	80847.2	93.43	0.44	**ES**	8311	84645.7	97.78	0.24
FR	1254	141349.5	95.99	0.55	**FR**	1129	143649.4	97.57	0.41
HR	776	4115.7	66.48	1.53	**HR**	1049	5728.4	92.47	0.82
IT	2104	97599.3	92.32	0.81	**IT**	2262	100902.7	95.44	0.65
CY	882	1198.2	81.90	1.55	**CY**	912	1286.0	87.87	1.03
LV	931	2795.0	94.72	0.64	**LV**	915	2876.8	97.58	0.50
LT	882	3132.8	79.41	1.28	**LT**	1016	3673.3	93.25	0.80
LU	833	874.1	87.39	1.07	**LU**	879	917.3	91.70	0.77
HU	960	17509.9	96.13	0.71	**HU**	1144	17840.9	98.00	0.49
MT	589	703.1	87.48	1.23	**MT**	581	665.2	82.83	1.50
NL	907	35087.9	90.52	0.99	**NL**	846	34591.7	89.26	1.11
AT	1162	13263.0	90.27	0.96	**AT**	1301	13937.9	94.85	0.65
PL	665	37795.4	69.38	2.04	**PL**	876	49570.6	90.97	1.11
PT	937	15481.1	80.14	1.58	**PT**	1081	17780.1	92.08	0.93
RO	929	27507.1	92.58	0.95	**RO**	974	28783.4	96.86	0.55
SI	1174	2753.7	85.72	1.21	**SI**	907	2926.4	91.12	1.11
SK	1030	7886.5	85.15	1.29	**SK**	1244	8732.5	94.48	0.75
FI	780	7744.7	68.89	1.66	**FI**	925	9169.0	81.60	1.19
SE	939	15736.0	89.45	1.10	**SE**	989	16828.4	95.66	0.58
UK-ENG	580	54876.0	61.28	1.71	**UK-ENG**	716	70231.4	78.42	1.44
UK-WLS	388	3197.0	69.87	1.81	**UK-WLS**	469	3672.4	80.14	1.98
UK-NIR	164	1342.8	36.51	2.30	**UK-NIR**	212	1653.2	44.96	2.68
UK-SCT	432	6489.4	72.57	1.79	**UK-SCT**	431	6633.6	74.21	1.58
AL	866	4092.0	67.90	1.77	**AL**	992	4172.0	69.22	1.62
BA	330	1463.3	55.30	2.65	**BA**	460	2069.7	78.08	1.71
CH	995	12489.7	85.71	1.40	**CH**	1065	12515.2	85.89	1.96
IS	581	680.8	96.63	0.80	**IS**	591	698.0	98.98	0.41
ME	715	765.8	70.30	1.62	**ME**	859	904.2	83.01	1.07
MK	:	:	:	:	**MK**	:	:	:	:
NO	963	9017.9	92.82	0.94	**NO**	978	9500.5	97.76	0.52
RS	408	3736.9	28.91	1.37	**RS**	495	4619.6	35.72	1.54
TR	336	42442.7	33.05	1.68	**TR**	565	76238.8	59.37	2.99

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

The data are drawn from the PISA 2018 variable DURECEC ('Duration in early childhood education and care') and are based on students' replies. The category 'Low SES students' refers to students from low socio-economic status families (at or below the 25th socio-economic status percentile) who spent more than one year in ECEC. The category 'High SES students' refers to students from high socio-economic status families (at or above the 75th socio-economic status percentile) who spent more than one year in ECEC.

Table A8: Differences in ECEC participation among 15-year-old students, in percentage points, by socio-economic status (PISA 2018)

	Difference between High SES and the overall student population				Difference between Low SES and the overall student population		
	Percentage points	S.E.	Z		Percentage points	S.E.	Z
BE fr	1.04	0.48	2.19	**BE fr**	-1.70	0.88	-1.92
BE de	-0.27	1.55	-0.18	**BE de**	-0.77	1.46	-0.53
BE nl	0.20	0.31	0.65	**BE nl**	-0.23	0.40	-0.57
BG	0.84	0.60	1.39	**BG**	-2.51	0.74	-3.39
CZ	2.03	0.60	3.37	**CZ**	-3.85	0.81	-4.75
DK	0.61	0.57	1.07	**DK**	-1.90	0.60	-3.16
DE	1.28	0.50	2.55	**DE**	-1.36	0.64	-2.14
EE	1.91	0.41	4.72	**EE**	-2.30	0.66	-3.48
IE	6.02	1.45	4.16	**IE**	-4.79	1.35	-3.54
EL	4.65	1.02	4.58	**EL**	-5.06	1.13	-4.47
ES	1.92	0.21	9.07	**ES**	-2.43	0.36	-6.67
FR	0.63	0.41	1.54	**FR**	-0.96	0.42	-2.27
HR	11.56	0.87	13.36	**HR**	-14.41	1.16	-12.40
IT	1.23	0.55	2.24	**IT**	-1.88	0.68	-2.77
CY	2.82	1.01	2.79	**CY**	-3.25	1.23	-2.65
LV	1.52	0.46	3.33	**LV**	-1.33	0.53	-2.52
LT	5.20	0.86	6.02	**LT**	-8.64	0.97	-8.95
LU	1.67	0.73	2.29	**LU**	-2.63	0.89	-2.96
HU	1.12	0.44	2.57	**HU**	-0.75	0.53	-1.41
MT	-2.57	1.29	-1.99	**MT**	2.11	1.02	2.07
NL	-0.64	0.89	-0.71	**NL**	0.64	0.82	0.78
AT	2.53	0.64	3.98	**AT**	-2.04	0.76	-2.67
PL	8.54	1.09	7.81	**PL**	-13.04	1.37	-9.49
PT	6.82	0.92	7.43	**PT**	-5.11	1.30	-3.93
RO	2.11	0.61	3.48	**RO**	-2.17	0.74	-2.94
SI	1.30	0.83	1.56	**SI**	-4.07	1.09	-3.75
SK	3.75	0.76	4.93	**SK**	-5.57	0.97	-5.71
FI	5.73	0.94	6.08	**FI**	-6.96	1.35	-5.15
SE	2.34	0.56	4.16	**SE**	-3.86	0.86	-4.51
UK-ENG	9.86	1.25	7.90	**UK-ENG**	-7.26	1.38	-5.25
UK-WLS	3.32	1.57	2.12	**UK-WLS**	-6.91	1.55	-4.47
UK-NIR	5.10	2.23	2.29	**UK-NIR**	-3.17	2.19	-1.45
UK-SCT	0.36	1.46	0.25	**UK-SCT**	-1.23	1.55	-0.80
AL	0.59	1.33	0.45	**AL**	-0.71	1.40	-0.50
BA	10.76	1.62	6.64	**BA**	-12.15	1.84	-6.60
CH	-0.21	1.46	-0.14	**CH**	-0.45	1.11	-0.41
IS	0.76	0.41	1.85	**IS**	-1.58	0.62	-2.53
ME	5.54	0.89	6.24	**ME**	-7.15	1.36	-5.27
MK	:	:	:	**MK**	:	:	:
NO	1.33	0.51	2.62	**NO**	-3.61	0.75	-4.82
RS	3.41	1.15	2.96	**RS**	-3.44	1.24	-2.77
TR	17.50	2.00	8.73	**TR**	-8.90	1.71	-5.20

S*ource*: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

The data are drawn from the PISA 2018 variable DURECEC ('Duration in early childhood education and care') and are based on students' replies. The category 'Low SES students' refers to students from low socio-economic status families (in the 25th socio-economic status percentile) who spent more than one year in ECEC. The category 'High SES students' refers to students from high socio-economic status families (in the 75th socio-economic status percentile) who spent more than one year in ECEC.

Table A9: Estimates on the percentage of 15-year-old students in schools where certain admission criteria are always used, as reported by school heads, by ISCED level (PISA 2018)

	Residence in a particular area (variable: SC012Q06TA)						Preference given to family members of current or former students (variable: SC012Q05TA)				
	ISCED level	N	Weighted N	%	S.E.		ISCED level	N	Weighted N	%	S.E.
DK	2	2746	18857.2	39.80	2.73	**DK**	2	1185	8254.1	17.42	2.64
DE	2	2355	308793.7	52.84	4.15	**DE**	2	1066	143693.4	24.60	3.01
EE	2	3419	7271.7	64.60	2.09	**EE**	2	941	2065.8	18.35	1.24
ES	2	19919	253585.2	62.86	2.03	**ES**	2	14134	167604.8	41.86	1.89
LV	2	1284	3824.4	26.16	1.44	**LV**	2	1078	3004.3	20.60	1.35
LT	2	3060	11389.0	46.93	1.80	**LT**	2	2675	9258.1	37.99	1.55
PL	2	4136	229139.3	72.94	2.79	**PL**	2	513	28423.5	9.05	2.02
FI	2	4128	41082.6	74.04	3.18	**FI**	2	235	2245.4	4.02	1.35
SE	2	1952	31614.6	35.59	2.70	**SE**	2	790	13457.6	15.18	2.33
IS	2	1854	2192.6	57.24	0.23	**IS**	2	192	221.9	5.89	0.10
NO	2	3145	30140.0	57.75	2.99	**NO**	2	194	1850.2	3.61	1.40
BE fr	3	184	3106.0	7.71	3.00	**BE fr**	3	878	14278.9	34.94	5.36
BE de	3	35	65.9	10.12	0.48	**BE de**	3	0	0.0	0.00	0.00
BE nl	3	80	1131.5	1.84	1.35	**BE nl**	3	1675	22501.8	36.63	3.47
BG	3	794	7261.8	16.04	2.42	**BG**	3	943	8774.5	19.30	2.74
EL	3	4444	65209.2	73.08	3.24	**EL**	3	1210	17433.1	19.77	2.80
HR	3	330	1778.8	5.23	1.76	**HR**	3	107	507.4	1.48	0.87
IT	3	2900	149330.1	30.43	3.27	**IT**	3	2529	147122.3	29.95	2.99
CY	3	3578	4963.2	68.00	0.11	**CY**	3	1207	1584.3	21.71	0.08
HU	3	545	8667.4	11.28	2.66	**HU**	3	864	14016.7	18.12	3.44
MT	3	1360	1645.8	42.02	0.13	**MT**	3	755	844.7	21.57	0.10
RO	3	416	11119.9	8.13	2.39	**RO**	3	523	15148.1	11.08	2.68
SI	3	9	9.0	0.06	0.00	**SI**	3	0	0.0	0.00	0.00
UK-ENG	3	2175	202714.8	51.57	3.82	**UK-ENG**	3	1290	122999.1	31.47	3.69
UK-WLS	3	1404	11581.5	48.52	4.99	**UK-WLS**	3	312	2559.4	10.90	2.55
UK-NIR	3	527	4554.8	27.07	5.64	**UK-NIR**	3	753	6637.4	39.44	6.09
UK-SCT	3	1654	24587.0	73.61	4.73	**UK-SCT**	3	226	3613.9	10.70	3.57
ME	3	1136	1170.7	17.09	0.05	**ME**	3	3	3.1	0.04	0.00
MK	3	376	990.5	6.28	0.07	**MK**	3	212	633.0	4.01	0.05
RS	3	244	2220.4	3.64	1.35	**RS**	3	388	4378.0	7.18	2.23
TR	3	864	109157.8	12.62	2.25	**TR**	3	490	71722.3	8.29	2.21
CZ	2	1477	24689.2	54.11	3.64	**CZ**	2	279	4852.9	10.76	2.71
CZ	3	55	330.0	0.85	0.53	**CZ**	3	17	114.4	0.29	0.29
FR	2	669	83223.4	77.08	4.09	**FR**	2	112	15589.1	14.71	6.11
FR	3	2846	362978.5	64.13	2.84	**FR**	3	495	60593.1	11.00	2.10
IE	2	1316	13762.3	37.81	3.99	**IE**	2	1724	17622.2	47.17	3.47
IE	3	623	7063.1	33.84	3.91	**IE**	3	911	10012.4	46.78	3.57
LU	2	1439	1506.1	51.64	0.16	**LU**	2	1726	1797.2	63.37	0.17
LU	3	945	994.7	44.26	0.16	**LU**	3	1279	1326.8	59.86	0.16
NL	2	279	11097.6	9.41	2.54	**NL**	2	500	21536.2	18.27	3.43
NL	3	183	7219.3	11.81	4.07	**NL**	3	418	18939.7	30.98	7.01
PT	2	937	17823.5	59.98	3.91	**PT**	2	386	7871.7	26.49	4.39
PT	3	2262	37586.4	55.36	3.49	**PT**	3	1247	22538.4	33.20	3.48
SK	2	914	7330.2	37.86	3.73	**SK**	2	161	1344.2	6.95	2.11
SK	3	97	715.6	3.21	1.58	**SK**	3	15	213.2	0.95	0.71
AL	2	944	4557.0	42.97	4.72	**AL**	2	614	3110.3	29.26	4.80
AL	3	1831	8002.8	46.38	3.74	**AL**	3	1187	5381.3	31.19	3.60
BA	2	675	3263.0	68.86	6.31	**BA**	2	40	117.8	62.68	2.61
BA	3	404	1770.8	7.41	1.93	**BA**	3	69	273.2	1.14	0.90
CH	2	3090	40809.4	82.48	3.09	**CH**	2	63	737.6	1.50	1.01
CH	3	840	8998.2	44.03	5.33	**CH**	3	0	0.0	0.00	0.00
AT	:	:	:	:	:	**AT**	:	:	:	:	:

	Parents' endorsement of the instructional or religious philosophy of the school (variable: SC012Q03TA)						Student's record of academic performance (including placement tests (variable: SC012Q01TA)				
	ISCED level	N	Weighted N	%	S.E.		ISCED level	N	Weighted N	%	S.E.
DK	2	1056	10867.9	23.17	2.41	DK	2	359	2288.3	4.86	1.49
DE	2	293	38538.5	6.67	1.87	DE	2	1767	236545.7	40.08	3.31
EE	2	872	1879.6	16.70	1.55	EE	2	1400	2783.5	24.73	1.40
ES	2	3873	45464.5	11.40	1.32	ES	2	1086	10565.0	2.66	0.64
LV	2	206	695.6	4.75	1.10	LV	2	1098	3613.8	24.70	1.39
LT	2	2013	6789.0	27.81	1.67	LT	2	1328	4938.5	20.20	1.07
PL	2	347	19867.5	6.32	1.47	PL	2	932	50975.3	16.23	2.58
FI	2	216	2149.6	3.85	1.36	FI	2	176	1769.5	3.17	1.16
SE	2	25	497.2	0.56	0.38	SE	2	55	872.7	0.98	0.70
IS	2	28	30.7	0.81	0.06	IS	2	115	128.2	3.38	0.06
NO	2	142	1310.8	2.54	1.06	NO	2	269	2540.5	4.94	1.28
BE fr	3	1581	25229.1	62.11	4.71	BE fr	3	226	3721.1	9.20	3.01
BE de	3	183	332.7	51.07	0.67	BE de	3	44	93.4	14.34	0.71
BE nl	3	774	10759.3	17.62	3.39	BE nl	3	1247	16359.1	26.63	3.54
BG	3	1532	14043.3	31.33	3.45	BG	3	4188	37001.1	81.19	2.97
EL	3	416	5891.6	6.71	1.68	EL	3	193	2582.8	2.93	1.20
HR	3	979	5042.2	14.80	2.64	HR	3	5873	31469.5	90.22	1.99
IT	3	4234	221745.8	45.49	3.21	IT	3	4318	216993.7	44.15	3.30
CY	3	382	482.8	6.61	0.04	CY	3	1179	1557.2	21.34	0.10
HU	3	1256	20475.2	26.47	3.45	HU	3	4544	73674.0	95.23	1.62
MT	3	1147	1326.4	33.86	0.14	MT	3	1281	1525.7	38.95	0.15
RO	3	438	13197.7	9.65	2.67	RO	3	4015	113563.2	82.40	3.38
SI	3	110	458.0	3.10	0.08	SI	3	956	3922.9	26.22	0.13
UK-ENG	3	580	54541.6	13.95	2.75	UK-ENG	3	708	72244.5	18.48	2.37
UK-WLS	3	394	3107.7	13.14	3.22	UK-WLS	3	326	2523.2	10.54	3.15
UK-NIR	3	241	1923.0	11.62	3.82	UK-NIR	3	1105	8208.3	48.35	4.67
UK-SCT	3	111	2034.0	6.02	2.85	UK-SCT	3	90	1626.5	4.86	2.69
ME	3	1481	1523.7	22.24	0.05	ME	3	3345	3453.9	50.42	0.06
MK	3	397	1090.0	7.06	0.07	MK	3	2251	7809.9	49.30	0.11
RS	3	2127	19769.0	32.42	3.42	RS	3	5614	51694.7	84.78	2.32
TR	3	2075	274615.0	31.75	3.63	TR	3	5555	707547.0	80.36	2.67
CZ	2	350	5449.8	12.00	2.83	CZ	2	802	6791.7	14.96	1.85
CZ	3	372	4141.9	10.66	2.75	CZ	3	3630	37630.8	95.08	2.11
FR	2	85	7090.6	6.68	2.28	FR	2	118	11938.9	11.25	3.12
FR	3	709	87588.5	15.99	2.45	FR	3	1282	158626.8	28.40	3.51
IE	2	478	4987.3	13.35	2.76	IE	2	458	5053.1	13.52	3.16
IE	3	279	3061.9	14.31	2.79	IE	3	232	2678.9	12.52	2.83
LU	2	519	537.4	18.95	0.12	LU	2	1587	1665.7	56.21	0.14
LU	3	512	537.8	24.26	0.08	LU	3	1144	1210.1	53.27	0.16
NL	2	603	23210.8	19.69	3.76	NL	2	2067	79984.8	67.84	4.65
NL	3	249	10124.2	16.56	4.24	NL	3	935	39363.8	64.40	6.77
PT	2	251	3838.8	13.01	2.87	PT	2	39	922.9	3.13	1.38
PT	3	1072	18546.2	27.37	2.87	PT	3	260	5633.2	8.36	1.95
SK	2	345	2876.1	15.01	2.67	SK	2	300	2220.0	11.58	1.94
SK	3	768	5299.7	23.84	3.79	SK	3	3069	21502.8	94.42	1.48
AL	2	778	4067.5	38.27	4.45	AL	2	1098	5501.3	51.76	5.65
AL	3	1964	8533.5	50.50	3.06	AL	3	2492	10726.3	62.17	3.53
BA	2	213	1093.7	23.80	4.84	BA	2	267	1037.4	22.58	4.88
BA	3	1462	6500.0	27.22	3.24	BA	3	4024	17653.5	73.46	3.84
CH	2	108	1781.1	3.65	1.44	CH	2	1693	22193.3	45.08	4.20
CH	3	79	659.3	3.23	1.57	CH	3	1029	9315.6	45.58	6.61
AT	:	:	:	:	:	AT	:	:	:	:	:

	Whether the student requires or is interested in a special programme (variable: SC012Q04TA)						Recommendation of feeder schools (variable: SC012Q02TA)				
	ISCED level	N	Weighted N	%	S.E.		ISCED level	N	Weighted N	%	S.E.
DK	2	772	5927.7	12.61	1.97	**DK**	2	406	2818.4	6.01	1.64
DE	2	1365	181806.0	31.31	3.63	**DE**	2	1330	172750.5	29.40	2.95
EE	2	1175	2373.2	21.08	1.78	**EE**	2	285	644.5	5.73	1.09
ES	2	4909	47282.1	11.80	1.20	**ES**	2	1768	21197.7	5.33	1.17
LV	2	1898	5562.2	38.00	1.79	**LV**	2	59	214.2	1.46	0.75
LT	2	2245	7712.6	31.60	1.46	**LT**	2	489	1635.9	6.70	1.12
PL	2	768	42424.5	13.50	2.15	**PL**	2	381	20682.1	6.58	1.54
FI	2	100	1099.9	1.98	0.95	**FI**	2	129	1416.6	2.55	1.14
SE	2	116	2258.0	2.55	1.25	**SE**	2	146	2646.1	2.99	1.35
IS	2	7	8.1	0.22	0.04	**IS**	2	303	341.6	9.01	0.15
NO	2	130	1291.9	2.52	1.02	**NO**	2	218	2056.5	3.98	1.08
BE fr	3	653	9739.8	24.12	4.10	**BE fr**	3	26	500.4	1.22	1.27
BE de	3	243	442.1	67.86	0.66	**BE de**	3	0	0.0	0.00	0.00
BE nl	3	0	0.0	0.00	0.00	**BE nl**	3	258	3846.0	6.30	2.05
BG	3	1998	17855.1	39.60	3.95	**BG**	3	386	3393.8	7.71	1.94
EL	3	745	10723.4	12.23	2.35	**EL**	3	221	3262.8	3.70	1.33
HR	3	1726	9198.1	26.85	3.16	**HR**	3	246	1309.4	3.82	1.29
IT	3	6504	323483.7	65.60	3.06	**IT**	3	3920	207915.7	42.30	3.25
CY	3	2518	3223.2	44.16	0.11	**CY**	3	306	365.7	5.01	0.04
HU	3	2291	36592.4	47.30	3.63	**HU**	3	90	1630.1	2.11	1.00
MT	3	909	1090.4	27.84	0.11	**MT**	3	921	1103.3	28.17	0.15
RO	3	1476	42616.7	31.16	3.95	**RO**	3	135	3832.8	2.81	1.43
SI	3	3792	8493.0	57.43	0.19	**SI**	3	80	187.1	1.27	0.04
UK-ENG	3	221	20582.5	5.31	2.03	**UK-ENG**	3	460	50986.2	13.11	2.72
UK-WLS	3	93	957.8	4.05	1.84	**UK-WLS**	3	357	3010.7	12.73	3.35
UK-NIR	3	59	492.2	2.93	2.20	**UK-NIR**	3	349	2865.0	17.03	4.51
UK-SCT	3	56	847.0	2.51	1.67	**UK-SCT**	3	186	2887.8	8.55	3.33
ME	3	3967	4128.8	60.27	0.06	**ME**	3	592	603.6	8.81	0.04
MK	3	945	3445.2	22.13	0.13	**MK**	3	607	2468.4	15.62	0.06
RS	3	4789	44731.8	73.36	3.48	**RS**	3	1301	11747.8	19.27	2.95
TR	3	1138	151151.2	17.42	2.91	**TR**	3	420	56159.0	6.49	1.83
CZ	2	400	5895.5	13.07	2.99	**CZ**	2	54	701.6	1.57	0.89
CZ	3	834	9107.6	23.77	3.48	**CZ**	3	395	5237.1	13.56	2.46
FR	2	119	11697.5	10.85	3.53	**FR**	2	29	3456.1	3.26	2.35
FR	3	780	94729.5	17.08	2.98	**FR**	3	440	55192.7	10.13	2.19
IE	2	409	4559.3	12.38	2.69	**IE**	2	523	5340.4	14.29	3.11
IE	3	228	2699.2	12.81	2.76	**IE**	3	267	2920.8	13.65	2.89
LU	2	402	421.5	14.86	0.13	**LU**	2	239	246.0	8.67	0.09
LU	3	257	275.1	12.41	0.13	**LU**	3	285	297.2	13.41	0.10
NL	2	734	27720.9	23.51	3.89	**NL**	2	2291	90302.6	76.59	3.52
NL	3	256	10687.9	17.48	4.68	**NL**	3	1221	49575.3	81.10	5.26
PT	2	615	11491.4	39.09	4.55	**PT**	2	11	319.8	1.09	0.88
PT	3	2150	33975.5	50.45	3.39	**PT**	3	30	578.3	0.86	0.63
SK	2	385	3562.5	18.59	2.94	**SK**	2	60	620.8	3.26	1.20
SK	3	1468	10079.7	45.14	4.44	**SK**	3	391	2781.5	12.61	3.03
AL	2	736	3642.2	34.27	4.52	**AL**	2	1186	5767.6	54.26	5.10
AL	3	2045	8935.5	51.79	3.32	**AL**	3	1834	8181.8	47.42	3.11
BA	2	9	72.2	1.61	1.22	**BA**	2	74	304.1	6.62	2.35
BA	3	1766	8251.2	34.25	3.60	**BA**	3	1035	4583.9	19.40	2.76
CH	2	442	6102.8	12.53	2.75	**CH**	2	1453	19229.2	38.71	3.65
CH	3	702	6371.4	31.18	5.32	**CH**	3	245	2772.9	13.57	3.88
AT	:	:	:	:	:	**AT**	:	:	:	:	:

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated on the basis of school principals' responses to the following question in the School Questionnaire for PISA 2018: 'How often are the following factors considered when students are admitted to your school?' Only the answer 'Always' was considered.

Due to the characteristics of national education systems, 15-year-olds may be in either lower (ISCED 2) or upper secondary (ISCED 3). When a single ISCED level appears this means that more than 90 % of the 15-year-olds participating in PISA 2018 are enrolled in the education level indicated. (The sample size for the other ISCED level is usually too small to show significant/meaningful results.) When two ISCED levels appear for an education system (Czechia, Ireland, France, Luxembourg, the Netherlands, Portugal, Slovakia, Albania, Bosnia and Herzegovina and Switzerland), this means that relatively high proportions of the PISA 2018 student sample participate in lower and in upper secondary education, and it is possible to compare school admissions practices between the two levels of education.

Country-specific note

Austria: Data are not broken down by ISCED levels.

Table A10: Estimates of the percentage of fourth-grade students in schools where student achievement is used to assign students to classes in mathematics (number and % of 'yes' answers, variable ACBG10A, TIMSS 2015)

	N	Weighted N	Estimated %	S.E.
BE nl	2251	23304.0	36.34	3.70
BG	393	4422.3	7.74	2.24
CZ	85	1374.3	1.51	1.07
DK	95	1652.0	3.83	1.75
DE	230	38216.6	6.30	1.71
IE	348	8072.9	13.67	3.74
ES	2196	126914.6	31.42	3.19
FR	858	115151.2	17.33	3.46
HR	242	2052.7	5.51	1.96
CY	1102	2102.0	29.46	4.38
LT	0	0.0	0.00	0.00
HU	408	5801.5	6.86	2.19
NL	2484	99462.2	88.35	3.79
PL	24	2041.0	0.57	0.57
PT	414	9389.1	10.21	2.89
SI	970	3873.7	23.74	3.98
SK	240	2396.5	4.98	1.57
FI	882	8265.7	14.65	2.84
SE	207	3966.7	4.00	1.68
UK-ENG	1856	254286.5	49.03	3.92
UK-NIR	418	2640.7	14.68	3.63
NO	154	1847.2	3.20	1.82
RS	338	6281.0	10.00	2.44
TR	140	24540.5	2.30	1.07

Source: Eurydice calculations based on IEA, TIMSS 2015 database.

Explanatory notes

Percentages were computed based on the answers to the following question in the TIMSS 2015 school questionnaire: 'As a general school policy, is student achievement used to assign <fourth grade> students to classes (e.g. streaming, tracking, setting)?' (Variable ACBG10A).

Table A11: Estimates on the percentage of 15-year-olds in schools in the modal ISCED level that group students by ability into different classes (PISA 2018)

	N	Weighted N	Estimated %	S.E.
BE fr	465	7357.1	16.80	3.43
BE de	261	475.4	67.78	0.60
BE nl	2485	33667.1	54.67	3.68
BG	1510	13652.7	32.21	3.20
CZ	1354	16618.2	20.49	2.67
DK	1227	10760.7	23.48	2.55
DE	1141	153389.5	27.18	3.37
EE	1936	3826.2	33.67	1.68
IE	5013	53918.6	92.85	2.16
EL	581	8304.4	9.37	1.89
ES	11537	149174.1	38.42	2.14
FR	745	95626.1	16.91	3.33
HR	2209	12006.1	35.04	3.45
IT	1252	60331.2	13.73	2.30
CY	1698	2135.8	29.11	0.12
LV	829	2643.2	18.99	1.12
LT	2866	10349.5	42.87	1.39
LU	2903	3051.9	64.27	0.07
HU	1426	22553.9	29.66	3.64
MT	2651	3093.2	78.88	0.09
NL	2953	119973.4	68.07	3.69
AT	659	7480.0	10.68	2.12
PL	1911	103712.6	33.01	3.28
PT	593	10463.4	12.19	2.29
RO	2630	73975.1	54.37	4.77
SI	1772	4775.6	32.85	0.15
SK	2023	14229.4	35.70	2.75
FI	1746	17397.7	31.83	3.47
SE	807	13525.4	15.88	2.15
UK-ENG	4092	390356.1	98.69	1.15
UK-WLS	2990	24488.5	100.00	0.00
UK-NIR	1856	15027.2	90.06	4.80
UK-SCT	2176	32908.3	98.76	1.22
AL	3090	12675.9	49.61	2.36
BA	2539	11230.0	47.02	3.78
CH	2817	38335.8	73.41	3.31
IS	369	414.0	10.96	0.11
ME	3355	3482.4	50.84	0.06
MK	2436	8449.7	58.27	0.13
NO	713	6789.4	13.12	2.32
RS	2538	23630.4	38.75	3.49
TR	3638	472555.8	54.53	3.69

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated on the basis of variable SC042Q01TA (School's policy for <national modal grade for 15-year-olds>: Students are grouped by ability into different classes) of the school principals' questionnaire. Answers 'for all subjects' and 'for some subjects' were merged.

The target population of the PISA surveys is an aged-based population and not a grade-based population. This means that depending on their structural features, education systems may differ in how 15-year-olds are distributed across different schools, pathways/tracks or grades. In order to ensure better comparability across education systems, in PISA 2018 the estimation of the segregation (or inclusion) indices is restricted to schools with the 'modal ISCED level' for 15-year-old students. Practically, the modal ISCED level is the level at which the large majority of students in the sample are enrolled. The modal ISCED level may be either lower secondary (ISCED level 2) or upper secondary (ISCED level 3), or both (as in Czechia, Ireland, Luxembourg, Slovakia and Albania). In several countries, lower and upper secondary education are provided in the same school. As the restriction is made at the school level, some students from an ISCED level other than the modal one in the country were also included in the analysis (OECD, 2019b. p. 247). As ISCED levels are not available for Austria, the whole sample was used here to compute the indices of academic and social inclusion. See Table II.C.1 in OECD (2019b, pp. 365-366) for the list of modal ISCED levels per country.

Table A12: Estimates on the percentage of 15-year-old students having repeated a grade at least once (PISA 2018)

	N	Weighted N	Estimated %	S.E.
BE fr	1224	19406	41.08	0.94
BE de	99	198	28.39	1.34
BE nl	1028	14766	23.17	0.98
BG	219	2080	4.49	0.51
CZ	242	3968	4.59	0.55
DK	281	1743	3.17	0.24
DE	890	122482	19.63	0.91
EE	136	326	2.90	0.29
IE	345	3633	6.15	0.41
EL	170	3805	4.02	0.45
ES	8911	117928	28.71	0.55
FR	1108	123724	16.56	0.63
HR	100	537	1.53	0.18
IT	1542	67399	13.21	0.51
CY	166	295	3.94	0.40
LV	183	577	3.69	0.32
LT	134	489	2.03	0.22
LU	1655	1743	32.21	0.60
HU	329	7327	8.50	0.41
MT	166	209	5.47	0.38
NL	690	27723	17.31	0.67
AT	889	10495	14.39	0.65
PL	117	10305	3.26	0.34
PT	1362	24791	26.64	1.24
RO	164	6566	4.46	0.69
SI	110	603	3.60	0.48
SK	297	2353	5.53	0.48
FI	176	1826	3.33	0.22
SE	185	3178	3.48	0.31
UK-ENG	118	11991	2.46	0.29
UK-WLS	95	775	3.16	0.36
UK-NIR	58	439	2.32	0.33
UK-SCT	87	1277	2.90	0.40
AL	190	898	3.27	0.32
BA	116	530	1.88	0.21
CH	966	12376	17.57	0.84
IS	30	34	0.91	0.17
ME	95	109	1.56	0.16
MK	181	533	3.16	0.24
NO	(-)	(-)	(-)	(-)
RS	76	867	1.42	0.20
TR	497	64900	7.38	0.47

So*urce*: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

Percentages were calculated based on the PISA 2018 variable REPEAT ('Grade Repetition') and are based on students' replies.

Table A13: Estimates on the percentage of 15-year-old students attending a school which offers additional language of instruction lessons during school hours, by socio-economic status and level of achievement (PISA 2018)

	All students				Low SES (P25) students				Low-achieving (P10) students			
	N	Weighted N	Estimated %	S.E.	N	Weighted N	Estimated %	S.E.	N	Weighted N	Estimated %	S.E.
BE fr	1109	17226	38.54	5.50	276	4296	39.44	6.60	122	1788	39.91	8.13
BE de	157	286	49.70	0.84	40	77	54.01	4.90	18	38	65.04	8.63
BE nl	1950	26420	41.62	4.09	474	6683	42.67	4.84	200	2808	44.20	8.19
BG	3075	28100	61.88	3.55	844	8054	73.45	4.03	349	3332	73.32	4.72
CZ	2539	33806	39.42	2.99	617	8826	47.12	3.90	135	2516	48.75	7.44
DK	2070	17734	38.90	3.84	614	4411	39.53	4.11	257	1789	39.18	4.89
DE	2994	389042	64.07	3.43	629	82127	63.42	3.95	272	36802	60.56	6.42
EE	1641	3509	30.88	1.74	436	940	33.75	2.97	182	377	33.17	3.56
IE	910	10091	17.21	3.02	263	2859	19.71	3.87	123	1328	22.63	4.88
EL	593	8570	9.56	2.30	137	1897	8.50	2.54	54	711	7.92	3.25
ES	9333	103271	25.51	2.16	1747	22507	22.65	2.45	:	:	:	:
FR	1505	189232	32.59	3.96	437	53545	37.39	4.88	223	26111	44.94	7.26
HR	5251	28130	80.01	2.87	1393	7364	84.14	3.08	593	3076	87.40	3.36
IT	8019	352589	70.66	2.75	1890	91990	75.36	2.77	666	36053	72.18	4.74
CY	2385	3177	43.31	0.14	573	740	41.02	1.21	269	335	45.65	2.23
LV	2514	7371	48.59	2.00	578	1592	42.88	2.38	250	694	45.71	4.22
LT	4918	17661	72.23	1.96	1066	3856	64.75	3.32	473	1593	65.08	4.19
LU	3206	3358	66.04	0.11	861	905	73.55	1.01	337	355	74.16	1.92
HU	2652	42678	54.91	4.30	562	9396	48.71	5.49	216	3556	45.68	6.80
MT	414	486	12.40	0.09	94	112	11.66	0.99	14	16	3.99	1.49
NL	2107	83233	47.19	4.03	584	22073	51.09	4.77	261	9177	52.00	7.87
AT	2968	34116	46.09	2.99	708	8451	46.59	3.61	248	3337	45.05	5.54
PL	4052	225840	71.89	2.96	917	51881	66.82	3.61	383	22106	70.30	3.77
PT	4590	72859	84.28	2.49	1055	17054	83.33	3.62	481	6631	76.61	5.50
RO	4044	113402	82.28	3.48	1066	29234	85.10	3.58	427	11754	85.21	3.99
SI	2986	8375	55.91	0.19	857	2026	54.57	1.33	438	815	54.38	2.12
SK	3329	25134	59.40	2.82	813	6373	44.80	6.01	119	878	36.55	7.84
FI	2137	20799	37.28	3.67	493	4811	35.07	4.01	200	1954	34.98	4.19
SE	3234	54696	62.85	3.68	832	14242	67.43	3.39	365	6202	71.20	4.92
UK-ENG	1936	191258	48.74	4.68	546	52683	58.24	5.01	231	22657	57.66	6.21
UK-WLS	1859	14903	61.70	4.48	495	3960	72.25	4.58	170	1407	58.16	6.39
UK-NIR	1273	10426	63.32	6.40	316	2580	65.42	6.95	136	1113	67.31	8.55
UK-SCT	1189	18003	52.66	5.41	284	4285	52.34	6.26	127	1908	55.67	7.07
AL	4318	19084	68.54	2.83	908	4383	51.79	5.67	215	956	52.39	6.50
BA	3299	14565	60.45	4.03	841	3675	61.83	4.82	332	1413	58.59	6.05
CH	2638	35908	67.52	4.16	684	9177	70.56	5.05	246	3596	67.52	6.51
IS	1191	1410	36.80	0.23	280	330	35.18	1.48	101	122	31.74	3.01
ME	6215	6447	94.12	0.03	1548	1603	94.30	0.53	626	655	95.60	0.90
MK	4534	13731	85.44	0.09	1142	3397	86.20	1.01	472	1350	83.91	2.13
NO	734	7229	13.33	2.15	165	1546	11.82	2.18	80	735	13.54	2.96
RS	4393	40921	67.11	3.18	1023	9314	62.00	3.81	398	3747	61.40	5.26
TR	3767	487282	55.35	3.90	1048	130291	59.46	4.73	341	39825	45.21	7.97

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory note

The data are drawn from the PISA 2018 variable SC152Q01HA (‘Does your school offer additional <test language> lessons?’) and are based on school heads’ replies. The analysis was restricted to schools with the ‘modal ISCED level’ for 15-year-old students. The category ‘All students’ refers to the total percentage of students attending a school where additional language lessons are offered. The category ‘Low SES students’ refers to the percentage of students from low socio-economic status families (in the 25th socio-economic status percentile) who attend such schools. The category 'Low-achieving students' refers to the percentage of students in the 10th student performance percentile who attend such schools. The student performance percentiles were computed using all five plausible values for reading, which results in five N and weighted N. Here we report the mean N and weighted N values.

Table A14: Estimates on the percentage of 15-year-old students distributed according to the purpose of additional language of instruction lessons, where provided (PISA 2018)

	Enrichment only				Remedial only				Enrichment and remedial				No differentiation			
	N	W. N	%	S.E.	N	W. N	%	S.E.	N	W. N	%	S.E.	N	W. N	%	S.E.
BE fr	32	426	2.53	2.49	664	10306	61.22	7.34	356	5702	33.87	6.97	26	401	2.38	2.39
BE de	0	0	0	0	134	252	87.86	0.92	23	35	12.14	0.92	0	0	0	0
BE nl	0	0	0	0	1214	16132	61.06	6.63	505	7423	28.09	6.19	231	2866	10.85	4.19
BG	0	0	0	0	861	7896	28.10	4.07	1508	13738	48.89	4.47	706	6466	23.01	4.40
CZ	60	883	2.61	1.29	998	11342	33.55	5.09	1153	16886	49.95	5.23	328	4695	13.89	3.81
DK	0	0	0	0	1088	10149	57.14	5.67	751	6330	35.63	5.62	233	1285	7.23	2.61
DE	0	0	0	0	1778	229222	58.92	4.38	1122	147291	37.86	4.71	94	12528	3.22	1.47
EE	65	131	3.73	1.30	218	426	12.15	2.74	962	2063	58.78	3.47	396	889	25.34	3.30
IE	74	929	9.21	5.94	404	4449	44.09	8.63	432	4713	46.70	9.58	0	0	0	0
EL	0	0	0.00		140	1993	22.04	8.92	317	4884	54.00	11.67	169	2167	23.96	9.72
ES	481	3038	2.96	1.14	4721	56670	55.25	4.45	2657	26788	26.11	3.50	1398	16084	15.68	3.52
FR	0	0	0	0	652	80718	42.66	6.44	781	99095	52.37	6.42	72	9419	4.98	2.99
HR	812	4324	15.48	3.08	334	1661	5.94	2.11	3447	18772	67.18	3.61	619	3184	11.40	2.79
IT	248	11029	3.13	1.39	986	37073	10.51	2.25	5523	243641	69.10	4.12	1262	60846	17.26	3.14
CY	58	62	1.95	0.01	1235	1698	53.45	0.18	1092	1417	44.60	0.18	0	0	0	0
LV	208	657	8.98	1.32	110	320	4.37	1.62	1951	5484	74.95	2.33	221	856	11.70	1.56
LT	50	113	0.64	0.44	517	1646	9.32	1.32	4177	15430	87.37	1.38	174	471	2.67	0.15
LU	0	0	0	0	2398	2513	75.67	0.13	569	596	17.93	0.11	204	212	6.39	0.08
HU	376	5630	13.19	3.49	148	2705	6.34	1.99	2029	32599	76.38	4.35	99	1743	4.08	2.10
MT	39	47	9.71	0.22	156	186	38.28	0.42	79	90	18.45	0.20	140	163	33.56	0.31
NL	66	3594	4.32	3.12	1107	43823	52.65	6.18	790	30551	36.71	5.54	144	5265	6.33	2.75
AT	35	206	0.61	0.58	1938	22636	67.13	5.35	685	7738	22.95	4.50	279	3140	9.31	3.05
PL	136	8928	3.95	1.63	500	27448	12.15	2.47	3195	177691	78.68	3.43	221	11772	5.21	1.75
PT	103	1969	2.72	1.87	619	9308	12.85	2.57	3440	53495	73.82	3.80	412	7690	10.61	2.42
RO	330	9139	8.13	2.76	201	6072	5.40	2.26	3437	96305	85.63	3.66	38	951	0.85	0.84
SI	216	277	3.31	0.04	996	2590	30.92	0.19	1578	4860	58.02	0.22	196	648	7.74	0.16
SK	626	4585	18.31	2.97	396	3208	12.81	2.38	2019	15145	60.49	3.21	273	2100	8.39	2.25
FI	301	3027	14.93	3.95	550	5286	26.07	4.99	747	7131	35.17	6.18	481	4831	23.83	5.10
SE	0	0	0	0	1240	20565	38.06	3.75	919	15234	28.20	3.96	1044	18231	33.74	4.54
UK-ENG	0	0	0	0	463	44732	24.00	5.79	1289	125909	67.55	6.03	152	15739	8.44	3.83
UK-WLS	0	0	0	0	271	1988	13.34	4.33	1421	11392	76.44	5.63	167	1522	10.21	3.86
UK-NIR	24	318	3.16	3.04	607	5262	52.30	6.43	570	4182	41.57	6.20	35	299	2.97	2.20
UK-SCT	0	0	0	0	149	2040	11.53	4.04	669	10138	57.27	7.48	351	5524	31.21	7.71
AL	760	3408	17.86	2.66	0	0	0	0	1487	6955	36.44	4.39	2071	8721	45.70	3.91
BA	488	2101	14.43	3.60	212	872	5.99	2.64	2404	10756	73.85	4.51	195	835	5.74	2.08
CH	42	319	0.88	0.80	1829	24937	68.90	5.07	678	9904	27.36	5.08	118	1032	2.85	1.30
IS	0	0	0	0	314	388	27.48	0.40	475	549	38.95	0.40	402	473	33.56	0.38
ME	451	477	7.39	0.02	0	0	0	0	5764	5971	92.61	0.02	0	0	0	0
MK	136	317	2.32	0.00	615	1516	11.09	0.05	3119	9745	71.28	0.07	634	2093	15.31	0.05
NO	0	0	0	0	505	5015	70.96	10.06	84	704	9.96	5.77	129	1349	19.08	8.19
RS	116	1120	2.74	1.61	151	1865	4.56	2.20	3742	34389	84.04	3.54	384	3547	8.67	2.68
TR	119	15628	3.21	1.81	198	25639	5.26	5.26	3450	446015	91.53	91.53	0	0	0	0

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

'W.N' stands for 'weighted number of observations'. The data are drawn from the PISA 2018 variable SC160Q01WA ('What is the purpose of these additional <test language> lessons?') and are based on school heads' replies. The percentages apply only to students attending schools in the modal ISCED level where additional language instruction is provided and should, therefore, be interpreted in combination with Table A13.

PART III.

Table A15: Relationships between composite equity indices and their input variables

Indicator 1, equity as inclusion (31 cases):
Achievement gap (performance difference between low (P10) and high (P90) achievers) in primary education

Sources of input variables	Standardised regression coefficients of Indicator 1	N
PIRLS 2011	0.850	25
PIRLS 2016	0.859	25
TIMSS 2011 Grade 4 Math	0.966	25
TIMSS 2015 Grade 4 Math	0.997	25

Indicator 2, equity as inclusion (42 cases):
Achievement gap (performance difference between low (P10) and high (P90) achievers) in secondary education

Sources of input variables	Standardised regression coefficients of Indicator 2	N
PISA 2015 Reading	0.896	40
PISA 2015 Mathematics	0.941	40
PISA 2018 Reading	0.734	41
PISA 2018 Mathematics	0.890	42

Indicator 3, equity as fairness (42 cases):
Impact of socio-economic background on achievement (correlation between the number of books at home and student achievement), all levels

Sources of input variables	Standardised regression coefficients of Indicator 3	N
PIRLS 2011	0.825	25
PIRLS 2016	0.780	25
TIMSS 2011 Grade 4 Maths	0.883	25
TIMSS 2015 Grade 4 Maths	0.881	25
TIMSS 2011 Grade 8 Maths	0.850	11
TIMSS 2015 Grade 8 Maths	0.874	10
PISA 2015 Reading	0.940	39
PISA 2015 Mathematics	0.942	39
PISA 2018 Reading	0.947	41
PISA 2018 Mathematics	0.927	42

Source: Eurydice calculations.

Explanatory notes

Equity indicators from the different surveys (and their different subject areas) were combined in the framework of a confirmatory factor analysis. Confirmatory factor analysis is a statistical method that allows to study the relationship between individual variables and combine them in a way that leads to the formation of theoretically informed latent variables. As such, confirmatory factor analysis tests whether it is possible to combine these input variables by checking how well the derived composite score explains each of them. This table presents the estimated regression coefficients showing how well the composite indices predict the input variables. The standardised regression coefficients depicted in the table can be interpreted as the correlation between the composite index and each input variable.

Table A16: Estimates of between-school and within-school variances in academic performance and related intraclass correlations in PIRLS 2016 and TIMSS 2015

	PIRLS 2016			TIMSS 2015		
	Between-school variance	Within-school variance	Intraclass correlation	Between-school variance	Within-school variance	Intraclass correlation
BE fr	1005.58	3669.96	0.215	:	:	:
BE nl	616.17	3064.12	0.167	847.26	2868.20	0.228
BG	2932.94	4353.41	0.403	2643.97	4392.20	0.376
CZ	836.22	3840.65	0.179	773.23	4180.35	0.156
DK	557.79	3938.50	0.124	1166.85	4498.27	0.206
DE	1764.55	4014.91	0.305	814.81	3500.33	0.189
IE	815.38	4562.17	0.152	702.49	4657.96	0.131
ES	661.91	3399.37	0.163	996.64	3742.38	0.210
FR	770.54	3904.92	0.165	1322.75	4273.35	0.236
HR	:	:	:	638.18	3868.58	0.142
IT	594.59	3502.36	0.145	801.82	4241.49	0.159
CY	:	:	:	639.24	5842.47	0.099
LV	558.67	3252.46	0.147	:	:	:
LT	1261.09	3436.96	0.268	1228.70	3786.78	0.245
HU	1622.33	3809.87	0.299	2503.92	5401.79	0.317
MT	953.25	6964.25	0.120	:	:	:
NL	477.70	3128.13	0.132	337.58	2777.57	0.108
AT	847.85	3469.07	0.196	:	:	:
PL	662.56	4595.91	0.126	736.01	4502.84	0.140
PT	646.23	3570.15	0.153	1024.75	4194.01	0.196
SI	257.60	4869.57	0.050	335.12	4427.81	0.070
SK	1998.97	4281.66	0.318	2005.26	4498.05	0.308
FI	478.99	3872.98	0.110	301.19	4177.01	0.067
SE	802.04	3725.92	0.177	1065.47	3693.94	0.224
UK-ENG	765.41	5354.67	0.125	1876.96	5266.52	0.263
UK-NIR	808.79	5629.41	0.126	1095.75	6176.08	0.151
NO	474.16	3759.71	0.112	488.00	4287.78	0.102
RS	:	:	:	1199.08	6233.41	0.161
TR	:	:	:	3476.44	5603.23	0.383

Source: Eurydice calculations based on IEA, PIRLS 2016 and TIMSS 2015 databases.

Explanatory notes

The intraclass correlation is the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools.

The sampling design of the PIRLS and TIMSS surveys (whereby in most participating countries only one class of the fourth grade is selected per school) does not allow differentiating the variance that lies between schools from the variance that lies between classes within schools. This can become problematic if differences between classes within schools are large; however, if classes within schools are similar in their average performance, then the results are not distorted. Nevertheless, it is still possible to determine what percentage of the variation between students' achievement scores lies between given classes of schools and within classes in each school.

Table A17: Estimates of between-school and within-school variances in academic performance (reading literacy and mathematics) and socio-economic background in the modal ISCED level, and related intraclass correlations in PISA 2018

	PISA 2018, reading literacy			PISA 2018, mathematics			PISA 2018, socio-economic differences		
	Between-school variance	Within-school variance	Intraclass correlation	Between-school variance	Within-school variance	Intraclass correlation	Between-school variance	Within-school variance	Intraclass correlation
BE fr	3340.52	5882.56	0.362	3074.47	5114.59	0.375	0.218	0.658	0.249
BE de	1555.67	6449.98	0.194	1286.60	4667.45	0.216	0.058	0.654	0.081
BE nl	4326.58	5875.89	0.424	3602.06	4996.86	0.419	0.175	0.622	0.219
BG	5264.82	4878.09	0.519	4286.17	5468.15	0.439	0.417	0.647	0.392
CZ	5167.11	4996.40	0.508	4338.62	4953.08	0.467	0.248	0.554	0.309
DK	1255.43	7264.04	0.147	1024.79	5840.03	0.149	0.097	0.500	0.163
DE	5899.31	5893.17	0.500	4546.15	4857.36	0.483	0.301	0.812	0.270
EE	1832.38	6861.08	0.211	1352.62	5300.39	0.203	0.158	0.509	0.238
IE	1155.74	7164.20	0.139	886.17	5254.28	0.144	0.132	0.622	0.175
EL	2895.44	6300.39	0.315	2028.60	5419.32	0.272	0.188	0.626	0.231
ES	:	:	:	1000.55	6743.36	0.129	0.254	0.818	0.237
FR	3515.80	5791.71	0.378	2913.84	4535.76	0.391	0.188	0.551	0.254
HR	3082.18	4821.78	0.390	2719.01	4912.53	0.356	0.112	0.492	0.186
IT	3699.87	5233.49	0.414	3431.17	4737.81	0.420	0.162	0.639	0.202
CY	2648.39	7481.78	0.261	2586.23	6985.46	0.270	0.150	0.704	0.176
LV	1822.35	6095.49	0.230	1435.92	4999.92	0.223	0.180	0.527	0.255
LT	3569.61	5567.64	0.391	2964.09	5456.39	0.352	0.227	0.543	0.295
LU	3365.12	8275.35	0.289	2863.93	6447.37	0.308	0.363	0.939	0.279
HU	4793.92	4221.30	0.532	3723.09	3656.14	0.505	0.312	0.506	0.381
MT	2916.19	9536.72	0.234	2086.93	8083.35	0.205	0.184	0.742	0.199
NL	5950.26	5059.96	0.540	5109.16	3564.79	0.589	0.164	0.595	0.216
AT	5016.60	5323.69	0.485	4670.19	4746.94	0.496	0.207	0.591	0.260
PL	1843.62	7695.46	0.193	1670.23	6562.77	0.203	0.167	0.558	0.231
PT	1643.30	6844.87	0.194	1592.96	6857.23	0.189	0.270	1.015	0.210
RO	3817.07	5065.69	0.430	3511.83	5146.07	0.406	0.266	0.616	0.301
SI	4203.77	4707.45	0.472	3644.38	3850.62	0.486	0.147	0.470	0.238
SK	4468.28	5454.87	0.450	3883.08	5594.28	0.410	0.349	0.529	0.397
FI	841.41	9181.59	0.084	552.15	6386.76	0.080	0.084	0.551	0.132
SE	1767.58	9604.80	0.155	1444.34	6876.96	0.174	0.118	0.684	0.147
UK-ENG	1687.57	8213.60	0.170	1851.67	6894.10	0.212	0.198	0.640	0.237
UK-WLS	1373.02	7902.35	0.148	883.09	5831.31	0.132	0.109	0.627	0.149
UK-NIR	3158.46	6339.43	0.333	2671.67	4571.02	0.369	0.121	0.628	0.162
UK-SCT	721.97	8384.84	0.079	681.58	8132.05	0.077	0.097	0.640	0.132
AL	1719.70	4543.55	0.275	1336.59	5433.51	0.197	0.351	0.632	0.357
BA	1947.20	4434.50	0.305	1849.27	4989.35	0.270	0.113	0.568	0.166
CH	3359.62	7026.27	0.323	2693.32	5957.77	0.311	0.166	0.719	0.188
IS	691.18	10002	0.065	608.94	7679.31	0.073	0.080	0.581	0.122
ME	2279.66	5061.68	0.311	1809.37	5098.42	0.262	0.105	0.657	0.138
MK	3073.79	5370.18	0.364	2919.85	5890.35	0.331	0.165	0.638	0.206
NO	1056.88	10090	0.095	825.29	7503.45	0.099	0.059	0.615	0.088
RS	3784.89	5526.06	0.406	3409.01	5880.94	0.367	0.159	0.521	0.234
TR	4327.72	3415.89	0.559	4247.15	3380.57	0.557	0.476	0.928	0.339

Source: Eurydice calculations based on OECD, PISA 2018 database.

Explanatory notes

The intraclass correlation for academic performance is the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools.

The intraclass correlation for socio-economic background is the variation in student socio-economic status between schools, divided by the sum of the variation in student socio-economic status between schools and the variation in student socio-economic status within schools.

The socio-economic status is measured by the economic, cultural and social status index (ESCS) calculated by the OECD.

Estimates of within-school and between-school variances have been computed using one plausible value, and only the student weight. Hence, in some instances, some differences may occur between these estimates and that of the OECD.

The target population of the PISA surveys is an aged-based population and not a grade-based population. This means that depending on their structural features, education systems may differ in how 15-year-olds are distributed across different schools, pathways/tracks or grades. In order to ensure better comparability across education systems, in PISA 2018 the estimation of the segregation (or inclusion) indices is restricted to schools with the 'modal ISCED level' for 15-year-old students. Practically, the modal ISCED level is the level at which the large majority of students in the sample are enrolled. The modal ISCED level may be either lower secondary (ISCED level 2) or upper secondary (ISCED level 3), or both (as in Czechia, Ireland, Luxembourg, Slovakia and Albania). In several countries, lower and upper secondary education are provided in the same school. As the restriction is made at the school level, some students from an ISCED level other than the modal one in the country were also included in the analysis (OECD, 2019b, p. 247). As ISCED levels are not available for Austria, the whole sample was used here to compute the indices of academic and social inclusion. See Table II.C.1 in OECD (2019b, pp. 365-366) for the list of modal ISCED levels per country.

The sampling design of PISA surveys allows for different definitions of 'school' across education systems. As the OECD (2019a, p. 161) explains, in some countries, subunits within schools were sampled instead of schools, which may affect the estimate of the between-school variance and as a consequence, the intraclass correlation. In Austria, Czechia, Germany, Hungary, Romania and Slovenia, schools with more than one programme of study were split into the units delivering these programmes. In the Netherlands, locations were listed as sampling units. In the Flemish Community of Belgium, each campus (or implantation) of a multi-campus school was sampled independently, whereas the larger administrative unit of a multi-campus school was sampled as a whole in the French Community of Belgium.

Table A18: Relationships between the composite indices of academic segregation and their input variables

Indicator 4 (30 cases): Academic segregation (intraclass correlation) in primary education

Sources of input variables	Standardised regression coefficients of Indicator 4	N
PIRLS 2011	0.962	25
PIRLS 2016	0.864	25
TIMSS 2011 Grade 4 Math	0.901	25
TIMSS 2015 Grade 4 Math	0.919	25

Indicator 5 (42 cases): Academic segregation (intraclass correlation) in secondary education in the modal ISCED level

Sources of input variables	Standardised regression coefficients of Indicator 5	N
PISA 2015 Reading	0.931	40
PISA 2015 Mathematics	0.944	40
PISA 2018 Reading	0.990	41
PISA 2018 Mathematics	0.986	42

Source: Eurydice calculations.

Explanatory notes

Academic segregation is measured by the intraclass correlation (rho), which is the variation in student performance between schools, divided by the sum of the variation in student performance between schools and the variation in student performance within schools (see OECD, 2019b, p. 346).

Academic segregation indicators from the different surveys (and their different subject areas) were combined in the framework of a confirmatory factor analysis. Confirmatory factor analysis is a statistical method that allows to study the relationship between individual variables and combine them in a way that leads to the formation of theoretically informed latent variables. As such, confirmatory factor analysis tests whether it is possible to combine these input variables by checking how well the derived composite score explains each of them. This table presents the estimated regression coefficients showing how well the composite indices predict the input variables. The standardised regression coefficients depicted in the table can be interpreted as the correlation between the composite index and each input variable.

Table A19: Composite indicators on academic segregation, inclusion and fairness

	Academic segregation, primary level	Academic segregation, secondary level	Achievement gap, primary level	Achievement gap, secondary level	Impact of socio-economic background on achievement
BE fr	0.424	0.417	-0.431	0.595	1.270
BE de	:	-0.724	:	-1.196	-0.879
BE nl	-0.083	0.855	-1.356	1.421	0.223
BG	2.477	1.258	0.807	1.460	0.149
CZ	-0.308	1.286	-0.472	0.376	0.933
DK	-0.490	-1.100	0.000	-1.276	-0.206
DE	0.536	1.279	-0.894	0.397	1.027
EE	:	-0.718	:	-1.260	-0.599
IE	-0.561	-1.162	-0.170	-1.513	0.859
EL	:	-0.075	:	0.173	-0.692
ES	0.016	-1.203	-0.481	-0.750	0.205
FR	-0.068	0.561	0.083	1.189	1.270
HR	-0.955	0.493	-0.868	-0.501	-0.673
IT	0.016	0.732	-0.339	0.352	-0.543
CY	-1.095	-0.280	0.675	0.624	-1.533
LV	-0.364	-0.608	-0.880	-1.573	-1.346
LT	0.325	0.404	-0.300	-0.232	-0.356
LU	:	-0.027	:	1.185	1.718
HU	1.451	1.491	1.227	0.470	2.559
MT	0.480	-0.424	0.959	2.793	-0.879
NL	-0.926	1.805	-1.825	0.559	0.055
AT	-0.617	1.286	-0.947	0.765	1.101
PL	-0.758	-0.854	-0.273	-0.394	0.205
PT	0.185	-0.827	-0.268	0.637	0.149
RO	2.210	0.814	2.588	-0.067	0.634
SI	-1.559	1.231	-0.602	-0.276	0.055
SK	0.846	0.889	0.396	1.060	1.475
FI	-1.306	-1.538	-0.771	-0.933	-0.692
SE	-0.223	-1.012	-0.594	0.346	0.335
UK-ENG	0.086	-0.772	0.924	0.494	0.746
UK-WLS	:	-1.196	:	-1.469	-0.113
UK-NIR	-0.659	0.253	1.067	-1.170	0.896
UK-SCT	:	-1.559	:	-0.420	-0.057
AL	:	-0.471	:	-0.804	-1.234
BA	:	-0.089	:	-1.707	-1.738
CH	:	0.076	:	0.745	1.027
IS	:	-1.702	:	0.488	-0.935
ME	:	-0.136	:	-0.643	-1.253
MK	:	0.534	:	0.487	-1.776
NO	-0.983	-1.483	-0.494	-0.099	-0.673
RS	-0.097	0.609	1.169	0.797	-0.748
TR	1.999	1.689	2.070	-1.131	0.036

Source: Eurydice calculations based on PIRLS 2011, 2016, TIMSS 2011, 2015, PISA 2015, 2018 databases. These databases are available online:

PIRLS 2011: https://timssandpirls.bc.edu/pirls2011/international-database.html

PIRLS 2016: https://timssandpirls.bc.edu/pirls2016/international-database/index.html

TIMSS 2011: https://timssandpirls.bc.edu/timss2011/international-database.html

TIMSS 2015: https://timssandpirls.bc.edu/timss2015/international-database/

PISA 2015: https://www.oecd.org/pisa/data/2015database/

PISA 2018: https://www.oecd.org/pisa/data/2018database/

Table A20: Composite indicator on school autonomy, 2018/19 (Figures III.2.14 and III.2.15)

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT
School autonomy composite score	-0.09	-0.69	0.42	0.72	0.42	-0.61	-0.62	1.26	0.96	-1.08	-0.09	-0.99	-0.12	-0.24	-1.16	0.83	0.61	-0.61	0.07	-1.17	1.45	-0.91

	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
School autonomy composite score	0.42	-0.09	-0.30	-0.24	0.07	0.33	-0.54	0.76	0.76	0.76	0.83	-0.03	-0.47	0.07	2.67	0.42	-0.99	-0.03	-0.54	-2.08

Source: Eurydice calculations.

Table A21: Levels of public funding per student, 2016, ISCED 1 (Figure III.2.17)

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT
Purchasing power standards	7560	7560	7560	3126	3555	:	6355	4561	6077	4022	4718	5312	:	5591	7812	4607	4298	12322	3725	5029	6226	8824

	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
Purchasing power standards	4658	5080	1359	5698	4679	6843	8248	7328	7328	7328	7328	:	:	11581	8455	:	:	9180	:	2473

Source: Eurostat [educ_uoe_fine09] (last update: 24/02/20). For Belgium and the United Kingdom, Eurostat provides only country-level values.

Table A22: Private (household) expenditure as a percentage of total public expenditure on education, 2016, ISCED 1 (Figure III.2.18)

	BE fr	BE de	BE nl	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT
%	2.9	2.9	2.9	1.4	5.3	:	:	8.6	2.5	8.3	18.3	7.5	:	5.5	4.9	1.8	2.7	3.4	:	11.7	1.5	2.2

	PL	PT	RO	SI	SK	FI	SE	UK-ENG	UK-WLS	UK-NIR	UK-SCT	AL	BA	CH	IS	ME	MK	NO	RS	TR
%	7.8	12.7	0.7	9.7	7	0.4	:	8.7	8.7	8.7	8.7	:	:	:	1	:	:	0	:	16.8

Source: Eurydice calculations based on Eurostat [educ_uoe_fine02] and [educ_uoe_fine03] (last update: 24/02/20). For Belgium and the United Kingdom, Eurostat provides only country-level values.

Table A23: List of variables and descriptive statistics of data collected by the Eurydice network (Chapters III.2 and III.3)

Title	Definition	No. of observations	Min	Max	Mean	Standard deviation	Figure(s) in Part II of the report
Curricular differentiation	Number of ISCED levels in which curricular differentiation is present	42	0	3	0.93	1.09	Figure II.3.1
Age of first tracking	De facto starting ages of tracking	42	10	16	14.02	1.88	Figure II.6.1 ([3])
Number of tracks (ISCED 2, ISCED 3)	Number of differentiated tracks at ISCED 2/ISCED 3 (maximised at 5)	42	1 (ISCED 2) 2 (ISCED 3)	5	1.50 (ISCED 2) 4.05 (ISCED 3)	1.04 (ISCED 2) 0.96 (ISCED 3)	Figure II.6.2
School choice type (ISCED 1-2)	Degree of freedom parents have in choosing a school, depending on the main school choice regime in the education system at primary and lower secondary levels.	42	1	3	2.07	0.75	Figure II.4.2
Differentiation in school choice policies within the public sector (ISCED 2 and ISCED 1-3)	Differences exist between the main school choice regime (i.e. policies for most public schools) and school choice policies applicable to certain types of public school. This may be either different geographical area from which students are assigned to schools than for most public schools, or free school choice when most students are assigned to a school based on residence.	42	0	1 (ISCED 2) 3 (ISCED 1-3)	0.21 (ISCED 2) 0.26 (ISC. 1-3)	0.42 (ISCED 2) 0.59 (ISC. 1-3)	Figure II.4.3. A
Public information on schools (ISCED 1-2)	Number of ISCED levels for which top-level authorities provide information, either directly or indirectly via feeder schools, to help families choose a school, at ISCED levels 1 and 2.	42	0	2	0.98	1.00	Figure II.4.4
School can apply admissions criteria (ISCED 2)	Top-level authorities allow/not allow or make it obligatory to schools to use admissions criteria in order to decide which students are offered a place in the school at ISCED level 2.	42	0	2	0.55	0.67	Figure II.5.1
Academic admissions criteria (ISCED 2)	According to top level regulations/recommendations, schools can use academic admissions criteria at ISCED level 2.	42	0	1	0.33	0.48	Figure II.5.5
Differentiation in admissions policies within the public sector (ISCED 1-3)	Differences exist in school admission criteria applicable to certain types of public school in comparison to the mainstream (i.e. policies for most public schools) at ISCED levels 1-3.	42	0	3	0.98	1.02	Figures II.5.4-5.6
Public/private differentiation in school choice policies (ISCED 1-2 and ISCED 1-3)	Differences exist in school choice policies applicable to government dependent private schools in comparison to the mainstream (i.e. policies for (most) public schools). This is usually free school choice in government dependent private schools, when students are assigned to (most) public schools based on their residence.	42	0	2 (ISCED 1-2) 3 (ISCED 1-3)	0.69 (ISC. 1-2) 0.81 (ISC. 1-3)	0.95 (ISC. 1-2) 1.52 (ISC. 1-3)	Figure II.4.3 B
Public/private differentiation in school admissions	Differences exist in school admission policies applicable to government dependent private schools in comparison to the mainstream (i.e. policies for (most) public schools) at ISCED levels 1-3.	42	0	1	0.26	0.45	Figure II.5.1
Composite public/private differentiation score	Composite score based on whether differences exist between the mainstream school choice and/or school admissions policies (i.e. policies for most public schools) and policies in these areas applicable to government dependent private schools at ISCED levels 1-3.	42	0	4	1.07	1.49	Figures II.4.3 B; II.5.1
Composite differentiation score: all differences between school types, public and private sectors	Composite score based on whether differences exist between the mainstream school choice and/or admissions policies (i.e. policies for most public schools) and policies in these areas applicable to government dependent private schools and certain types of public school at ISCED levels 1-3.	42	0	10	2.31	2.31	Figures II.4.3 A-B; II.5.1; II.5.4-6
Grade repetition rules (ISCED 1 and ISCED 1-3)	Grade repetition is not allowed (0), allowed with some restrictions (1) or allowed without any restrictions (2).	37 (ISCED 1) 33 (ISCED 1-3)	0	2 (ISCED 1) 6 (ISCED 1-3)	1.14 (ISCED 1) 4.06 (ISC. 1-3)	0.67 (ISCED 1) 1.64 (ISC. 1-3)	Figure II.7.2

([3]) In the case of Poland, an earlier reference year was used due to reforms taking effect after the PISA 2018 survey was conducted.

Title	Definition	No. of observations	Min	Max	Mean	Standard deviation	Figure(s) in Part II of the report
School autonomy score	Composite school autonomy score in all areas of school autonomy	42	-2.08	2.67	0.00	0.86	Figures II.8.1, II.8.2, II.8.3
Autonomy in managing human resources	School autonomy score related to the management of human resources	41	-3.18	3.08	-0.06	2.01	Figure II.8.1
Autonomy in using public funds	School autonomy score related to the use of public funds	42	-1.99	4.64	0.06	1.39	Figure II.8.2
Autonomy in defining teaching content and processes	School autonomy score related to the definition of teaching content and processes	42	-1.98	4.16	0.06	1.25	Figure II.8.3
Autonomy in admission decisions	School autonomy score related to admission decisions	42	-0.35	6.63	0.68	1.43	Figure II.5.2
National examinations for certified qualifica-tions (ISCED 1, ISCED 2, ISCED 3)	Examinations for certified qualifications in the language of instruction or mathematics, end of ISCED level	42	0	1	0.07 (ISCED 1) 0.45 (ISCED 2) 0.76 (ISCED 3)	0.26 (ISCED 1) 0.50 (ISCED 2) 0.43 (ISCED 3)	Figure II.9.1
Other standardised tests (ISCED 1, ISCED 2, ISCED 3)	Other national standardised tests in the language of instruction or mathematics	42	0	1	0.67 (ISCED 1) 0.64 (ISCED 2) 0.36 (ISCED 3)	0.48	Figure II.9.2
Performance data in external school evaluation	Top-level authorities use/not use performance data from national examinations or other standardised national tests in external school evaluation	42	0	2	1.55	0.67	Figure II.9.6
Publication of performance test results	Publication of individual schools' results in national examinations and/or national standardised tests	42	0	2	0.95	0.99	Figure II.9.4
Presence and publication of external evaluation	Presence/absence of regular external school evaluations, and the extent of publicity of external evaluation reports	42	0	3	2.07	1.09	Figure II.9.8
Performance monitoring composite score	Composite score based on whether there are national examinations for certified qualifications and/or other standardised tests at ISCED level 1 and 2; and whether performance data from these examinations and tests is used in external school evaluation.	42	0	4	3.00	1.27	Figures II.9.1, II.9.2 and II.9.6
Publication of school-based information	Composite score based on whether performance data from national examinations and/or other national tests and/or external evaluation reports are publicly available or not.	42	0	5	3.02	1.88	Figures II.9.4 and II.9.8
Specialist teachers available (ISCED 1 and ISCED 1-3)	Students receive the support of teachers specialised in dealing with low performing students in reading and mathematics	42	0	4 (ISCED 1) 12 (ISCED 1-3)	1.95 (ISCED 1) 5.14 (ISC. 1-3)	1.56 (ISCED 1) 4.33 (ISC. 1-3)	Figures II.11.1-3
Small group tutorials available (ISCED 1 and ISCED 1-3)	Students are offered one-to-one tuition or small group tutoring during the formal school day in reading literacy or mathematics.	42	0	4 (ISCED 1) 12 (ISCED 1-3)	2.24 (ISCED 1) 6.21 (ISC. 1-3)	1.48 (ISCED 1) 4.09 (ISC. 1-3)	Figures II.11.1-3
Professionals' support available (ISCED 1 and ISCED 1-3)	Students receive the support of psychologists, speech/language therapists, social workers or other similar professionals with regard to reading literacy or mathematics	42	0	4 (ISCED 1) 12 (ISCED 1-3)	2.95 (ISCED 1) 8.50 (ISC. 1-3)	1.19 (ISCED 1) 3.57 (ISC. 1-3)	Figures II.11.1-3
Instruction time (ISCED 1)	Yearly average recommended minimum instruction time (in hours) for the compulsory curriculum at ISCED 1	40	472.50	1051.43	734.51	132.73	Figures II.12.1-2

Source: Eurydice.

Table A24: Correlation matrix (Spearman's coefficients) of variables of tracking and curricular differentiation (Section III.2.1).

		Curricular differentiation	Age of first tracking	Number of tracks (ISCED 2)	Number of tracks (ISCED 3)	Size of the vocational sector
Curricular differentiation	*Correlation coefficient*	1.00	-0.44	0.39	0.61	0.31
	Prob > |r| under H0: Rho=0		0.00	0.01	<.0001	0.06
	Number of observations	42	42	42	42	39
Age of first tracking	*Correlation coefficient*	-0.44	1.00	-0.67	-0.31	-0.30
	Prob > |r| under H0: Rho=0	0.00		<.0001	0.05	0.07
	Number of observations	42	42	42	42	39
Number of tracks (ISCED 2)	*Correlation coefficient*	0.39	-0.67	1.00	0.23	0.10
	Prob > |r| under H0: Rho=0	0.01	<.0001		0.14	0.56
	Number of observations	42	42	42	42	39
Number of tracks (ISCED 3)	*Correlation coefficient*	0.61	-0.31	0.23	1.00	0.29
	Prob > |r| under H0: Rho=0	<.0001	0.05	0.14		0.07
	Number of observations	42	42	42	42	39
Size of the vocational sector	*Correlation coefficient*	0.31	-0.30	0.10	0.29	1.00
	Prob > |r| under H0: Rho=0	0.06	0.07	0.56	0.07	
	Number of observations	39	39	39	39	42

Source: Eurydice calculations.

Table A25: Correlation matrix (Spearman's coefficients) of variables of school choice and admissions policies (Section III.2.2).

		School choice type, ISCED 1-2	Diff. choice policies. across public school types	Public information on schools, ISCED 1-2	Schools can apply admissions criteria, ISCED 2	Academic admissions criteria, ISCED 2	Diff. in admissions across public school types	Public/private diff. in school choice	Public/private diff. in school admissions	% of public education institutions, ISCED 1	% of public education institutions, ISCED 2	% of govt-dep private institutions, ISCED 1	Relative size of govt-dep private institutions, ISCED 1	% of govt-dep private institutions, ISCED 2
School choice type, ISCED 1-2	*Corr.*	1.00	-0.15	0.24	0.50	0.14	-0.23	-0.45	-0.27	-0.14	-0.21	0.19	0.17	0.34
	p		0.34	0.13	0.00	0.37	0.15	0.00	0.08	0.39	0.18	0.27	0.31	0.04
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Diff. in choice policies across public school types	*Corr.*	-0.15	1.00	0.31	-0.04	0.38	0.32	0.43	0.36	-0.11	-0.04	0.05	0.16	-0.05
	p	0.34		0.05	0.81	0.01	0.04	0.00	0.02	0.49	0.83	0.79	0.33	0.78
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Public information on schools, ISCED 1-2	*Corr.*	0.24	0.31	1.00	0.36	0.32	0.07	0.10	0.18	-0.52	-0.42	0.35	0.55	0.26
	p	0.13	0.05		0.02	0.04	0.67	0.53	0.26	0.00	0.01	0.03	0.00	0.11
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
School can apply admission criteria, ISCED 2	*Corr.*	0.50	-0.04	0.36	1.00	0.45	0.07	-0.18	0.05	-0.27	-0.29	0.15	0.15	0.22
	p	0.00	0.81	0.02		0.00	0.67	0.26	0.76	0.09	0.07	0.37	0.36	0.18
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Academic admissions criteria, ISCED 2	*Corr.*	0.14	0.38	0.32	0.45	1.00	0.54	0.08	0.15	-0.26	-0.25	0.24	0.27	0.26
	p	0.37	0.01	0.04	0.00		0.00	0.62	0.33	0.11	0.12	0.15	0.10	0.12
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Diff. in admissions across public school types	*Corr.*	-0.23	0.32	0.07	0.07	0.54	1.00	0.20	0.15	-0.05	-0.11	0.02	0.20	0.10
	p	0.15	0.04	0.67	0.67	0.00		0.21	0.34	0.75	0.48	0.90	0.24	0.53
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Public/private differentiation in school choice	*Corr.*	-0.45	0.43	0.10	-0.18	0.08	0.20	1.00	0.69	-0.29	-0.20	0.32	0.34	0.16
	p	0.00	0.00	0.53	0.26	0.62	0.21		<.0001	0.07	0.22	0.05	0.04	0.33
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Public/private differentiation in school admissions	*Corr.*	-0.27	0.36	0.18	0.05	0.15	0.15	0.69	1.00	-0.17	-0.15	0.21	0.19	0.10
	p	0.08	0.02	0.26	0.76	0.33	0.34	<.0001		0.30	0.35	0.21	0.25	0.57
	N	42	42	42	42	42	42	42	42	40	40	38	38	38
Percentage of public education institutions, ISCED 1	*Corr.*	-0.14	-0.11	-0.52	-0.27	-0.26	-0.05	-0.29	-0.17	1.00	0.86	-0.82	-0.78	-0.71
	p	0.39	0.49	0.00	0.09	0.11	0.75	0.07	0.30		<.0001	<.0001	<.0001	<.0001
	N	40	40	40	40	40	40	40	40	43	43	41	41	41
Percentage of public education institutions, ISCED 2	*Corr.*	-0.21	-0.04	-0.42	-0.29	-0.25	-0.11	-0.20	-0.15	0.86	1.00	-0.75	-0.75	-0.87
	p	0.18	0.83	0.01	0.07	0.12	0.48	0.22	0.35	<.0001		<.0001	<.0001	<.0001
	N	40	40	40	40	40	40	40	40	43	43	41	41	41

		School choice type, ISCED 1-2	Diff. choice policies. across public school types	Public information on schools, ISCED 1-2	Schools can apply admissions criteria, ISCED 2	Academic admissions criteria, ISCED 2	Diff. in admissions across public school types	Public/private diff. in school choice	Public/private diff. in school admissions	% of public education institutions, ISCED 1	% of public education institutions, ISCED 2	% of govt-dep private institutions, ISCED 1	Relative size of govt-dep private institutions, ISCED 1	% of govt-dep private institutions, ISCED 2
Percentage of govt-dep private Institutions, ISCED 1	*Corr.*	0.19	0.05	0.35	0.15	0.24	0.02	0.32	0.21	-0.82	-0.75	1.00	0.85	0.86
	p	0.27	0.79	0.03	0.37	0.15	0.90	0.05	0.21	<.0001	<.0001		<.0001	<.0001
	N	38	38	38	38	38	38	38	38	41	41	41	41	41
Relative size of govt-dep private institutions, ISCED 1	*Corr.*	0.17	0.16	0.55	0.15	0.27	0.20	0.34	0.19	-0.78	-0.75	0.85	1.00	0.79
	p	0.31	0.33	0.00	0.36	0.10	0.24	0.04	0.25	<.0001	<.0001	<.0001		<.0001
	N	38	38	38	38	38	38	38	38	41	41	41	41	41
Percentage of govt-dep private institutions, ISCED 2	*Corr.*	0.34	-0.05	0.26	0.22	0.26	0.10	0.16	0.10	-0.71	-0.87	0.86	0.79	1.00
	p	0.04	0.78	0.11	0.18	0.12	0.53	0.33	0.57	<.0001	<.0001	<.0001	<.0001	
	N	38	38	38	38	38	38	38	38	41	41	41	41	41

Source: Eurydice calculations.

Table A26: Correlation matrix (Spearman's coefficients) of variables on grade repetition (Section III.2.3)

		Grade repetition rules, ISCED 1	Grade repetition rules, ISCED 2	Grade repetition rules, ISCED 3	Percentage of grade repeaters	Degree of grade repetition
Grade repetition rules, ISCED 1	*Correlation coefficient*	1.00	0.69	0.33	0.02	0.00
	Prob > |r| under H0: Rho=0		<.0001	0.06	0.90	1.00
	Number of observations	37	37	33	36	36
Grade repetition rules, ISCED 2	*Correlation coefficient*	0.69	1.00	0.67	-0.12	-0.18
	Prob > |r| under H0: Rho=0	<.0001		<.0001	0.48	0.30
	Number of observations	37	37	33	36	36
Grade repetition rules, ISCED 3	*Correlation coefficient*	0.33	0.67	1.00	0.09	0.01
	Prob > |r| under H0: Rho=0	0.06	<.0001		0.64	0.97
	Number of observations	33	33	33	33	33
Percentage of grade repeaters	*Correlation coefficient*	0.02	-0.12	0.09	1.00	0.88
	Prob > |r| under H0: Rho=0	0.90	0.48	0.64		<.0001
	Number of observations	36	36	33	41	41
Degree of grade repetition	*Correlation coefficient*	0.00	-0.18	0.01	0.88	1.00
	Prob > |r| under H0: Rho=0	1.00	0.30	0.97	<.0001	
	Number of observations	36	36	33	41	41

Source: Eurydice calculations.

Table A27: Correlation matrix (Spearman's coefficients) of variables of school autonomy and accountability (Section III.2.4)

		School autonomy score	Autonomy in managing human resources	Autonomy in using public funds	Autonomy in defining teaching content and processes	Autonomy in admission decisions	National examinations for certified qualifications, ISCED 1	National examinations for certified qualifications, ISCED 2	National examinations for certified qualifications, ISCED 3	Other standardised tests, ISCED 1	Other standardised tests, ISCED 2	Other standardised tests, ISCED 3	Performance data in external school evaluation	Publication of performance test results	Presence and publication of external evaluation reports
School autonomy score	*Coeff.*	1.00	0.66	0.82	0.88	0.48	0.20	0.12	0.11	0.29	0.13	-0.05	0.27	0.48	0.56
	p		<.0001	<.0001	<.0001	0.00	0.21	0.43	0.50	0.07	0.41	0.77	0.09	0.00	0.00
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Autonomy in managing human resources	*Coeff.*	0.66	1.00	0.46	0.42	0.11	0.19	0.04	0.06	0.15	0.23	-0.21	0.10	0.28	0.52
	p	<.0001		0.00	0.01	0.48	0.23	0.78	0.70	0.35	0.14	0.20	0.55	0.07	0.00
	N	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Autonomy in using public funds	*Coeff.*	0.82	0.46	1.00	0.58	0.27	0.32	0.20	0.11	0.17	0.01	0.02	0.21	0.38	0.39
	p	<.0001	0.00		<.0001	0.08	0.04	0.21	0.49	0.27	0.96	0.91	0.19	0.01	0.01
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Autonomy in defining teaching content and processes	*Coeff.*	0.88	0.42	0.58	1.00	0.46	0.02	0.09	0.00	0.31	0.15	0.01	0.29	0.43	0.41
	p	<.0001	0.01	<.0001		0.00	0.89	0.57	1.00	0.05	0.36	0.93	0.06	0.00	0.01
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Autonomy in admission decisions	*Coeff.*	0.48	0.11	0.27	0.46	1.00	0.03	-0.06	0.29	0.31	0.06	0.03	0.17	0.32	0.23
	p	0.00	0.48	0.08	0.00		0.86	0.69	0.06	0.04	0.69	0.85	0.27	0.04	0.15
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
National examinations for certified qualifications, ISCED 1	*Coeff.*	0.20	0.19	0.32	0.02	0.03	1.00	0.31	0.16	0.20	0.01	0.37	0.20	0.11	-0.04
	p	0.21	0.23	0.04	0.89	0.86		0.05	0.33	0.21	0.93	0.02	0.20	0.50	0.79
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
National examinations for certified qualifications, ISCED 2	*Coeff.*	0.12	0.04	0.20	0.09	-0.06	0.31	1.00	0.40	0.14	0.08	0.12	0.40	0.24	0.18
	p	0.43	0.78	0.21	0.57	0.69	0.05		0.01	0.39	0.62	0.44	0.01	0.12	0.25
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
National examinations for certified qualifications, ISCED 3	*Coeff.*	0.11	0.06	0.11	0.00	0.29	0.16	0.40	1.00	0.20	0.17	-0.05	0.15	0.20	0.08
	p	0.50	0.70	0.49	1.00	0.06	0.33	0.01		0.21	0.29	0.75	0.34	0.20	0.63
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Other standardised tests, ISCED 1	*Coeff.*	0.29	0.15	0.17	0.31	0.31	0.20	0.14	0.20	1.00	0.63	0.42	0.53	0.38	0.25
	p	0.07	0.35	0.27	0.05	0.04	0.21	0.39	0.21		<.0001	0.01	0.00	0.01	0.11
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Other standardised tests, ISCED 2	*Coeff.*	0.13	0.23	0.01	0.15	0.06	0.01	0.08	0.17	0.63	1.00	0.24	0.30	0.42	0.30
	p	0.41	0.14	0.96	0.36	0.69	0.93	0.62	0.29	<.0001		0.12	0.05	0.01	0.06
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Other standardised tests, ISCED 3	*Coeff.*	-0.05	-0.21	0.02	0.01	0.03	0.37	0.12	-0.05	0.42	0.24	1.00	0.23	0.14	-0.02
	p	0.77	0.20	0.91	0.93	0.85	0.02	0.44	0.75	0.01	0.12		0.14	0.38	0.88
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Performance data in external school evaluation	*Coeff.*	0.27	0.10	0.21	0.29	0.17	0.20	0.40	0.15	0.53	0.30	0.23	1.00	0.40	0.38
	p	0.09	0.55	0.19	0.06	0.27	0.20	0.01	0.34	0.00	0.05	0.14		0.01	0.01
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Publication of performance test results	*Coeff.*	0.48	0.28	0.38	0.43	0.32	0.11	0.24	0.20	0.38	0.42	0.14	0.40	1.00	0.62
	p	0.00	0.07	0.01	0.00	0.04	0.50	0.12	0.20	0.01	0.01	0.38	0.01		<.0001
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42
Presence and publication of external evaluation reports	*Coeff.*	0.56	0.52	0.39	0.41	0.23	-0.04	0.18	0.08	0.25	0.30	-0.02	0.38	0.62	1.00
	p	0.00	0.00	0.01	0.01	0.15	0.79	0.25	0.63	0.11	0.06	0.88	0.01	<.0001	
	N	42	41	42	42	42	42	42	42	42	42	42	42	42	42

Source: Eurydice calculations.

Table A28: Correlation matrix (Spearman's coefficients) of variables of financial and student support (Section III.2.5)

		Public funding per student (ISCED 1)	Public funding per student (ISCED 1-2)	Ratio of private to public expenditure (ISCED 1)	Ratio of private to public expenditure	Instruction time (ISCED 1)	Specialist teachers available (ISCED 1)	Specialist teachers available (ISCED 2)	Specialist teachers available (ISCED 3)	Small group tutorials available (ISCED 1)	Small group tutorials available (ISCED 2)	Small group tutorials available (ISCED 3)	Prof. support available (ISCED 1)	Prof. support available (ISCED 2)	Prof. support available (ISCED 3)
Public funding per student (ISCED 1)	*Coeff.*	1.00	0.97	-0.20	-0.09	0.49	0.28	0.28	0.12	0.27	0.33	0.07	0.08	0.09	-0.02
	p		<.0001	0.28	0.61	0.00	0.10	0.10	0.48	0.12	0.05	0.71	0.66	0.62	0.89
	N	37	37	33	33	33	35	35	35	35	35	35	35	35	35
Public funding per student (ISCED 1-2)	*Coeff.*	0.97	1.00	-0.27	-0.15	0.47	0.31	0.30	0.14	0.34	0.39	0.13	0.13	0.13	0.02
	p	<.0001		0.13	0.40	0.01	0.07	0.08	0.43	0.05	0.02	0.45	0.46	0.44	0.93
	N	37	37	33	33	33	35	35	35	35	35	35	35	35	35
Ratio of private to public expenditure (ISCED 1)	*Coeff.*	-0.20	-0.27	1.00	0.91	0.20	0.17	0.04	0.09	0.19	0.16	0.11	0.04	0.01	0.13
	p	0.28	0.13		<.0001	0.30	0.37	0.82	0.63	0.30	0.39	0.55	0.84	0.96	0.49
	N	33	33	33	33	29	31	31	31	31	31	31	31	31	31
Ratio of private to public expenditure (ISCED 1-3)	*Coeff.*	-0.09	-0.15	0.91	1.00	0.27	0.19	0.13	0.14	0.18	0.12	0.06	-0.12	-0.17	-0.14
	p	0.61	0.40	<.0001		0.16	0.31	0.49	0.45	0.34	0.51	0.75	0.53	0.36	0.45
	N	33	33	33	33	29	31	31	31	31	31	31	31	31	31
Instruction time (ISCED 1)	*Coeff.*	0.49	0.47	0.20	0.27	1.00	0.40	0.30	0.25	0.24	0.32	0.30	-0.04	0.01	-0.07
	p	0.00	0.01	0.30	0.16		0.01	0.06	0.13	0.14	0.04	0.06	0.83	0.97	0.67
	N	33	33	29	29	40	40	40	40	40	40	40	40	40	40
Specialist teachers available (ISCED 1)	*Coeff.*	0.28	0.31	0.17	0.19	0.40	1.00	0.87	0.76	0.45	0.45	0.28	0.11	0.08	-0.09
	p	0.10	0.07	0.37	0.31	0.01		<.0001	<.0001	0.00	0.00	0.07	0.49	0.61	0.59
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Specialist teachers available (ISCED 2)	*Coeff.*	0.28	0.30	0.04	0.13	0.30	0.87	1.00	0.90	0.34	0.41	0.18	0.10	0.11	-0.07
	p	0.10	0.08	0.82	0.49	0.06	<.0001		<.0001	0.03	0.01	0.26	0.54	0.48	0.68
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Specialist teachers available (ISCED 3)	*Coeff.*	0.12	0.14	0.09	0.14	0.25	0.76	0.90	1.00	0.21	0.28	0.30	-0.02	-0.01	-0.09
	p	0.48	0.43	0.63	0.45	0.13	<.0001	<.0001		0.17	0.07	0.06	0.91	0.96	0.59
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Small group tutorials available (ISCED 1)	*Coeff.*	0.27	0.34	0.19	0.18	0.24	0.45	0.34	0.21	1.00	0.93	0.61	0.21	0.12	-0.05
	p	0.12	0.05	0.30	0.34	0.14	0.00	0.03	0.17		<.0001	<.0001	0.18	0.45	0.76
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Small group tutorials available (ISCED 2)	*Coeff.*	0.33	0.39	0.16	0.12	0.32	0.45	0.41	0.28	0.93	1.00	0.68	0.26	0.23	0.06
	p	0.05	0.02	0.39	0.51	0.04	0.00	0.01	0.07	<.0001		<.0001	0.10	0.15	0.71
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Small group tutorials available (ISCED 3)	*Coeff.*	0.07	0.13	0.11	0.06	0.30	0.28	0.18	0.30	0.61	0.68	1.00	-0.08	-0.12	-0.07
	p	0.71	0.45	0.55	0.75	0.06	0.07	0.26	0.06	<.0001	<.0001		0.61	0.45	0.67
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42

		Public funding per student (ISCED 1)	Public funding per student (ISCED 1-2)	Ratio of private to public expenditure (ISCED 1)	Ratio of private to public expenditure	Instruction time (ISCED 1)	Specialist teachers available (ISCED 1)	Specialist teachers available (ISCED 2)	Specialist teachers available (ISCED 3)	Small group tutorials available (ISCED 1)	Small group tutorials available (ISCED 2)	Small group tutorials available (ISCED 3)	Prof. support available (ISCED 1)	Prof. support available (ISCED 2)	Prof. support available (ISCED 3)
Professionals' support available (ISCED 1)	*Coeff.*	0.08	0.13	0.04	-0.12	-0.04	0.11	0.10	-0.02	0.21	0.26	-0.08	1.00	0.95	0.82
	p	0.66	0.46	0.84	0.53	0.83	0.49	0.54	0.91	0.18	0.10	0.61		<.0001	<.0001
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Professionals' support available (ISCED 2)	*Coeff.*	0.09	0.13	0.01	-0.17	0.01	0.08	0.11	-0.01	0.12	0.23	-0.12	0.95	1.00	0.87
	p	0.62	0.44	0.96	0.36	0.97	0.61	0.48	0.96	0.45	0.15	0.45	<.0001		<.0001
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42
Professionals' support available (ISCED 3)	*Coeff.*	-0.02	0.02	0.13	-0.14	-0.07	-0.09	-0.07	-0.09	-0.05	0.06	-0.07	0.82	0.87	1.00
	p	0.89	0.93	0.49	0.45	0.67	0.59	0.68	0.59	0.76	0.71	0.67	<.0001	<.0001	
	N	35	35	31	31	40	42	42	42	42	42	42	42	42	42

Source: Eurydice calculations.

EDUCATION, AUDIOVISUAL AND CULTURE EXECUTIVE AGENCY

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Equity in school education in Europe:

Structures, policies and student performance

This report provides an overview of education structures and policies that influence equity in school education. It connects these system-level features to student performance in international student assessment surveys (PISA, PIRLS and TIMSS). Looking at 42 European education systems, the report identifies which policies and structures are associated with higher levels of equity in student performance. The report examines the following education system features: participation in early childhood education and care, school funding, differentiation and school types, school choice, admissions policies, tracking systems, grade repetition, school autonomy, school accountability, support for disadvantaged schools, support for low-achieving students and the opportunity to learn.

The Eurydice network's task is to understand and explain how Europe's different education systems are organised and how they work. The network provides descriptions of national education systems, comparative studies devoted to specific topics, indicators and statistics. All Eurydice publications are available free of charge on the Eurydice website or in print upon request. Through its work, Eurydice aims to promote understanding, cooperation, trust and mobility at European and international levels. The network consists of national units located in European countries and is coordinated by the EU Education, Audiovisual and Culture Executive Agency. For more information about Eurydice, see *http://ec.europa.eu/eurydice*

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