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- DRAFT -

**HUMAN CAPITAL DEVELOPMENT: IMPLEMENTING SKILLS GAPS ANALYSIS IN THE
WESTERN BALKANS**

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EXECUTIVE SUMMARY

Improving the quality of the human capital in terms of skills, knowledge and competencies potentially enables workers to produce more with the existing quantity of resources.

Investing in human capital does not, however, guarantee improved performance. A lack of information about the specific skills needs in the current labour market coupled with imperfect foresight about future market conditions means that there will likely be considerable mismatches between the skills in demand and those in supply. This makes it difficult for individuals, firms, and governments to make decisions about which human capital investments are needed as well as how much to invest.

Governments need information about current and future skills needs to allocate educational funding as efficiently as possible, to evaluate and monitor performance of educational and training programmes and to develop responses to new needs. Individuals need to weigh the costs and benefits of educational and training programmes more accurately and firms need to be able to compare the costs and returns of alternative investments as well as anticipate shortages.

Skills gap analysis can provide a useful tool for identifying and assessing human capital needs with a view to allocating scarce resources to where they are most needed. Conventional measures of human capital, such as average years of schooling and post secondary attainment levels, are not well linked with specific skills needed to produce an output in an existing firm. This makes them less effective for identifying specific skills needs and possible responses to those needs.

Skills gap analysis requires specialised research and collaboration with stakeholders (e.g. government Ministries, firms, educators, individuals) to identify and assess current and future skills needs and appropriate responses.

Although there may be considerable overlap between the interests of researchers and public authorities, their priorities and goals differ. There is typically a bridge between the policy maker who requires rigorous information and advice on actions that need to be taken and those who engage in the research and collaboration.

Brokerage agencies can play an important role acting as an intermediary between those who need information to make decisions and those who carry out the necessary research and collaboration across stakeholders.

Although the Western Balkans along with other transition economies appeared well positioned when compared to developing countries in the early 1990s by conventional measures of human capital, the specific skills of the workforce were not well suited for meeting the challenges and conditions of the market economy. A combination of factors including demographic changes, current account deficits, external debt loads, and the recent financial crisis are placing additional pressure on current and future workers to generate higher income levels. Finding ways to enhance labour productivity and output are critical for raising competitiveness and living standards in the region.

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INTRODUCTION

Both the quantity and quality of an economy's assets play an important role in its ability to achieve higher levels of competitiveness. Making the right investments in human capital can lead to higher levels of labour productivity and output by generating improvements in the skills, knowledge, and competencies of the labour force¹. A skilled labour force is likely to produce more output with the existing level of resources, respond to changes in labour market conditions more quickly, adopt new technologies, and play a wider role in innovation.

Investing in human capital, however, is not a simple task. Future market conditions cannot be known with certainty when the decision to invest is made. This makes it difficult for individuals to decide in which educational and training programmes to enroll and which skills to develop. It also makes it difficult for policy makers to decide which public programmes to provide. Firms will not know with certainty how many people will be available with the skills they need and at which prices. This lack of information makes investing risky and increases the likelihood that there will be considerable mismatches between what is supplied to the labour market and what is demanded by employers. Further, human capital can depreciate as workers age, or lose skills through periods of unemployment or the wrong kind of employment. It is difficult for firms, individuals and governments to decide which investments to make in human capital. Mismatches, unemployment and the wrong kind of employment can result in the labour supply underperforming despite investments.

Several trends have added further pressure to develop tools to make efficient decisions about human capital investments. First, as new products, services and technologies are introduced, the demand for new skills rises while the demand for old skills falls. It takes time for labour markets to respond. The speed of this change, however, is believed to be increasing. Each year, for example, it has been estimated that within the EU there is about 5 to 8% growth in new jobs and 3 to 4% decline in old jobs². This places pressure on the economy to be able to respond efficiently to these changes. Second, there is also recognition that in the knowledge-based economy, increasing competition for higher value, higher skilled, labour is increasing the cost of not making the right policy decisions over education and training. Third, there is also concern over growing inequity in earnings between the skilled and less skilled workers and the social consequences that may occur if policies to remedy this do not take place. Fourth, there is pressure on governments to monitor and evaluate how public funds are spent.

Although at the end of the 1980s and early 1990s the Western Balkans, like many transition economies, were viewed favourably in terms of the level of human capital, there is a growing need to address the quality of the labour force to improve labour productivity, private sector performance, competitiveness and ultimately the standard of living. The type of skills, knowledge and competencies that were invested in during the central planning era were not well suited for workers facing new global market conditions and the types of jobs emerging. A wide range of socio-economic challenges that compete with education for the attention of policy makers at the same time has made it difficult to maintain human capital investments let alone carry out reforms and adapt to meet new challenges. This has left the working age and youth population less prepared to supply the skills in demand. Recent growth and some reforms related to human capital have taken place, but increases in external

indebtedness and the forecast expansion in the aged coupled with a shrinking workforce makes finding ways to improve labour productivity even more pertinent. Today, the region faces difficult decisions in terms of deciding where to invest in human capital if it aims to improve the quality of the workforce and enhance competitiveness.

The Regional Competitiveness Initiative is a three year project that aims to enhance productivity and output in the Western Balkans by focusing on two core themes; innovation and human capital development. Although these two themes are mutually reinforcing, the focus in this paper is on the human capital dimension. Specifically this paper reviews the use of skills gap analysis as a tool to understand what the labour force can provide relative to what is expected by the private sector. Skills gap analysis can assist policy makers, firms and individuals to direct resources to where they are most needed to improve labour productivity, private sector performance and attract investments. The type of information collected through skills gap analysis can help identify and prioritise needs as well as monitor and assess investments in education and training programmes. The paper discusses how skills gaps analysis can be used to influence public policy decisions through such mechanisms as brokering agencies. Brokerage agencies are a tool that are being relied upon to help bridge the gap between decision makers and the information that is needed to make informed decisions. This paper concludes with a proposed list of actions the region can take to improve human capital development, enhance the quality of the workforce, and thereby increase overall competitiveness.

SKILLS GAP ANALYSIS

People need access to relevant, useful, information in order to make more effective decisions about human capital investment. Skills gap analysis is a tool that can be used to enhance the outcomes of investments made in human capital by individuals, firms, and governments. Skills gap analysis can help people decide which educational and training programmes may be worth their time, effort, and funds. It can also help firms to decide what investments are needed, such as training. Governments can use this type of analysis to identify and assess educational programme needs as well as monitor and evaluate outcomes. Education and training providers can further use this information to assess the quality of their programmes and adjust curricula in more targeted ways.

This section outlines what skills gaps are, the advantages and disadvantages of using skills gap analysis and why it emerged.

2.1 Skills Gaps

A skills gap is the difference between the level of skills that exist and a selected benchmark. The benchmark is typically the level of skills that are demanded by an employer in the current market³ or in the foreseeable future. For example, a basic level of literacy may be required to work as a cook in a restaurant. The employer would likely require that the cook knows how to read orders and understand rules and regulations such as sanitary standards. If the government changes the sanitisation code and now more sophisticated standards are in place, the level of literacy required to perform the same job may now be higher than before. There would be a gap between the level of skills required to perform the job and the level that the employee has. The employer would also have to decide how best to respond to this gap since it is a skill that is required to perform the job. Does he offer training and invest in the cook's education, or does he replace the cook with one who has the desired level of skills? The impact that changes in policies can have on the private sector and employment by generating skills gaps is also important information for the policy maker for anticipating the consequences of the choices they make.

It is important to note in this simple example that it does not really matter if the skills gap is current, or will take place in the foreseeable future. At the present time, the cook might have the skills required for the job and the employer is satisfied. It might be well known in the media, however, that the government is going to change the sanitary regulations and standards in the near future and that these new standards will be more sophisticated and require higher literacy skills. Even though the skill is not required yet, the employer will likely be concerned about the possibility that a gap will emerge in the future. In this instance, the employer can use skills gap analysis to anticipate potential training needs.

Identifying a gap between the skills a worker has and those that are needed according to some criteria is not by itself enough information to improve performance. Sometimes employers will report that employees are below the desired level of skills, or employees will report that they feel overqualified for their positions. Not all skills gaps are genuine in terms of having an impact on producing a given good or service. Skills gaps need to be properly identified, assessed, and interpreted before considering responses and making investments in human capital.

Outlining differences between skills gaps is an important step in identifying, assessing and making recommendations to respond to them. Skills gaps differ in terms of their:

Box 1. Investing in Transferable Skills in Portugal

Investing in higher education does not guarantee positive outcomes for individuals and society in terms of employment and productivity. With more people seeking higher education in wider, more competitive, labour markets, such as the EU, across more, deeper, fields of specialization, and more providers of higher education, finding the right employment match can be challenging. More than 50% of Portuguese graduates, however, are unemployed for more than six months after leaving university. The OECD average is 42%. Concern over the future employment prospects led the Faculty of Economics and Management at the Catholic University of Portugal to examine gaps between what employers were seeking and what their programme was supplying to improve employability. Collaboration with stakeholders, such as the faculty, alumni, and employers, revealed potential gaps in transferable skills such as communication, teamwork, systematic and critical thinking skills that ultimately led to curriculum reforms over a five year period targeting these deficiencies. This ongoing case also highlighted several key challenges involved in identifying and dealing with skills gaps:

- A discussion about the overall goals of university education and whether there were goals other than employability that the curriculum should be targeting.
- That curriculum reform would not be successful without the engagement and support of the faculty.
- That the specific reforms would also involve students and their engagement would be necessary to achieve the desired outcomes as well as monitor progress in terms of what works during the implementation and reform stage.
- That undergraduate education is likely more about transferable skills rather than highly specialised areas of knowledge and key competencies within a field of expertise.

Source : De Oliveira et al. (2010)

- **Targets** – different skills gaps will be identified as the target (or benchmark) is changed. The gap could indicate the difference between skills that a current worker has and those that are needed to perform the job tasks, as illustrated above, or this target could be broadened to include educational qualifications, or beyond work tasks, such as desirable characteristics or preferences of the employer or society⁴.
- **Number and location of people** – skills gaps could refer to individuals of different groups of people within an occupation, sector, industry or region.
- **Importance** –The skills gap identified may have very little impact on employees’ abilities to continue producing at their existing level while other gaps may be crucial for the firm to continue its operations and the employee to remain within a career path.
- **Skill Type** – Skills can differ in terms of whether they are basic, or require higher levels of education and training. They can also be transferable in that they are applicable across a wide variety of jobs or useful only within a sector, firm, or industry for a specific set of tasks. They can also be temporary, long term or structural in nature, and represent future or current needs. Skills gaps can also be internal to the employer if the needs apply to existing employees, or external if they can only be met by hiring outside the firm.

These factors are important to highlight because they provide the kind of information that needs to be assessed to develop effective responses. The simplest case would be of a change in the skill needs of a worker to continue performing their current job as a result of a change in the skill requirements due to a regulation, technological change, or some other cause. This case, however, only represents one specific need for one kind of occupation. If educators and students, for example, are concerned about whether taking specific courses will lead to employment in certain occupations after graduation, they are likely to seek more information about a wide variety of career paths over longer periods of time. They may look at what prospective employers want, what incomes may be like, and which changes in the curriculum might be required to enhance the effectiveness of the educational programme. Policy makers may be interested in whether there are enough IT specialists to meet employers’ needs and whether shortages should be met through domestic programmes or through immigration policies. In both cases, people would need to know the

gap between the skills generated and those demanded over time, across many different cohorts of students and with far more elaborate benchmarking.

Highlighting these differences is also important for a second reason. More complexity in analysis does not necessarily mean greater impact. Identifying simple skills gaps are much easier to implement and could increase labour productivity and output. Identifying the current skills needs of some key employers, sectors or industries in an economy can convey important information for educators, workers, and the government about the output that may be produced with the existing workforce or with minor changes in training and qualifications. If unemployment is high, and the public has little information about current mismatches, the value of simple, yet robust, skills gaps could play an important role in improving labour market productivity and overall output. Expanding and developing more sophisticated levels of analysis could take place as more funds, expertise, and needs arise after the benefits of simpler analysis are exhausted or diminish.

Skills gap analysis arose in part due to shortcomings of more conventional measures used to assess the quality of the workforce. Other measures, for example, have typically focused on earnings, employment and levels of educational attainment. Regions with a supply of workers that had higher averages of years of schooling, post secondary education and training, literacy skills, and more experience were thought to be of higher quality⁵. Less attention was paid to whether the educational investments were relevant to what employers were actually seeking, what was needed, or whether graduates found jobs in their field. These conventional measures have a serious drawback in that they do not contain enough information about specific characteristics that are needed to produce a good or service (see Box 1). They are less focused on specific outcomes and are therefore less likely to be useful in overcoming persistent mismatches in the labour market.

Several trends outline in more detail the emergence of skills gap analysis:

- **The Economic Environment** – demographics coupled with market conditions have focused attention on what an already educated workforce may need in new skills, and therefore training, to respond to change. Many economies are experiencing an aging population. A higher portion of aged in the working age population will place additional pressure on the existing workforce to increase labour productivity simply to maintain living standards. Even though the education levels of the workforce should increase as more educated younger workers replace less educated older workers, there is concern that this will not be enough to compensate. As new technology, goods and services are developed more rapidly in a knowledge-based economy, old jobs and skills are replaced by new ones more rapidly. This places pressure on individuals, training programmes, firms and governments to find ways to respond to avoid unemployment and production losses⁶.
- **Deficiencies in Other Measures** – Despite further investments in human capital, many developed economies have not witnessed further increases in labour productivity (Denison, 1993). This has sparked renewed interest by researchers into more specific quality and outcome indicators for human capital to better assess why productivity and growth has slowed in addition to where improvements could better be made. Conventional measures, such as lower dropout rates and years of schooling, also do not address specific mismatches between the skills employers need in a knowledge based economy and those that people should invest in. Growing concern over losses associated with mismatches in labour markets has also drawn attention to specific skill requirements.
- **Government Constraints** - There has been a growing recognition of the importance of human capital development in the knowledge-based economy and many governments have targeted specific policies and programmes that will give their economies a comparative advantage in competing for high skilled, high value jobs (e.g. the Lisbon Strategy). This has focused more attention on what precisely is needed to generate outcomes in specific ways for

more complex tasks in a knowledge-based economy. Faced with slowing growth, a financial crisis, and competing public policy issues, there is also growing concern over tax revenues and finding ways to ensure that expenditures on core programmes, such as education, are made as effectively as possible. This has generated focus on developing tools that better match resources with targets and improve the effectiveness of public expenditures.

In this context, skills gap analysis can be used to direct scarce resources to where they are needed most. The following highlights the potential advantages of using skills gap analysis⁷:

- **Monitoring and Evaluation** – skills gap analysis allows those who are making the investment, whether they are employers, employees, or the government, to monitor and evaluate with greater ease the outcome of their investment, track progress, and respond to potential shortfalls more quickly.
- **Identification of specific labour market needs** – this type of analysis focuses attention and raises awareness on those skills that are in demand, and not yet met, that the private sector and public sector employers view as important for achieving the level and quality of production they are targeting with greater accuracy than conventional measures, such as average years of schooling or post-secondary certificates.
- **Programme identification and curriculum design** – Knowledge of skills gaps can facilitate decisions over which types of programmes need to be developed, enhanced, and offered as well as by whom. In recent years, emphasis has been placed on broader concepts of lifelong learning which involves schooling, vocations and continuing education and training, on-the-job learning, as well as employer-provided training and self education. A more sound knowledge of specific skills requirements can help choose which mode of delivery is most appropriate. It also offers training and education services important feedback that can be used to make adjustments to programmes.
- **Skills depreciation and obsolescence** – skills, knowledge and competencies that are not used face the threat of more rapid deterioration and thereby reducing the benefits of education and training investments already made. Lengthy periods of unemployment, or underemployment, or significant mismatches can lead to more rapid human capital losses and require more resources to recover let alone advance productivity further. Skills gap analysis is useful in helping to identify potential losses and direct resources and attention to reducing human capital deterioration.

Although there are benefits to using skills gap analysis, the following points of caution should be taken into consideration. Skills gap analysis involves:

- **Resource costs and risks** – It takes effort, time, and other resources to carry out the necessary research, surveys, and consultations as well as verifying and prioritising skills gaps. It also takes considerable investment and collaboration to develop strategies to deal with skills gaps and implement changes. There is also a risk that the return to the investment will be lower than expected. Like any other analysis, errors will take place, projections about future skills needs may be incorrect and the level of impact they have can differ from what was expected⁸.
- **Labour Market Rigidities** – using skills gap analysis may focus attention on training workers for specific sets of skills that benefit only a small number of firms or sectors. This can increase the chances that the recipient of the training is more tied to a specific employer

and less able to switch to other employers as new skill demands emerge. Economic performance can be hindered as a result of this rigidity if emerging employers with new skill needs are in higher productivity activities than the existing employers.

- **Reduced private sector incentives** – there could be a tendency for the private sector to report skills gaps with the aim that the public sector will alter schooling and training programmes to deliver skilled workers at public expense. This would reduce the incentive for firms to invest in their own specific training-on-the-job for its workers.
- **Alternative targets** – Education and training addresses more than a set of skills and competencies for specific types of employment or employers, such as: civic engagement, health and welfare, as well as other socio-economic goals (OECD, 2001). Stress on employability may generate educational reforms that benefit the reduction of skills but hinder achieving other goals at the same time.

There is an additional reason for caution with using skills gap analysis. The presence of a skills gap in terms of the difference between what is being demanded by employers and supplied by potential employees in a given labour market does not, by itself, warrant public policy attention or intervention in the labour market. Gaps between the skills demanded and supplied are a natural part of any dynamic market economy. As new products and services are developed new skills and higher levels of skills will be required. In addition, as other products and services become obsolete, or diminish, the demand for some sets of skills will disappear. As the economy evolves, new demand for skills will emerge while the demand for others will decline or disappear. Because it takes time for workers to be trained and it is often difficult to anticipate specific skills that will be in demand in the future, skills gaps should naturally emerge in any healthy, dynamic economy that is involved in creative destruction and progress (Bishop, 1993).

In a well functioning market with changes in the demand and supply of skills, knowledge and competencies taking place, there are incentives to adapt and make the necessary changes⁹. If there are too few workers supplying skills that are now experiencing demand growth, relative wages for these types of workers will rise signalling that more of these workers are needed relative to others. The reverse should also happen for those types of skills that are disappearing and wages should fall, and enrolment in programmes with diminishing future prospects should decline. In market economies where people are informed, the system is flexible and able to adjust to market signals, people can access relevant educational programmes and employers are free to re-allocate labour to respond to changes. Skills gaps should naturally emerge and disappear and their observed presence should not be a cause for concern for public policy makers other than to provide the right framework or these changes to take place.

The most important rationale is that there is imperfect information¹⁰ in the market place and gathering this information requires time, effort, and resources. Investing in a competent group of people to gather and process this information for the economy is more cost effective than for all employers, educators, individuals, and bureaucrats to carry this out themselves and the quality should be much higher for a smaller amount of society's resources dedicated to this purpose¹¹.

2.2 Skills Gap Analysis in Practice: Canada and Northern Ireland (UK)

Skills gap analysis has emerged across several countries sharing a common concern over performance, challenges of globalisation, the rise of the knowledge-based economy, and a focus on developing comparative advantages to compete for higher skilled, higher value-added activity. The analysis, however, has been carried out differently across countries in spite of these common

conditions, likely due in part to differences in government structure, private sector concerns, and complexity in skills gaps.

Two OECD examples have been selected to demonstrate the application of skills gap analysis: Canada and Northern Ireland. In the Canada, concern at the economy-wide level with growing demand for higher levels of literacy required to meet the needs of an emerging knowledge-based economy has focused attention on transferable skill needs. In Northern Ireland, the focus is more directly on specific skills needs of employers and employees that may need to be met at the national and sectoral or industry level to improve economic performance in addition to achieving several other goals.

2.2.1 Canada: Transferable Skills

Box 2. Human Capital: If you don't use it, you might lose it

Investing in human capital shares much in common with other forms of investment. Not only is it possible to make an investment in education and training that does not generate the expected outcomes in terms of outcomes, such as income, productivity and returns, but previous investments could depreciate. Skills and knowledge acquired, in other words, can be lost.

After WWII, Canada invested heavily in education (7% of GDP) and achieved one of the highest levels of educational attainment in the world. However, recent findings from the International Adult Literacy Survey and the 2003 Adult Literacy and Life Skills Survey suggest that basic literacy skills attained in childhood may be eroding during adulthood; a serious issue given the important relationship between literacy and economic performance. Based on the same 2003 survey, the Canadian Council on Learning suggested that 40% of Canadian adults may not meet, according to experts, the minimum requirements in line with the emerging knowledge-based economy.

Andries De Grip further stresses a distinction between technical obsolescence, which refers to workers losing skills they may have already had, and economic obsolescence, when the economic value of the human capital embodied in the worker changes. In the first case, the worker loses a skill that may or may not be valuable while in the second, they may retain the skill, but it is not longer of value.

Source : Wills et al. (2007, CCL (2006) and De Grip (2006)

In 2006, the Canadian Council on Learning (CCL) focused on addressing the question about whether Canadians had the appropriate levels of numeracy and literacy skills demanded by employers (CCL, 2006). Although Canada has attained high levels of literacy and has invested significant amounts of GDP (7%) to educational spending, broader definitions of literacy in combination with the International Adult Literacy Survey have shown that levels were lower than expected (Willms et al, 2007). CCL noted that in recent years, due to increases in competition, changes in technology, and changes in the nature of work, there has been a drive towards knowledge-intensive jobs in Canada and these typically require higher levels of these transferable skills than before.

CCL first provided evidence that, in fact, there was cause for concern since new job creation and the composition of the workforce was headed towards relatively higher levels of skills. Domestic demand for skilled labour has outpaced demand for unskilled in part due to the trends mentioned above coupled with foreign outsourcing for lower skilled work. CCL cites as evidence that there was an 8% increase in the number of workers between 1991 and 2003 and the number of businesses by

12%. However, the growth rate of high-knowledge businesses was 78%, medium 14% and low 3%.

CCL further pointed out that although levels of educational attainment, and therefore investment, appear to have increased in Canada, the results of a 2003 Adult Literacy and Life Skills Survey (ALL) revealed that 40% of adults did not have the minimum levels of literacy and numeracy that experts considered to be in line with the emerging needs of a knowledge-based economy.

Although skills gap analysis tends to draw attention to the specific occupational skills that an employer may demand of an employee, this example of a skills gap highlights the need to also address other, broader, or more transferable skills, such as literacy and communication that apply across jobs. Further, this example highlights that additional investment in human capital may not automatically

mean that specific or emerging needs are going to be met. Although educational attainment levels may be high, quality indicators are needed since higher levels of skills are likely to play a larger role in production as the intensity of the knowledge required in the workforce increases. Part of the explanation for the high level of adults with low literacy skills are likely also due to skills losses (see Box 2).

2.2.2 Skills Gap Analysis in Northern Ireland: National and Sector specific skill needs

Northern Ireland's Department for Employment and Learning regularly monitors skills and produces reports that provide snapshots of the labour market over time to help identify skills gaps, prioritise those that require attention and assess which kinds of responses in terms of training would be the most effective to reduce or close the gaps. *The Northern Ireland Skills Monitoring Survey, 2005, Summary Report* (October, 2006) provides a useful example of skills gap analysis, evaluation and monitoring.

The report highlights that economic performance had improved during the previous 15 years from high unemployment and slow GDP growth to higher employment and growth. The report provides an updated view on the employers' current skills needs in non-agriculture activities in the economy based on the responses of 4126 employer surveys and assesses employment turnover, current vacancies, and uses the results to assess which vacancies are difficult to fill, which skills gaps exist, and which types of training responses might be required. A summary of key findings in each category will highlight further the characteristics of this type of analysis.

- **Employee turnover** - The 2005 report found that employers reported lower rates of employee turnover than during the previous report (16 % compared to 13%) and that turnover was highest for small businesses between 5-10 employees as well as being highest in the hotels and restaurants sector (21%).
- **Current Vacancies** - Surveyed employers reported that they had fewer vacancies than in the previous report (11% compared to 16%) and that most of the vacancies were in health and social care, financial services and education followed by hotels and restaurants.
- **Difficult to Fill Vacancies** - The Northern Ireland report also provides information on which percentage of employers reported difficulty in filling a vacancy, also by firm size and in which occupations and sectors as well as whether the employer took any additional measures to fill these positions and whether the vacancy had an impact on the business. 6% of employers in this report, compared to 10% previously, reported vacancies that were difficult to fill as well as the fact that these employers were typically in large firms and that the most important reason cited for the difficulty was a lack of skills as opposed to lack of people showing interest.
- **External Skill Shortages** - External skill shortages are those skills that need to be met through hiring, but which are difficult to fill due to a lack of skills, experience and/or meeting necessary qualifications. This report also highlights which percentage of employers report this type of shortage, for which sectors and occupations as well as whether this rate is higher or lower than previously reported.
- **Skills Gaps** - This report defines a skills gap as the difference between an employee's current skills level and what is needed to meet work objectives.¹² The results summarize the percentage of employers reporting a skills gap and compare it to the previously reported level. The skills gap information is also summarised by firm size, which types of sectors and

occupations they were in. The analysis also identifies the types of skills they represent as well as which measures employers were taking to address the gaps, such as by providing more training and employment.

- **Training** - Employers are also surveyed about the provision of training for employees, the nature of the training and in which sectors, and for which occupations this is typically taking place. For example, 34% in 2004 reported providing some off-the-job training compared to 42% in 2002, and that 63% in the education and health sectors provided this type of training compared to 17% in hotels and restaurants. Those employers (92%) that had not provided on the job training cited sufficient levels of skills to perform the job. This likely indicates that any skills gaps they may have reported were not considered crucially important.

It is important to note the overall design of the survey in this example. It does not simply carry out a survey requesting information about gaps in skills by employers, but rather asks a wider variety of questions that can be used to help assess specific gaps, why they are occurring, how important they are, whether they will have an impact on productivity and output, as well as which kinds of training responses might be required where and by whom. For example, a skills gap may be reported by an employer, and they may have difficulty to fill it, but it might not be worth filling this gap. If it is worth filling this gap, specific employer-provided training might already be under way to remedy this gap without the need for public intervention. Or if the gap is large across employers and has an impact on firm productivity and output, it may be worth addressing this through changes in curricula in public or private institutions, such as through vocational training. Individuals can also use this information to make more informed career choices. This type of survey has to provide enough information to make effective decisions in response to skills gaps in response to diverse interests and needs.

IMPLEMENTING SKILLS GAP ANALYSIS THROUGH INTERMEDIARIES

Identifying gaps between the skills that workers have and those they need will not, on its own, generate improvements in human capital or competitiveness. A method for developing policy recommendations on the basis of skills gap analysis needs to be implemented. Identifying skills gaps, assessing them, prioritising needs in addition to forming policy recommendations requires a high level of collaboration between research expertise, training institutions, relevant government bodies, the private sector, and the wider public. This specific combination of activities is not typically carried out by academic researchers or individual policy institutes. It is also typically outside the scope of civil servants within a given ministry.

This section draws attention to the role of intermediaries between the policy making process and the information gathering required to make more accurate, informed, decisions. Brokerage agencies have emerged in a context of bridging a gap between the research and stakeholder community, on the one side, and the policy community on the other (OECD, 2007). Brokerage agencies, in the meaning used here, are also used in other fields, such as health¹³. Given the diversity in terms of their goals, mandates, funding, operations and activities, several examples of brokerage agencies will be used to highlight the diversity of choice over how this gap between information and implementation is bridged elsewhere. Appendix 1 provides additional examples of other agencies from OECD member countries as well as highlighting who carries out the skills gap analysis.

3.1 Brokerage Agency¹⁴

A brokerage agency is an intermediary that is designated or responsible for the creation of ties or links, in this case, between research evidence and information related to a policy issue at hand, and those who rely on and require this information to make policy decisions. An intermediary provides an important service that usually both sides are unable to provide as efficiently or effectively on their own. As an everyday example, most people in developed economies rely on banks as an intermediary. Rather than identify and assess where to invest savings individually, or who may offer the best loan service, banks collect savings from many people and carry out the loans while relying on staff and methods that each borrower and lender on their own would be unable to develop and use. Likewise, for skills gaps, it would be prohibitively expensive for individuals to carry out their own skills gap analysis and market forecasts. For human capital related issues brokerage agencies can fill this role and can range widely in terms of mandate, the types of activities they can engage in composition, and the links they have between decision makers, stakeholders and researchers.

An additional justification for the use of a brokerage agency is due to the widening gap between the needs and interests of those who can collect and assess information and those who need to use it to make decisions. Researchers who are capable of collecting information and understanding the technical methods of data collection and analysis are often in firms, research institutes and universities. They may be engaged in policy analysis and development, but their primary focus is typically on testing theory and models and achieving a level of rigor that may take considerable time to achieve without facing the pressures and priorities that a policy maker faces (OECD, 2007, pg. 27). Policy makers typically face pressure to make the right, informed, decision and understand the issues and consequences with a level of public accountability that stresses timeliness and accuracy as well as messages that can be easily understood by a non-technical audience. These differences generate a gap in the policy process. Decision makers may wish to have access to rigorous, timely, information to make the best decision possible, but the research community may be focused on other issues or not be able to make the right information available within the time constraints needed. One side has a need while the other side has the ability, and despite some overlap of interests, they may not combine as often as necessary to generate public policy decisions that are made with the best information and tools available.

A brokerage agency can bridge this gap by accessing research from specialists, focusing attention on themes where decisions need to be made, and at the same time make this information accessible to those in power who need it. The agency can also engage more widely with other stakeholders that may be outside the scope of academic research but relevant to the policy maker at the same time. These features combine many abilities, roles and interests that are necessary for making informed policy decisions, but that would unlikely be drawn together in such a way otherwise.

The increasing reliance on brokerage agencies for public policy development for themes like human capital development, employment and training represents an important change from the past. Several factors play an important role in explaining the development of brokerage agencies for human capital development related issues:

- **Expansion of evidence** – there has been growth in terms of evidence about educational quality, theoretical support and development, as well as which policies are needed.
- **Increased access to information** – there has been a rapid rate of growth in research and reports on education and training that is now easily accessible, in part due to the internet and also the growth in the number of people involved in the research and reporting process.

- **Changes in policy decision processes** – due to various trends in decision making ranging from decentralising educational planning and delivery to more public consultations, there are now increasing incentives and pressure for many different stakeholders (e.g. firms, individuals, policy institutes, educators, etc.) to be engaged in policy analysis. This trend requires broader public consultation in terms of response, and accountability. This can overwhelm the capacities of existing bureaucracies that were not designed and equipped to respond to these extra demands.
- **Student achievement outcomes** – During the past two decades, there has been growth in terms of testing student achievement. This has generated increased debate about the quality of programmes, best practices, and reforms. Dissatisfaction with past outcomes coupled with diverse, and often conflicting views, on what needs to be done to improve performance has raised the level of expertise required to assess policy changes.

All of these factors have served to increase pressure on governments to look for ways to allocate resources more efficiently. The capacity for ministries to provide expert research on a broad range of complex themes and to engage with a wide audience of stakeholders is limited. Therefore, the capacity of governments to rely on in-house resources to keep abreast of the best possible information available to make well informed and swift decisions is no longer achievable. At the same time, those who conduct research that could be relevant for policy decisions and help generate better outcomes are not under the same pressure or mandate to make swift decisions. Brokerage agencies can provide a method identifying and assessing issues, collaborating and consulting with a broader audience of stakeholders and experts, as well as for placing useful information into the hands of those who can use it.

3.2 How Brokerage Agencies Function

Brokerage agencies related to human capital development are typically given a set of goals, such as focus on monitoring and evaluating skills gaps, or other relevant labour market issues, such as training options. They either conduct the research themselves, or contract out to those who have the right competencies to assess and evaluate information that is needed for a particular policy issue. Broad surveys and collaboration need to be conducted with stakeholders to identify needs, assess the impact of policy options, and prioritise which issues need to be dealt with over various time periods. Depending on the specific mandate of the agency, they provide advice based on the evidence collected to policy makers, who are usually consulted during the research process, and remain engaged in the implementation and monitoring stage. Periodic reports about the findings and progress made helps increase transparency, generate needed feedback from stakeholders and give stronger incentives to use evidence in public policy decision making. If they rely on public funding, they can be subject to an audit outside the government to help ensure accountability with tax funds on the one hand, but also to maintain a degree of independence on the other that is required for carrying out research¹⁵.

Despite the diversity of agencies that have recently emerged, there are, however, several standard challenges these agencies face in carrying out their work, which include (OECD, 2007):

- Incorporating all stakeholders
- Addressing the tension over timeliness
- Disseminating findings
- Ensuring stable and sustainable funding.

Two examples of brokerage agencies have been selected to provide an illustration of what they are, their goals, activities and use of skills gap analysis (see Appendix 1 for others). These two in particular were chosen to show a contrast in approaches. The Republic of Ireland example highlights a strong focus on the knowledge economy and future skills that need to be addressed to provide employment opportunities as well as addressing the needs of employers. The Canadian agency also provides a similar bridge between decision makers and information, but the focus is more on addressing lifelong learning issues, training needs, and best practices for this purpose. It also performs skills gap analysis, but with less strict attention to the needs of employers for skills within a specific occupation¹⁶. For example, one of their reports has focused on whether there was a gap between the higher levels of literacy that are forecast to be required as the economy moves towards more highly skilled labour needs, and those that the adult working age population actually has. This diversity should draw attention to the breadth and depth of options for agency structures.

3.2.1 Expert Group on Future Skills Needs (EGFSN) – Republic of Ireland¹⁷

Established in 1997, EGFSN reports to the Ministry for Enterprise Trade and Innovation and the Ministry for Education and Skills. Broadly, the Group advises the government on current and future skills needs in the economy as well as other labour market issues with a focus on those affecting enterprise and employment growth. Its main task is to ensure as far as possible that the needs for skilled workers are anticipated and met. The budget for its activities comes from the National Training Fund.

3.1.1.1 What does the EGFSN do?¹⁸

Box 3. Ireland's National Skills Bulletin 2010

The 2010 National Skills Bulletin by the EGFSN in the Republic of Ireland provides a statistical analysis of employment data for the main occupations in the economy in order to draw attention to imbalances in the Irish labour market. The 2010 report identified skills shortages that continued from the year before but also pointed out that they are largely confined to high skilled niche areas such as IT, engineering and sales amongst others. The report also provides an estimate of 45 000 for new postings that may potentially be available annually as a result of replacement demand.

This type of report provides a useful example of the kind of information that would be useful for individuals making decisions over possible career options, policy makers concerned about the economy, labour market performance, and potential policy responses, as well as the private sector where firms may benefit from knowing which types of workers may be in short supply. This type of information is unlikely to be combined in a package publicly by any of these stakeholders on their own and stresses the benefit of having a specialized group devoted to this task, such as a brokerage agency.

Source : EGFSN (2010)

The group achieves its goals through two primary activities:

1. **skills foresight and benchmarking** – broadly through surveys and analysis of the demand and supply for skills in the economy

2. **strategic advice on skills and training** – providing analysis on which skills need to be addressed and which ways they can be addressed effectively through various training programmes and other options.

In order to deliver in these two areas, the EGFSN works with Fas (the Skills and Labour Market Research Unit), and Forfás (Ireland's policy advisory board for enterprise, trade, science and innovation), for research

and secretariat support, and carries out the following types of activities:

- It advises the government on skills related issues at the national and sectoral levels,
- Provides advice and information on priority training needs and cost effective approaches to deal with these needs,

- Identifies and advises the government on which skills needs cannot be met internally
- Conducts research and provides advice on content and delivery elsewhere,
- To avoid replication and waste, it also provides advice on how existing systems can be enhanced, and it aware of programmes offered through the National Training Fund
- Identifies the appropriate authorities and ensures that recommendations are made and adequately secured.

3.1.1.2 How EGFSN works

The central idea behind this type of brokerage agency is to bridge the gap between research and policy decision making by focusing on labour market performance to ensure that skills needs are effectively met through relevant training. This requires research into skills that are either in demand now, or soon will be, whether these skill demands can be met by the existing labour market, and where gaps might exist between demand and supply. This involves conducting surveys with employers, market analysis and forecasting as well as knowledge about existing training programmes, graduation rates and migration flows. Collecting this kind of information involves widespread consultation with stakeholders, experts, and various departments. The composition of the EGFSN facilitates this since its members are comprised of representatives from various stakeholders. That the information and advice is acted upon is in part more likely due to this widespread engagement, as well as reporting and links across stakeholders, but also through implementation and monitoring activity that is carried out. The quality of research and expertise offered is rigorous, on the one hand, but policy relevant on the other. These two features are unlikely to be combined consistently, if at all, in this way by any actor on their own. This stresses the important role this type of agency can play (see Box 3).

3.2.2 Canadian Council on Learning¹⁹

The Canadian Council on Learning was created in 2004 after nation-wide consultations on innovation and is a federally funded non-profit corporation (it is financed by Human Resources and Skills Development Canada). This type of brokerage agency focuses on providing Canadians with information about the state of learning in Canada and fosters research on lifelong learning with the aim of providing evidence that facilitate decision making (OECD, 2007).

3.2.2.1 What the CCL does:

The CCL engages in its own research as well as commissioning research on education related issues, engages with stakeholders (e.g. relevant departments across provinces and territories, educators, researchers, etc.) and works with policy makers to provide policy relevant research focusing on the following areas:

1. Research and knowledge mobilisation
2. Monitoring and reporting
3. The exchange of information on best practices.

In particular, in carries out the following types of activities:

- Works with provinces and territories and NGOs to establish relevant networks²⁰

- Performs its own research in house as well as commissioning research
- Develops a composite index to measure lifelong learning in Canada
- Supports knowledge exchange activities
- Partners with others to pursue strategic learning initiatives
- Publishes and disseminates information related to this work in annual reports on relevant themes

3.2.2.2 How CCL works

This type of brokerage agency differs in focus from the EGFSN mentioned above in that it is primarily concerned with lifelong education, ranging from childhood to on-the-job learning that takes place during adulthood. However, it also functions as a bridge between researchers and stakeholders and those who make policy decisions. Its mandate is broad and allows for research on themes deemed a priority. The CCL frequently consults with stakeholders, commissions research or conducts it in-house. It provides timely, tailored reports on best practices and it has also provided analysis on skills gaps that need to be addressed to improve labour market performance as well as targeting training programmes that Canada needs to successfully compete in a knowledge-based economic environment. This example shares in common with the Republic of Ireland's EGFSN's a combination of relevant policy oriented research that is needed, but would not take place to this degree of breadth or depth by many of these actors on their own.

HUMAN CAPITAL DEVELOPMENT CHALLENGES IN THE WESTERN BALKANS

During the last two decades, global changes in production and production techniques have taken place more rapidly, and subsequent demand for skilled labour in an increasingly knowledge-based global economy has drawn attention to human capital (Dickens et al, 2006). The significant socio-economic challenges involved in restructuring economies during the same period also resulted in severe economic dislocation across the Western Balkans. This has left far less attention and resources for human capital maintenance, let alone further development, to cope with new challenges²¹.

Although there has been some modest progress in terms of private sector development, innovation, educational reforms and economic growth, there is a growing need to find ways to improve labour productivity not only to prevent living standards from falling further, but to meet several growing concerns. Labour productivity is central to improving private sector performance by providing a potential pool of skilled workers with capabilities that employers demand in a competitive market. It is also a key ingredient to achieving higher value-added and higher wage activity, attracting more investments and facilitating innovation in addition to other socio-economic benefits.

This section summarises key findings in the Western Balkans at the regional level. Despite many challenges, the existence of unemployed labour coupled with skills mismatches indicates that the

labour supply is potentially capable of higher levels of productivity and output if the right investments in human capital are made. For a summary of findings in individual economies see Appendix 2.

4.1 Challenges at Western Balkans Level

Despite some recent economic growth, enterprise creation, and the introduction of policies and strategies across the region to address human capital development, the following issues at the regional level stress the need to improve labour productivity and output²².

- **Transition** – Exposure to increasingly competitive global markets has had an impact on human capital development. Skills that were invested in prior to the 1990s were less suited to meet the needs of new production while new skills and information needs requires changes in educational and training programmes, both for future workers and the current adult population. High permanent unemployment levels, particularly amongst youth, have likely resulted in skills and knowledge loss, potentially eroding some of the new investments that have been made in education and training. These conditions have made it difficult to:
 - Adjust educational and training programmes,
 - For people to decide which programmes to enroll in, and
 - For the private sector to judge the quality of prospective employees (Bartlett et al 2008).
- **Demographics** – The population of the Western Balkans and South East Europe more generally is forecast to change in age composition and decrease (Lutz, et al, 2008), with the exception of Albania and possibly also Kosovo under UNSCR 1244/99. The overall level of educational attainment of the workforce should rise as those with lower levels exit the workforce and are replaced by younger, more educated, workers²³. However, there are concerns about the quality of education which upcoming labour force entrants are receiving. Furthermore, high youth unemployment rates are further hindering the utilisation of skills recently learned through the education system. The need for increased labour productivity to maintain living standards let alone meet these challenges is high, and also focuses attention on the need to address continuing and adult education²⁴ to improve overall labour force quality.
- **Regional Differences** – There are differences in the quality of human capital investments across the region and within economies, often with those who live in rural areas reported to be receiving lower years and quality of education than their urban counterparts. This coupled with internal migration and outmigration has serious long-term implications for the stock of human capital, likely affecting local labour pools in different ways. Skilled workers who leave urban areas for other economies reduce the stock of skilled workers available for local enterprises and also reduce the social return for social resources dedicated to education. At the same time, lower skilled workers moving into urban areas from rural ones suggests that urban labour pools are likely to continue being de-skilled making it less attractive for investment, especially for high skilled activities, in the long term. This stresses the impact rural-urban inequality can have on enterprise development and local labour pools and ultimately on long-term economic performance.
- **External indebtedness** – Although there has been some growth during the past decade across the economies in the region, a great deal of public and private expenditure has been externally financed. This places pressure on the population to produce more value per

worker in the future in order to repay and service these debts while also trying to maintain standards of living, especially if the workforce is not likely to grow or even shrink. Given other demographic challenges mentioned, this additional burden also stresses the need to focus on enhancing labour productivity as a way to at least ease this growing burden.

- **Globalisation** – As the region becomes more integrated in trade, there will be increasing pressure to compete with low cost imports as well as finding ways to remain cost competitive in key export markets. There is also competition for where investments are made, and where people choose to work. These changes will place pressure on the economies in the region to find cost-effective ways to produce goods and services as well as provide an environment that is attractive for investment as well as attracting high skilled workers to find suitable opportunities to remain in the region. Although investments in human capital may result in improved labour productivity, it is also true that this issue needs to be addressed in a wider policy context to be dealt with effectively (Uvalic, 2010).

These challenges, however, also indicate that the Western Balkans can enhance competitiveness in terms of labour productivity and output by focusing on ways to improve human capital. High unemployment rates coupled with a working age population that is under-skilled relative to modern needs suggests that there is room for improvement. Unemployed labour represents a resource that could be used to produce goods and services²⁵. Employed, yet under-skilled, labour represents a resource that could produce more per worker through further training. More significant mismatches between what employers are seeking and what is available represents additional sources of potential output that could be achieved through more efficiently operating labour markets. Oddly, those economies with the largest skills gaps and mismatches potentially have the most to gain relative to those economies where they are far narrower and better matched. This highlights the potential impact skills gap analysis could have in practical terms in the Western Balkans.

PROPOSED ACTIONS TO USE AND IMPLEMENT SKILLS GAP ANALYSIS IN THE WESTERN BALKANS

To improve the quality of the workforce in the economies of the Western Balkans, two themes were dealt with in this paper. The first is the need to collect information that can facilitate identifying where improvements need to be made. Skills gap analysis has been presented as a tool that can be used to identify where scarce resources can be used to generate impact in terms of labour productivity and output. Second, this information has to be able to be used by those who make decisions about where and how much to invest in human capital, such as firms, individuals, and governments. Because there is typically a gap between the specialised capabilities and interests of researchers and those who need access to relevant information, brokerage agencies provide a method for collecting, assessing and implementing information that is relevant for public policy as well as having additional benefits through their activities on educators, individuals who need training and private enterprises.

Implementing skills gaps analysis and instituting brokerage agencies in the Western Balkans would be challenging. Skills gap analysis is relatively new and is not consistently used across developed economies. Carrying out this type of analysis requires resources to hire capable researchers and collaborate widely with stakeholders. Brokerage agencies that carry out this type of analysis and

collaboration, especially for human capital issues, requires financial resources in addition to expertise. Despite these considerations, three steps are proposed for the Western Balkans. They can be implemented to improve labour productivity and output in the short to medium term. As better data becomes available, new needs arise, and capabilities improve, these steps could lead to the eventual creation of a database on human capital development issues, a longer term human capital development strategy, and eventually a brokerage agency tailored to meet local needs and conditions.

The three steps proposed involve:

4. **Consolidation** – Although there are actions and policies underway in each of the economies related to human capital and educational and training reforms, it remains unclear how these policies fit together to generate improvements in labour productivity and output. Information on existing programmes, labour market conditions, policies and actions underway should be consolidated to identify specific challenges and goals as well as to avoid overlap.
5. **Data Collection** – The skills needs of existing employers that are not met by current employees or available in the local labour markets need to be identified. These simple skills gaps, if they exist, can be less costly to collect and assess. They could also be important for improving labour productivity and output by identifying possible training responses for unemployment and underemployment.
6. **Collaboration** - In order to prioritise which skills gaps have the greatest impact and which responses are possible, consultation between key stakeholders should take place. Collaboration between relevant government ministries, employers, and educators, can help identify which short term actions can be implemented.

These three proposed steps would enable the Western Balkans to both use and implement skills gap analysis²⁶. Although each component is separate, and could be implemented on its own, they are more effective when implemented together since they are mutually reinforcing. In the longer term, the creation of a database would provide the kind of information that is relevant and needed to make informed, more accurate, decisions about existing human capital needs, possible remedies and methods for implementing, monitoring and evaluating change. The establishment of a human capital strategy would provide focus on key objectives that can facilitate establishing priorities as well as accountability in carrying out needed changes. These steps could lead to the eventual creation of a competent brokerage agency that could bridge the gap between policy research and those who need to make decisions as well as facilitating the policy development process and following through on implementation and monitoring assistance.

5.1 A database focusing on human capital development issues²⁷

Given that public policy decision makers, individuals, firms, researchers, and stakeholders need information in order to make the best possible decisions about training needs, skills gaps, the quality of programmes, and where investments are needed, a database containing relevant research materials, survey results, best practices, information on training programmes, monitoring and evaluations would facilitate these decisions. In particular, this database could contain the following key characteristics:

- A thematic collection of literature on human capital development covering a range of issues such as the link between human capital and growth, other socio-economic benefits, lifelong learning, the transition context, and current policy strategies.

- A collection of reports on the economy and region more generally assessing the current challenges and priority areas that require attention as well as possible policy recommendations.
- A list of relevant domestic, regional and international programmes for training and education as potential sources to meet training needs as well as for providing useful benchmarking, comparisons, and sources for facilitating curriculum development.
- Analysis and data relevant to best practices in education for educators across lifelong learning; schooling, vocational and continuing educational programmes, adult training, and special needs.
- Data outlining the various skills and qualification requirements across sectors and professions in line with international classification systems to facilitate research, monitoring and evaluation.
- It would include a list of experts, potential partner organisations, and institutes dedicated to human capital development, in general, and possibly also with focus on the transitional and Central European contexts.

This type of database would allow public policy decisions makers to access more easily key resources related to human capital and potentially facilitate informed decision making thereby reducing the risk of errors. It would also provide educators, education researchers, the private sector and individuals with information they need to engage in and facilitate improvements in programmes. This type of information should improve matches and planning across the economy. This type of database also requires:

- Regular and consistent updating
- Capable management who are trained in research methods related to education and human capital who can assess the quality, and compile the information

5.2 A Human Capital Development Strategy

Across the Western Balkans, the *IRI's 2010 Human Capital Survey* revealed that there is a variety of policies, activities and reforms underway in terms of human resources, education, and employment strategies. However, there is a need to add clarity by providing an overall framework in which other activities, evaluation, implementation, and other forms of support can be aligned within each beneficiary's economy to achieve the best outcomes possible with the resources that have been allocated. Eventually having a strategy within each economy will also facilitate prioritising skills needs, monitoring, and training programme changes, but also facilitate the activities of brokerage agencies and the networks they may wish to create. Broadly, a strategy would specify which goals are targeted, the challenges that need to be overcome to achieve them, and which steps need to be taken to overcome them.

5.3 A Brokerage Agency

Although there are different forms a brokerage agency can take, as well as focus and mandate, and in terms of the degree of independence or attachment to various government ministries, there is a broad need to form an intermediary between those who need to make decisions and those who conduct research on human capital development issues linked to labour productivity and output. An agency

that is funded and mandated to collect, assess, monitor and evaluate at arms length from the government, to commission reports on relevant themes, and provide a bridge between research and policy needs would represent a significant investment in ensuring that scarce resources are used in the most effective way possible. In general, a brokerage agency would have the following characteristics²⁸:

- **A clear set of objectives** – tied to collecting information on skills needs, monitoring, training with the target of improving labour productivity, output, the private sector climate.
- **A clear set of activities** – there would need to be clarity about the types of expenditures the agency can and is expected to make covering a range of actions, such as collaborating with stakeholders, conducting or commissioning research and surveys on specific themes deemed to be a priority, and the management of a database.
- **An ability to monitor and evaluate progress and recommendations** – an important component to ensure that decision makers have an incentive to use information gathered and to make necessary changes as conditions change will involve monitoring and evaluation of previous recommendations.
- **A diverse composition** – There would need to be an executive in charge of operating the agency, but also a broad representation of members representing stakeholders, such as educators, civil servants in relevant ministries, training facilities, and the private sector. This will foster wider engagement, but also improve the likelihood that policy recommendations and advice will be accepted and implemented.

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APPENDIX 1

There is considerable diversity across other countries in terms of how skills needs are identified and assessed, who carries out this research, and how this information is used to inform public policy decision making in addition to more broadly by others, such as firms, students, and educators. This appendix has several purposes for the beneficiaries in the Western Balkans. This first is to provide a sample of the various ways skills needs assessments are carried out in other economies. A brief description outlining objectives, functions, governance and structure will highlight that there is no one single approach currently being used and that there is considerable choice over how and for which specific purposes those in the region may wish to carry out skills needs assessments and implement evidence based decision making focusing on human capital development and enhancing competitiveness. The second is to highlight some of the features in each example outlined that may be useful for consideration in the Western Balkans context and the third is to provide a rationale for the examples selected in the text.

This appendix is organised in the following way. For each example, the overall objectives tied to skills assessments is broadly highlighted as well as who carries out the research, how it is organised, and through which sets of functions.

A1.1 Australia

The Skills Australia Act of 2008 established Skills Australia as an independent body reporting to the government on skills needs in the economy and ways to respond to those needs. The Act outlines the operational arrangements to support the body in terms of overall objectives, functions and its composition and activities. Skills Australia is tasked with providing the Minister for Education, Employment and Workplace Relations with relevant information on current, emerging and future workforce skills and development needs. More specifically, the body has the following tasks:

- To identify priorities and potential responses in terms of skills needs
- To facilitate wider participation in terms of employment
- To target enhancing overall competitiveness and productivity.
- To identify and address skills shortages
- To promote the development of a highly skilled workforce.

In order to achieve these objectives, Skills Australia provides assessments, research and analysis of current and emerging skills needs, distributes information to the government and other stakeholders, it commissions research, provides recommendations and establishes and maintains relationships with relevant government bodies to facilitate responses to identified needs. The body is also comprised of a diverse set of people representing government, industry, experts, and other stakeholders.

References:

<http://www.skillsaustralia.gov.au/>

Skills Australia Act of 2008

A1.2 Canada

In Canada, the Department for Human Resources and Skills Development Canada (HRSDC) is a Federal Department tasked with creating a more competitive economy, providing Canadians with decision making support to facilitate a rewarding and productive life, and overall to improve the quality of life. Within this department, one of the programmes for Skills and Employment focuses on skills development, labour market participation, efficiency and inclusiveness. The HRSDC carries out an analysis of demand and supply for skills for the economy using a Canadian Occupational System database (COPS) and a methodology for an employment projection by industry in cooperation with the Conference Board of Canada. Projections are carried out for a ten year period and focus on the permanent labour market (i.e. they exclude those people currently studying). These projections tend to focus on whether higher levels of skills will account for an increasing share of new job creation (i.e. moving towards a knowledge based economy) and which sectors and occupations will likely face shortages of skilled labour at the national and regional or provincial levels.

The HRSDC also finances a separate body, the Canadian Council of Learning (CCL), which is a non-profit, federally financed, agency (corporation) established in 2004 and tasked more broadly with lifelong learning across the country. This agency has a broader mandate to cover lifelong learning and identify skills and learning needs of the economy, ways to address these needs through policies and training responses, as well as identifying best practices in terms of methods. CCL focuses on research and knowledge mobilisation, monitoring and reporting on progress, and an exchange of information on best practices relevant for learning across stakeholders. In order to work towards these broad goals, CCL works with government bodies across the country to identify priorities and issues, conducts and/or commissions relevant research partners with other organisations and stakeholders to identify relevant information and publishes reports to facilitate the informing decision makers about key findings.

References:

Human Resources and Skills Development Canada, <http://www.hrsdc.gc.ca/eng/home.shtml>

The Canadian Council on Learning, <http://www.ccl-cca.ca/CCL/AboutCCL/index.html>

The Conference Board of Canada, <http://www.conferenceboard.ca/topics/education/default.aspx>

A1.3 The EU

The European Centre for the Development of Vocational Training (CEDEFOP) views an innovative VET as important for employment and competitiveness in the EU. This agency collaborates with governments, employers' representatives, trade unions, researchers, practitioners and the European Commission to support evidence-based policy decision making to ensure that VET meets the needs of citizens and the labour market. It gathers information, conducts research and analysis in order to provide advice. In terms of specific skills needs, this agency also performance supply and demand analysis to identify future skills needs and potential mismatches and conducts surveys to assess and identify employers' skills needs.

In addition, CEDEFOP also recognises the importance of access to high quality information and it works together with stakeholders to develop internationally comparable statistics that can be used to inform the policy process and provides a summary of key trends and findings in a database that is available online.

References:

Regulation (EEC) No 337/75 of the Council of 10 February, 1975 establishing the European Centre for the Development of Vocational Training, (OJ L 39, 13.2.1975, p. 1)

European Commission, The Lisbon Strategy, 2000,
http://europa.eu/legislation_summaries/education_training_youth/general_framework/c10241_en.htm

CEDEFOP, <http://www.cedefop.europa.eu/EN/about-cedefop/mission.aspx>

APPENDIX 2 – SUMMARY OF FINDINGS

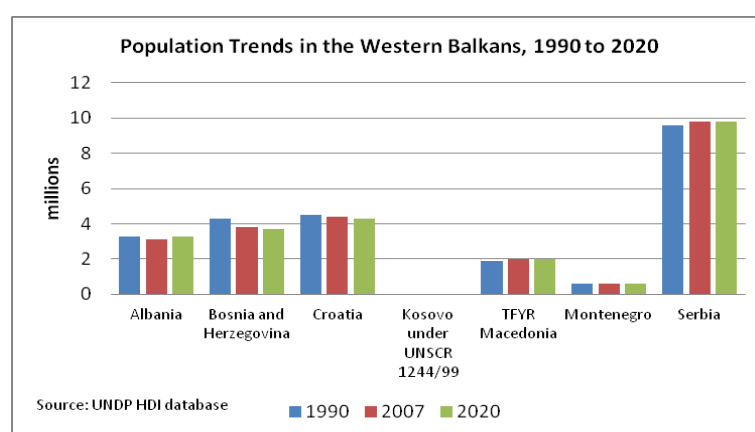
There are considerable challenges to improving the performance of the human capital asset in the Western Balkans. The purpose of this appendix is to highlight key issues that pose challenges to improving the performance of human capital and the workforce in the region. The information contained in this appendix was identified through desk research and through the survey on Human Capital for the Investment Reform Index (IRI 2010). More specifically, there are several objectives in this appendix:

- To document some of the activities underway across the region that address human capital development that were identified in the IRI survey,
- To outline some of the unevenness across the Western Balkans in terms of activities and challenges faced that are not revealed by summarising data at the regional level,
- To provide information that can be checked for accuracy and potentially added to facilitate our research and collaboration in the Regional Competitiveness Initiative through further discussion and feedback.

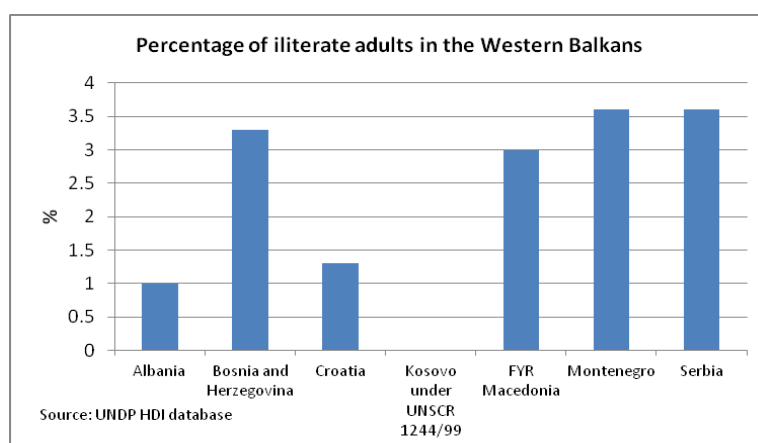
The appendix is divided into two sections. The first highlights key human capital issues using data for the regional level to highlight some of the trends mentioned in the text in greater detail. The second section summarises key issues and findings at the level of the beneficiary.

A2.1 The Regional Level

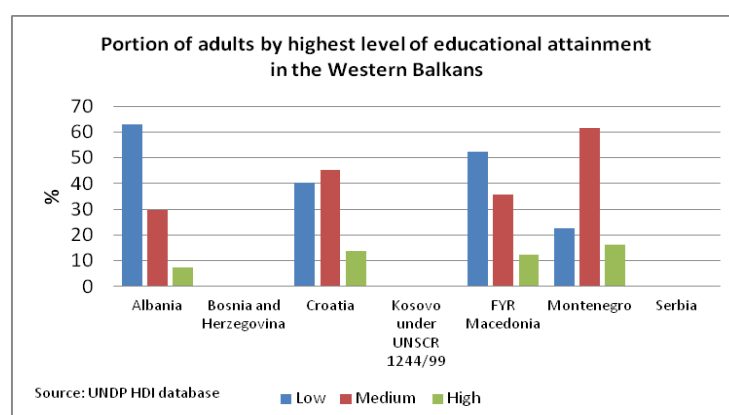
The population in the Western Balkans is projected to fall between 2007 and 2020 with the exception of Albania, which should experience some modest increase and the FYR of Macedonia, which should remain stable overall.



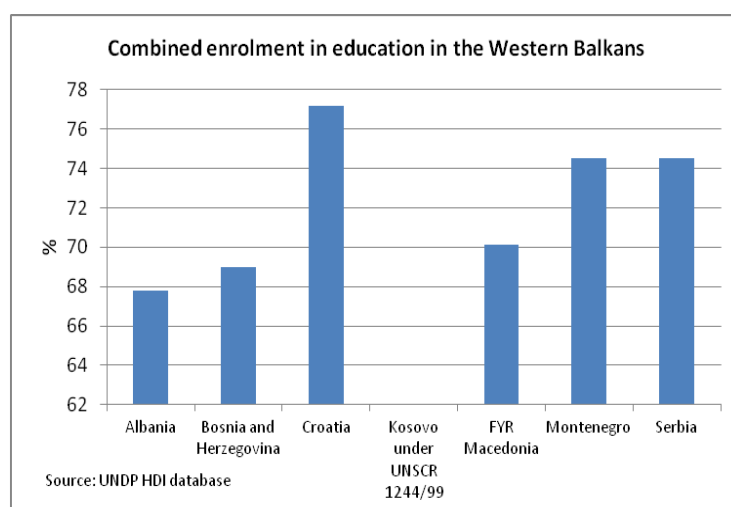
Adult illiteracy rates are low, ranging from 1 % to slightly over 3.5%. This suggests that the current adult population has received at least basic education. However, basic literacy does not indicate the differences amongst the adult population in the region in terms of overall educational attainment.



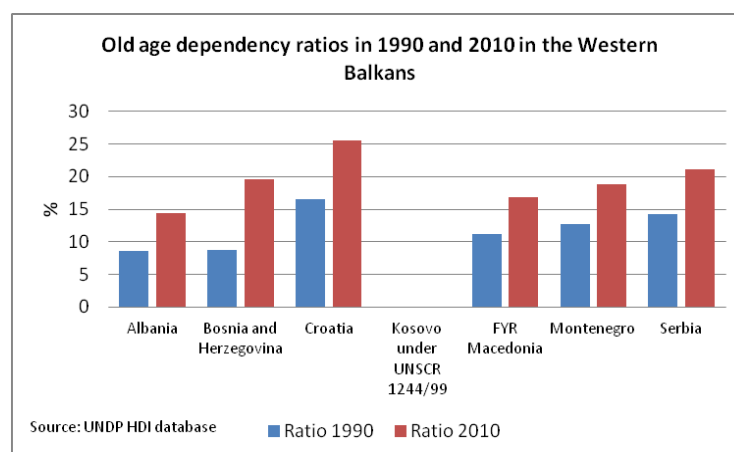
Data available on the highest level of education attained by adults indicates a wide range of results across the region. A large portion of adults across those economies where information is available have attained a low level, there there is evidence that many adults have received also a secondary education while far fewer have gone onto higher levels.



Whether these trends will improve in the future depends in part on the quality and accessibility of educational programmes for the younger generation. Combined enrolment figures which estimate the percentage of young enrolled in schools out of the potential population that could be enrolled, however, raises some concern about the future workforce. Combined enrolment ratios range from just under 68% to just under 78% suggesting that the future adult population may not have the same levels of educational attainment as in the past and this could mean that future workers will not have the skills and competencies required to meet the needs of the economy.



Further, the old age dependency ratio has been increasing across the economies between 1989 and 2008.



These conditions coupled with high unemployment, particularly amongst youth, draw attention to the potential to achieve more output and labour productivity through human capital since there are potential gains that have not yet been exhausted.

A2.2 The Beneficiary Level²⁹

There has been unevenness across the beneficiaries in the Western Balkans in terms of the types and depth of human capital challenges faces, activities underway, and shortcomings that will not appear in aggregate data. For each economy, the results of the Human Capital survey carried out for the IRI 2010 are provided outlining some of the progress or policy developments underway in addition to remaining issues identified by respondents.

A 2.2.1 Albania

Policies and actions underway:

- A sector strategy for Employment and Vocational Training (2007-2013) in place,
- A Vocational Education and Training agency was created in 2006,

- An internship programme (6 months to 1 year) supported by the state was developed.

However, according to the private sector, the implementation of the internship programme needs strengthening. Strategy formulation and system of work related training received especially weak scores. There also appears to be no systematic survey of workforce skills present and only ad hoc consultation with the private sector on the different issues takes place rather than regular, consistent dialogue (e.g. the development of the VET strategy). There also appears to be no strategy in place for Continuing Education and Training; a cause for concern if there are significant mismatches in the current and near future workforce that cannot be dealt with by younger, new entrants emerging into the working age population and labour force.

A 2.2.2 Bosnia and Herzegovina

Policies and actions underway:

- The European Credit Transfer System (ECTS) was adopted 2006
- Establishment of Agency for Quality Assurance in Higher Education (2009; diploma recognition),
- Agency on Pre-Primary, Primary and Secondary Education (2009; curriculum development, TT, quality assurance, recognition, evaluation and certification),
- VET development mainly due to EC and other donor projects (Phare project; EU VET II; EU VET III)
- A Pilot VET advisory council was created that consisted of union representatives, employers representatives and government representatives.
- State Strategy on Employment and State Workforce Skills Strategy; Strategic Directions of Educational Development and Implementation Plan 2008-2015
- Preparation of National Qualifications framework in underway (draft for consultation at the time of writing)
- Framework law on VET 2008 in line with Copenhagen Criteria and Lisbon Convention; VET development Strategy 2007-2013
- Global education strategy 2008-2015

However, there were especially weak on strategy formulation and initial inputs to education and no unique system of data collection making it difficult to carry out assessments. There also appeared to be institutional complexities (12 Ministries of Education) in addition to a Conference of Ministries of Education of BiH as a permanent and supreme advisory body accountable for coordination of the education system in BiH. There also appears to be a lack of a strategy for continuing education and training (CET) even though this was mentioned as a priority in the Strategic Goals for Education Development in BiH 2008-2015. These goals define a set of short and medium term objectives for the development of a CET system. These issues make it difficult to identify priorities as well as assess and monitor performance, further hindering progress in terms of output and future labour productivity.

A 2.2.3 Croatia

Policies and actions underway:

- Creation of National Qualifications Framework
- Creation of National Strategy on teacher development
- Strategic Development Framework 2006-2013 (general aims for knowledge-based society development based on investment in HC, knowledge, social cohesion and social justice)
- Joint Memorandum of Social Inclusion, 2007 provides assistance in developing social protection and social inclusion
- Joint Assessment of Employment Policy Priorities, 2008
- National Action Plan for Employment (2009-2010)
- Vocational Education and Training Act (2009), regulates exclusively the VET system + Development Strategy of the VET system 2008-2013
- Establishment of National Centre for External Evaluation of Education started the development and strengthening of a quality assurance system
- Agency for Adult Education established in 2006; Adult Education Act 2007; Strategy and Action Plan for Adult Education 2004 (CARDS 2004 project)

However, several concerns were raised. Curricula are deemed outdated by the private sector and internship programmes require adjustments (private sector reports say that it is not working as it should be, for example). There is also a need for more market-responsive universities. Consultation on strategies happens on an ad hoc basis with employers and unions making it difficult to prioritise and assess needs consistently as well as evaluate and monitor performance.

A 2.2.4 Kosovo under UNSCR 1244/99

Policies and actions underway:

- National Council for Teacher Licensing, established in 2009
- Strategy of Development of Pre-University Education in Kosovo 2007-2017

The Human Capital Survey, however, raised several areas of concern. There appears to be no Workforce Skills Strategy in place or Continuing E-education and Training Strategy. There were also complaints from private sector about the appropriateness of the curricula. Private university students are considered as more employable than public university students. There was also a lack of practical knowledge including for VET. An Internship programme was set up by USAID. A lack of legislation and incentives coupled with high unemployment rates make it more profitable to hire than to train an intern. The lack of data is particularly striking in Kosovo and needs urgent attention. Despite good scores on the VET system (strategy and consultation) and inputs to initial education (teacher development), there were strikingly poor scores on strategy formulation and CET.

A 2.2.5 The former Yugoslav Republic of Macedonia

Policies and actions underway:

- 2007: compulsory secondary education
- Vocational Education Training (VET) council established in 2008 (advisory role to VET Centres)
- First complete evaluation of the teachers was set to be conducted in 2009
- Law on Education of Adults (2008)
- Adult Education Centre established in 2008 (covers both formal and informal learning)
- Council for Education of Adults with a State Examination Centre was established in 2009
- Well-developed consultative process, systematic involvement of all parties in development of national and sectoral strategies
- National Programme for Development of Education in the Republic of Macedonia 2005-2015
- Well-functioning SNA model for short-term labour market forecasts was established in 2006 and is now a regular activity of the Employment Service Agency (yearly in 8 sectors)
- National Agency for European Educational Programmes and Mobility, established in 2008, to promote and implement the European Educational Programmes

However, several issues were also raised by the survey. Low scores on PISA 2002 (PISA 2000 assessment; scores were in some cases more than 100 points below the OECD average) raise concerns over the quality of education, and in particular transferable skills, children are receiving and the quality of the future workforce. There has been a severe loss of skills due to emigration, and one of the lowest reported spending levels on secondary education as a share of income per capita, further indicating skills loss and future labour productivity concerns.

A 2.2.6 Montenegro

Policies and actions underway:

- A Strategy for Adult Education 2005-2015
- Updated National Employment Strategy for Human Resources Development 2007-2011, which was adopted in 2008 with a corresponding National Action Plan for Employment 2008-2009.
- A Strategy for Lifelong Learning 2008-2013,
- A strategy for Human Resources Development in the Tourism sector has been prepared as well as a National Qualification Framework,

- A Steering Committee of the Employment Agency responsible for suggesting means of employment, scholarship policies and conducting employment programmes.
- High scores on the inclusiveness of strategies and on the use of evidence in strategy development (in particular multifaceted **consultative practices**: Social Council, Inter-ministerial Coordination, etc also regarding VET system) Social Council: consultation council consisting of government, trade union and employers association and meeting regularly over the realisation of economic and social positions of employees and employers.
- Council for the Implementation of the Strategy for Human Resource Development in the Tourism Sector: council that oversees the implementation of this strategy and is made up of several representatives of relevant ministries, high schools, tourism unions, the Centre for Professional Education.

Several issues were raised, however. Education data need some improving (project funded by IPA: collect data on annual expenditure per student). Reported annual spending on education appears to be one of the lowest of the region (however, data of the Statistical office and Ministry of Education do not match). Teacher recruitment and retention also needs improvement. There appears to be no specific strategy or action plan in this area according to the survey results.

A 2.2.7 Serbia

Policies and actions underway:

- A National Council for Higher Education was established in 2006 and charged with the task of developing a national qualification framework.
- A Strategy for employment 2005-2010 is also in place and high scores were received for inclusiveness as a result of public hearings, and the inviting of private sector representatives into the drafting process of laws.
- Government representatives have also travelled through the country to present draft laws to the public involving local authorities, scientific institutions, teacher training centres, and parents.
- A Strategy for Development of Vocational Education and Training (2006), with action plan for implementation (2009),
- A Strategy for Development of Adult Education (2006), with action plan for implementation (2009) and a target of 2010 for the establishment of the following institutions: National Council for VET and Adult Education; National Agency for VET and Adult Education; Accreditation Centre. However,

Despite these recent advances, however, several issues were raised. There were complaints from the private sector over weak links between universities and businesses and that education is too theoretical. Internship programmes appear to be underdeveloped and although the government recently decided to promote and finance 900 000, there is little or no mention of duration or cost. This raises questions about the specific outcomes targeted as well and monitoring and evaluation, all of which is important to ensure that these measures facilitate improved labour market outcomes in terms of employability, productivity and incomes. Those PISA scores that are available are below OECD average with 436 in science, 435 in math and 401 in reading compared to 500, 498 and 492

respectively. This suggests that in core transferable skills, the younger generation may not enter the workforce with sufficient quality of skills despite levels of educational attainment

ENDNOTES

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- ¹ The definition of human capital throughout this report is, “*The knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well being.*” (OECD, 2001, page 18).
- ² See Key Challenges Facing European Labour Markets: A Joint Analysis of European Labour Partners, 2007, for this number and other key facts, figures and trends.
- ³ See OECD (2006) Skills Upgrading: New Policy Perspectives, pg 42. The definition of skills gaps refers to Campbell’s (2002) definition, namely, that they “occur when there is a gap between the current skill levels of an organization’s workforce and those which are required to meet the organization’s objectives.” Note that the word current is not used for the objectives, possibly indicating that they could refer to a future time period.
- ⁴ Beyond specific skills that may be needed to perform a set of job tasks, other characteristics may be desirable, such as being compatible with the personalities of existing colleagues in the office, or those who show promise or have degrees or qualifications from highly ranked programmes. See OECD (2001) page 27.
- ⁵ See Livingston et al. (1997) for a discussion on the types of instruments previously used to assess human capital and their shortcomings.
- ⁶ Note that an adult worker may already have lots of qualifications when assessed by conventional measures, such as years of schooling, degrees and certificates. Yet, changes take place in a dynamic market setting and it may be that specific new skills are needed to remain employed in an existing job, or to adjust and transfer to another. A level of accuracy to assess these needs and respond to them is therefore needed and skills gap analysis potentially achieves this.
- ⁷ See, for example, Koksal (2009) for an example of a study linking economic performance with conventional measures of educational attainment and occupation levels.
- ⁸ Bishop (1993, pg 10) highlights the risk of projections with several examples of errors. He cites the U.S. Bureau of Labour Statistics’ projection that supply and demand for college graduates in the 1970s would be balanced and there would be a surplus in the 1980s. There was a surplus in the 1970s and wage premiums for college graduates fell while there was a shortage in the 1980s and the premium increased; contrary to what was expected and projected.
- ⁹ See Manacorda, et al, (date) for an outline of skills gaps, and possible ways they may be reduced through market signaling and Bishop (1993).
- ¹⁰ See OECD (1998), Chapter 6, page 95, which outlines in the context of human capital investments the need for markets to have good information to work well and that this type of information can improve the available signals. The government, albeit not the sole provider of such information, can play an important role in this process.

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- 11 The presence and impact of imperfect information in society is well established in the economic literature as well as the public goods nature of information once it is available; that it can be used by someone else for little or no extra cost.
- 12 note that this definition is restricted to those who are currently employed by a firm and measures the gap between the skills sets employees have and those they technically need to perform specific tasks
- 13 To allocate tax revenues efficiently in the field of healthcare would involve making decisions about how care services are to be delivered in addition to evaluation and monitoring activities. The level of technical expertise required to collect medical related data, judge the quality of care, and carry out sophisticated benchmarking is very high. Various themes, as they arise, are also likely to require specialized technical expertise that could not be employed regularly within a Ministry. The Canadian Institute for Health Information (CIHI) is a non-profit agency financed largely from tax revenues at the federal and provincial level and acts as an intermediary to provide reliable information to the public that can be used to assess the functioning of the system that would be difficult, if at all possible, to collect otherwise. See www.cihi.ca
- 14 This section is based broadly on the OECD's Knowledge Management, Evidence in Education: Linking Research and Policy, 2007, chapter 1.
- 15 The Canadian Council on Learning (CCL) is financed by the Department for Human Resources and Skills Development Canada, a Federal Ministry. An independent audit report is available online as well as in print that evaluates how well this agency achieves its mandate given the resources it had available and conditions faced.
- 16 The Department of Human Resources and Skills Development Canada, which funds CCL, carries out estimations of labour market trends.
- 17 Note that this example differs from the one used for skills gap analysis, which came from Northern Ireland.
- 18 See <http://www.skillsireland.ie>
- 19 For an overview, see OECD (2007) chapter 6 on CCL, or visit their website <http://www.ccl-cca.ca/ccl/>
- 20 Note that in Canada, there is no Federal department for Education, which falls under provincial jurisdiction.
- 21 See Spagat (2006) for more information
- 22 See the Directorate General for Economic and Financial Affairs (2009) for a general outline of the challenges facing the Western Balkans in Transition.
- 23 It remains difficult to assess, however, whether the quality of the education the current young are receiving is lower, the same as, or higher than the previous generation, making it difficult to state qualitatively that the levels of educational attainment are increasing as much as they appear to be.
- 24 See Bochar, et al. (1998) for a discussion of the need to focus more attention on adult education given demographic trends.
- 25 Economists are concerned about unemployment in part because this resource used to produce goods and services, when left idle, can never regain what was lost in terms of output.

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- ²⁶ These proposed actions are based broadly on Knowledge Management, Evidence in Education: Linking Research and Policy, OECD, 2007.
- ²⁷ See OECD (2009) chapter 10, Conclusions and Policy Implications, Working Out Change: Systematic Innovation in VET. One of the policy recommendations to facilitate innovation in vocational education and training is to “build a well-organized, formalized, easy to access, and updated knowledge base about VET as a prerequisite for successfully internalizing the benefits of innovation.” This work is based in part on previous findings from CERI in 2004 and 2007, citing weak links between research and decision makers who need policy relevant information to make informed decisions. Although this publication specifically focuses on VET, the findings are argued to apply more broadly.
- ²⁸ The Skills Australia Act 2008 provides an example of an outline establishing such an agency and is available at http://www.skillsaustralia.gov.au/PDFs_RTFs/SkillsAustraliaAct2008.pdf
- ²⁹ Most of the information identified specifically at the level of the beneficiary has been derived from the Human Capital Survey conducted for the IRI during the period.....