



University of Zagreb
FACULTY OF ECONOMICS AND BUSINESS
Zagreb - Croatia

Trg J. F. Kennedyja 6
10000 Zagreb, Croatia
Tel +385(0)1 238 3333
<http://www.efzg.hr/wps>
wps@efzg.hr

WORKING PAPER SERIES

Paper No. 08-02

Alka Obadić
Sanja Porić

The coordination between education and employment policies



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Alka Obadić

aobadic@efzg.hr

Faculty of Economics and Business
University of Zagreb
Trg J. F. Kennedyja 6
10 000 Zagreb, Croatia

Sanja Porić

sanja.poric@sk.t-com.hr

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Abstract

At the end of the 20th century, knowledge production has been radically transformed. As new knowledge economies and US were becoming an increasing threat for EU, the Lisbon Strategy was set to treat the economic problems that EU is facing. This article discusses and evaluates the potential of the Lisbon Agenda and presents the ways how growth in GDP per capita and employability could be increased by synchronized education and employment policies.

It is widely believed that jobs are becoming more and more demanding of skills and as a result workers need to upgrade their skills or risk losing out in the competition for jobs in the new economy. The research confirms that the reason why many of these unemployed workers might be considered "unemployable in a modern economy" is their comparatively low level of education. Employment rates rise with educational attainment and higher educated individuals also face a more stable labour market than lower educated individuals.

The research concludes that in situation of stable higher unemployment rates and higher demand for specific labour skills it is obvious that the coordination between employment and education policies is needed. To ensure employability, policies for promoting education and lifelong learning have to be adjusted to changes in the economy and society.

Keywords

Lisbon Agenda, employment policy, education policy, lifelong learning, EU

JEL classification

I2, J21, J64

1. Introduction

The issues of growth and development in the new political and economic environment are becoming central issues for the policy makers, business leaders and for researchers. The challenge to develop a knowledge-based society, an innovation driven economy, the implementation of advanced technologies, and the institutional structures of a capitalist economy are becoming critically important for all EU countries in order to reduce the gap to the US. Therefore, the EU set in Lisbon Strategy¹, the goal for Europe to become "the most competitive and dynamic knowledge-based economy in the world" by 2010.

Creation, innovation and use of knowledge together with appropriate human capital development have become important competitive factors for businesses and economic growth. At the end of the 20th century, knowledge production has been radically transformed. It has boosted policy makers to shape the environment in such way that science promote innovation, education increase human capital and both are becoming more active economic players. No economy in the world can afford to neglect education.

This article discusses and evaluates the potential of the Lisbon Agenda to treat the economic problems that EU is facing. The main economic problems result from unsatisfactory productivity growth. This research presents the ways how growth in GDP per capita and employability could be increased by coordinated education and employment policies. If the EU is to become a world-leading knowledge-based economy this collaboration is essential. The research also examines the relationship between educational attainment and labour force status.

The first section of the paper sets out some economic background to the formulation of the Lisbon Agenda, as also goals and instruments of the Lisbon Agenda. Second section outlines labour market trend in the EU, focusing on labour market rigidity and the role of education in the labour market participation. In section three the findings stress the importance of development between employment and education policy coordination in the situation of stable higher unemployment rates and higher demand for specific labour skills. The last section sets out the most important conclusions of the paper.

2. Economic Background

The Lisbon Agenda plays a central role in discussions in Europe about economic policies in general and about policies related to the knowledge economy and innovation in particular. Therefore, we present some of the background to the formulation of the Lisbon Agenda, the goals of the Lisbon Agenda, and its instruments.

At the time when a Lisbon Strategy was set the economic growth was good and prospects looked rosy. Therefore, the EU politicians were optimistic that Europe could enjoy the same kind of economic success as the US. Globalization and new knowledge economies were becoming an increasing threat and the EU was in need of a transformation in its economy and society. Towards this background the top priorities of the Lisbon Agenda was set to create jobs and growth. Yet another important motivation for the Lisbon Agenda was the perception that the EU was lagging behind the US. However, from a historical perspective this lag was a rather recent phenomenon.

2.1. EU catch-up process

In fact, the economics in Western Europe, after a period of rapid reconstruction after World War II, grew at an unprecedented rate over the twenty five years that have come to be known as the "Golden Age of Economic Growth". The 1950-73 period of unusually rapid growth was one in which Western Europe (and

¹ Also known as the Lisbon Agenda or Lisbon Process is an action and development plan for the European Union. It was set out by the European Council in Lisbon on March 2000 and rests on three pillars: 1) economic, 2) social, and 3) environmental pillar. See more detailed at: http://europa.eu/scadplus/glossary/lisbon_strategy_en.htm.

of course Japan) could be seen to be catching up the leading economy, the United States (Crafts, 1995, 429).

Table 1: European growth, 1890-1993 (average annual rate)

Period	Real GDP	Population	Real GDP	
			per capita	per hour
1890-1993	2,5	0,6	1,9	2,6
1890-1913	2,6	0,8	1,7	1,6
1913-50	1,4	0,5	1,0	1,9
1950-73	4,6	0,7	3,8	4,7
1973-93	2,0	0,3	1,7	2,7

Source: Crafts (1995) according to Maddison, *Dynamic forces* for the period 1870-1989; for the period 1989-93 according OECD, *Economic outlook*.

This catch up, which went along with a general reduction in the dispersion of income levels within OECD, was a new feature in the pattern of economic growth in the West. The Western Europe grew at an unprecedented rate until the first oil crisis in 1973. During this period, output per hour in Western Europe grew on average with more than 4 percent per year, which was substantially faster than in the US. In a catch-up process, the countries in Western Europe adopted the best-practice production and new technologies that it failed to adopt before and during World War II (Temin, 2002).

Although Western Europe continued to catch up with the US in terms of output per worker hour, it did have considerable problems with inflation and unemployment, i.e. stagflation. By the early 1980s the level of unemployment in Western Europe had exceeded that in the United States. It has been suggested that the institutions that served Western Europe well during the Bretton Woods era, were less successful after the break down of Bretton Woods (Cameron, Wallace, 2002).

However, irrespective of the severe unemployment problems in Western Europe, it was first in the mid-1990s that Western Europe started to fall behind the US in growth performance². Furthermore, Western Europe has also fallen behind the US in terms of the rate of labour utilization. While working hours declined in both Western Europe and the US in the immediate post-war period, that decline stabilised in the US in the mid 1970s, but continued in Europe (Cameron, Fawcett, 2005, 4). In 2004, workers in Western Europe worked an average 15 percent fewer hours than their counterparts in the US and the labour force participation ratio was nine percent lower (Gordon, 2004).

The economic gap between the Western Europe and the US can also be illustrated in the following manner: In 2002 GDP per capita in the Euro Area was 30 percent lower than in the US according to data from the 2005 OECD Economic Survey for the Euro Area. Two-thirds of the gap can be attributed to lower labour resource utilization and one-third to lower labour productivity (Cameron, Fawcett, 2005, 5).

Several hypotheses have been launched as explanations to why productivity growth started to lag in Western Europe compared to the US in the mid-1990s. Examples of explanations proposed are (i) low R&D investments, (ii) a low rate of innovation, (iii) lack of human capital, (iv) a low rate of entrepreneurship, (v) lack of venture capital, (vi) a low rate of ICT adoption and (vii) regulated labour markets (Johansson, et al., 2007, 5).

One of the major concerns behind the Lisbon Agenda is that Europe is lagging behind in the emerging knowledge economy. Still the total volume of resources spent on R&D within the EU is rather impressive. The combined R&D budget for EU-25 is more than 70% of that of the US and two-thirds larger than that of Japan (Archibugi, Coco, 2005). R&D in EU-25 also seems to be effective in the sense that its R&D in the early 2000s produces 1,49 science and technology articles per one million US dollar R&D expenditure compared to 0,82 for the US and 0,60 for Japan (Archibugi, Coco, 2005). However, the result can also be

² For example, it has been estimated that in 1995, the output per hour in Western Europe was about 94 percent of the level in the US, but in 2003, it was only equal to 85 percent (Gordon, 2004).

an indication of a potential problem in the sense that too much R&D in EU-25 is devoted to basic research and too little to applied research and development. On the other hand, one might question the quality of R&D in EU-25 given that despite its volume and high publication rate it produces so few Nobel Prize laureates. It also turns out that if we measure the number of scientific and technical articles per one million inhabitants, the US outperforms Europe (see Table 2).

Table 2: Number of scientific and technical articles per one million inhabitants

Region	2000-2001	1995-1996	Mean Annual Rate of Growth 1995-96 to 2000-01 (%)
US	700	759	-1,6
Japan	444	390	2,6
EU-15	556	510	1,7
EU-25	493	448	1,9

Source: Archibugi, Coco (2005).

It should be observed that scientific literature has become more and more relevant for high-technology industries in recent decades as an important source of industrial competitiveness (Tijssen, 2001). However, looking upon the R&D intensity another picture comes out. Table 3 shows that Europe is lagging behind both the US and Japan in terms of R&D intensity.

Table 3: Gross R&D Expenditure (GERD) and Business Expenditure on R&D (BERD) as a % of GDP

Region	GERD in 2001-2002	GERD in 1996-1997	Mean Annual Rate of Growth 1996-97 to 2001-02 (%)	BERD in 2002	BERD in 1998	Mean Annual Rate of Growth 1998 to 2002 (%)
US	2,71	2,57	1,1	1,87	1,94	-0,9
Japan	3,11	2,80	2,1	2,32	2,10	2,5
EU-15	1,89	1,81	0,9	1,34	1,14	4,2
EU-25	1,83	1,73	1,1	1,17	1,08	2,0

Source: Archibugi, Coco (2005).

It is obvious that the R&D intensity is about one third lower in EU than in the US, both for gross R&D Expenditure (GERD) and for Business Expenditure on R&D (BERD). There is no major change in this situation from the late 1990s to the early 2000s. This gap in R&D is interpreted as a technology gap (Johansson, et al., 2007, 11).

In the rapidly developing knowledge economy, long-term economic growth, employment and welfare in countries will become more and more dependent upon their capability to generate, appropriate, and use new knowledge. It is therefore not surprising that it has become a major political concern to find ways to promote R&D, to foster innovation, and to upgrade the quality of the human capital (Archibugi, Coco, 2005; Johansson, et al., 2007, 13).

2.2. The role of Lisbon Agenda

Brief overview of economic situation in EU shows that the EU has a genuine problem with growth and jobs. Employment rates are low, labour markets are rigid and productivity growth is falling behind that of the US. It has even been suggested that the long-run rate of growth of the EU economy may have slipped down to around 1 per cent (Cameron, Fawcett, 2005, 12). Such Europe's unsatisfactory growth performance in the late 1990s led to the formulation of the Lisbon Agenda. The Lisbon Agenda sets out a plan to make the EU a more attractive place to invest and work; to encourage invention and innovation; and to create more and better jobs.

According to the Lisbon Agenda or Strategy, the European Union must become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment. To achieve this ambitious goal, Heads of States and Government asked for not only a radical transformation of the European economy, but also a challenging programme for the modernisation of social welfare and education systems (European Communities, 2004, 8).

A long list of goals or objectives has been set up to achieve this goal. Each member state shall (European Commission, 2000, 20):

- Increase R&D expenditure to 3% of GDP, of which two-thirds should come from private sector,
- Increase the employment rate to 70% (60% for women) by 2010, which Commission claims might add 3% to EU GDP by 2010 and add 20 million jobs.

Those main objectives should be achieved through the three broad instruments of the Lisbon Agenda.

Box 1. The Instruments of the Lisbon Agenda

The Lisbon Agenda suggests a need for action on three broad fronts (Johansson, et al., 2007, 14):

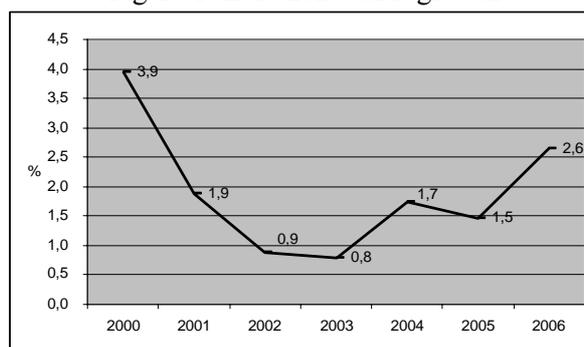
- Macroeconomic policies are needed to create condition for more growth and jobs in a dynamic and well-functioning Euro area;
- Microeconomic policies are needed to make Europe a more attractive place to invest and work, and to enhance the climate for knowledge-creation and innovation;
- Policies under the employment guidelines are needed:
 - i) To attract and retain more people in employment and modernize social protection;
 - ii) To improve the adaptability of workers and firms and the flexibility of labour markets; and
 - iii) To increase investment in human capital through education and the development of skills.

The agenda set out the way to achieve this with a series of goals in areas such as employment, innovation, enterprise, liberalisation and the environment. It has to be noted that these objectives are very ambitious, perhaps to ambitious, and thus nearly impossible to attain (Sakellaris, Vijselaar, 2005). It has become obvious that the Lisbon Agenda formulated in 2000 set too many goals.

The main purpose of the Lisbon Agenda seems to be to compare national achievements with the European average and to encourage underperforming countries to raise their standards where they under-perform. However, there seems to be a lack of involvement and interest of national policy makers who do not view the Lisbon Agenda as challenge at the national level (Johansson, et al., 2007, 13). The EU economy had not reached the wanted level in terms of productivity, growth, or employment, and the creation rate of new jobs was slowing down. One of the main reason why a Lisbon Strategy was to ambitious at that time was also the movements in GDP growth.

Instead of things getting better in the first five years of the Lisbon Agenda, in many European countries the economic outlook got worse. With the problem of ageing populations and growing competition from Asia, EU started to aggravate its situation compared to the USA. In France and Germany, for example, unemployment is around 10%. Economic growth in the Euro zone was only 1,5% in 2005, compared with 3,6% in the USA (see Figure 1).

Figure 1: Euro zone GDP growth



Source: OECD Economic Outlook 80 database.

Between April and November 2004, Wim Kok, former Prime Minister of the Netherlands, headed up a review of the program and presented a report on the Lisbon strategy suggesting how to give new impetus to the process³. The report points out several reasons behind the lack of results that the Lisbon Agenda has experienced. The main reasons were an overloaded agenda, poor co-ordination, conflicting priorities, and the lack of determined political action. For the Lisbon Agenda to succeed and to meet the goals of employment, and growth all the member states must take action, and be engaged in the process (European Communities, 2004).

The European Commission used this report as a basis for its proposal in February 2005 to refocus the Lisbon Agenda on actions that promote growth and jobs in a manner that is fully consistent with the objective of sustainable development (European Commission, 2005). As far as implementation is concerned, the coordination process has been simplified.

In its resolution on the mid-term review of the Lisbon strategy in March 2005, the European Parliament expressed its belief that "sustainable growth and employment are Europe's most pressing goals and underpin social and environmental progress" and "that well-designed social and environmental policies are themselves key elements in strengthening Europe's economic performance" (European Parliament, 2005). The "Kok Report" brought some changes, but the main context was still intact. One of the changes was the abandonment of the many quantitative goals. The only goal that was kept was the goal of devoting 3% of the national GDP to R&D. The main focus was put on growth and jobs and knowledge society.

3. Labour market performance

Western Europe is often derided as having an extremely rigid labour market. The economies of the EU are extremely diverse in the labour market institutions and outcomes, with a number of relative successes, such as Denmark, Finland, Ireland, the Netherlands, Portugal and the United Kingdom (Cameron, Fawcett, 2005, 7).

There are large differences in unemployment rates between EU countries, so some economists have questioned whether there is in fact a "European unemployment problem" at all⁴. European job growth has been so depressing that economists in the 1980s have coined a term for it - Euroclerosis. Later, the term tended to be used more broadly and refer to European labour market institutions (unemployment benefits, employment protection, minimum wages, and so on) which are not well adapted to the high level of technological change that characterizes modern economies.

³ The European Council held in Brussels in March 2004 invited the Commission to establish a High Level Group headed by Mr Wim Kok to carry out an independent review to contribute to the mid-term (first five years) review of the "The Lisbon strategy for growth and employment" (European Communities, 2004, 5).

⁴ According to the Stephen Nickell from the London School of Economics "Unemployment is high in the four largest economies of Continental Western Europe, namely, France, Germany, Italy and Spain. Exclude these four countries and the famous European unemployment problem more or less disappears", (Nickell, 2004).

It is well known that labour market flexibility contributes to innovation, since such flexibility facilitates the introduction and implementation of new production methods. Therefore, labour market flexibility is desirable. The labour market flexibility increases if workers can be easily (re-) assigned to different task and if workers can easily change jobs. Investment in human capital through on-the-job-training allows workers to adjust to changing circumstances more easily.

3.1. Rigidity and skill mismatches

Skill mismatches⁵ can make labour market rigid, because workers are not able to easily adjust to changes in the demand. Skilled workforce will be in a better position to respond to structural changes in the economy driven by innovation or international competition. Therefore, the concept of mismatch is also more often considered as the main reason of the persistent high unemployment in the EU, because relatively high growth rates in the 1980s and 1990s can hardly explain the situation of relatively high unemployment rates (Obadić, 2006, 57). Unemployment rates thus provide a signal of the match between what is produced in the education system and the demand for these skills in the labour market.

It is widely believed that jobs are becoming more and more demanding of skills and as a result workers need to upgrade their skills or risk loosing out in the competition for jobs in the new economy (Handel, 2005). There are fears about migration on the part of the new EU and accession countries. They are worried that highly skilled labor may leave the country in order to benefit from the higher wages and the better social systems in the old EU countries. But we have seen in the past that this kind of “brain drain” slows as the growth dynamics and career opportunities improve in the new and accession countries. Therefore, the existing skill mismatches in the old EU countries may be affected by the increased migration of labour from the CEE countries to some of the other EU countries following the opening of their labour markets.

Given that young and qualified workers typically show the highest propensity to migrate, increased east-west migration within the EU, while generally beneficial and desirable in economic terms, may temporarily aggravate existing labour market bottlenecks in some sectors in the CEE countries. At the same time, the skills that these workers acquire abroad may support productivity growth in the long run, provided that the large share of current migration is temporary in character.

Regarding the low unemployment rate in the tertiary sector, conventional wisdom would of course think about that this would keep those graduates at home or perhaps convince those who have left to come back. Yet, what if the extremely low unemployment rates, is a function of something else and more structural? What if in fact the low unemployment rates are a reflection for a general scarcity of highly skilled labour? This would then suggest a more structural capacity issue rather than the traditional notion of a labour market mismatch. In this case it is of course not exclusively one or the other but since the structural capacity issue is only very rarely mentioned, it is important to emphasize this, and especially in connection with the trend of net-emigration of skilled labour.

Box 2. Example of the capacity constraint and labour market mismatch – case of Poland

Poland's rapid leap in productivity is taking place in spite of the drag caused by the 20 per cent of the Polish workforce that is employed in agriculture – producing only 3 per cent of GDP. The country also has the highest level of unemployment in the European Union, at 17.8 per cent in 2005, and the lowest level of labour participation in the OECD, the world's most industrialised countries. Many of those out of work are unemployable in a modern economy and some Polish companies are experiencing difficulty in finding qualified workers. A recent study by Poland's central bank found that 42 per cent of firms had trouble finding qualified workers (Cienski, 2006).

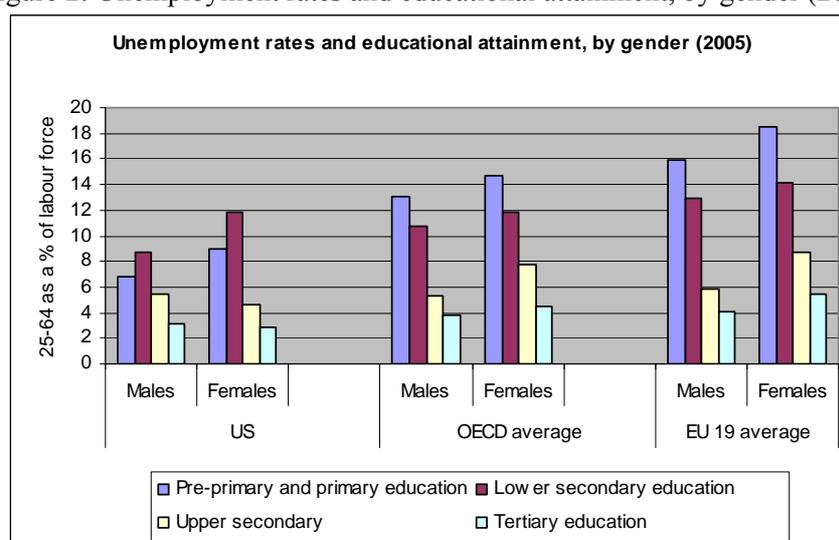
⁵ The most quoted definition of the concept of mismatch is by Turvey (Turvey, 1977, 210) "...there is a mismatch between vacant jobs and unemployed workers such that if the latter were available with different skills and/or in different places the level of unemployment would fall".

The reason why many of these unemployed workers might be considered "unemployable in a modern economy" is of course their comparatively low level of education and their comparatively old age, and it is the combination of these two which presents the problem.

3.2. How does participation in education affect labour market status?

It is important to analyze how education contribution influences participation in the labour market. Employment rates rise with educational attainment and higher educated individuals also face a more stable labour market than lower educated individuals. Those with low educational attainment are both less likely to be labour force participants and more likely to be unemployed. As a result, the research examines the relationship between educational attainment and labour force status (see Figure 2).

Figure 2: Unemployment rates and educational attainment, by gender (2005)



Source: calculated by the authors according to the OECD (2007).

The figure shows unemployment rates according to the educational attainment and gender in the US, OECD and EU-19 countries⁶. The classification of the levels of education is based on the revised International Standard Classification of Education (ISCED-97). There are six levels of education: 1) Pre-primary (ISCED 0), 2) Primary (ISCED 1), 3) Lower secondary (ISCED 4), Upper secondary (ISCED 3), 5) Post-secondary non-tertiary (ISCED 4), 6) Tertiary⁷ (ISCED 5B), 6) Tertiary (ISCED 5A +6). The pre-primary and primary education are put together, and due to incomplete data for the post secondary non-tertiary education averages have not been calculated.

In all three groups of countries unemployment rates fall with higher educational attainment. The greatest gender differences in unemployment rates are seen among adults with lower levels of education. Unemployment rates are generally lower for higher-educated individuals, but this is typically because higher educational attainment makes an individual more attractive in the labour market.

The employment prospects of individuals with varying levels of educational attainment depend largely on the requirements of labour markets and on the supply of workers with different skills. Unemployment rates

⁶ Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

⁷ *Level 5A* programmes are tertiary programmes that are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements whereas, *Level 5B* qualifications are typically shorter and focus on occupationally specific skills geared for entry into the labour market. *Level 6*: Second stage of tertiary education (leading to an advanced research qualification), reserved for tertiary programmes which lead to the award of an advanced research qualification. See more at:

<http://www.unecce.org/gender/glossary/u.html>

thus provide a signal of the match between what is produced in the education system and the demand for these skills in the labour market. Those with low educational qualifications are at particular risk of economic marginalisation since they are both less likely to be labour force participants and more likely to be without a job even if they are actively seeking one. Among OECD countries, an upper-secondary level of education is typically considered to be the minimum level needed to obtain a satisfactory, competitive, position in the labour market (OECD, 2007, 128).

The difference in unemployment rates between those with an upper secondary education and those with tertiary education has decreased slightly, from 2,8% to 2,2% during the period 1995 to 2005 for OECD countries and from 4% to 3% for EU-19 countries (see Table 4).

Table 4: Trends in unemployment rates by educational attainment (1995-2005)

		1995	1998	2000	2001	2002	2003	2004	2005
USA	Below upper secondary	10,0	8,5	7,9	8,1	10,2	9,9	10,5	9,0
	Upper secondary and post-secondary non-tertiary	5,0	4,5	3,6	3,8	5,7	6,1	5,6	5,1
	Tertiary education	2,7	2,1	1,8	2,1	3,0	3,4	3,3	2,6
OECD average	Below upper secondary	11	10	9	9	9	10	10	11
	Upper secondary and post-secondary non-tertiary	7	6	6	6	6	6	6	6
	Tertiary education	5	4	3	3	4	4	4	4
EU-19	Below upper secondary	13	12	11	11	12	12	13	13
	Upper secondary and post-secondary non-tertiary	9	7	7	6	7	7	7	7
	Tertiary education	5	4	4	4	4	4	4	4

Source: OECD (2007).

Considering the substantial expansion of upper secondary and tertiary attainment levels in most countries during this period, these time series suggest that these increases have been matched by a demand for higher skills in most countries. It is obvious that in all there observed group of countries the smallest unemployment risk is for all workers with tertiary education.

That is increasingly difficult for those with a lower secondary education who are not able to find employment, because the number of jobs at this level of education is decreasing in most labour markets. Achieving tertiary education not only means that individuals are more likely to find a job, but also that tertiary educated individuals experience substantially less variation in their employments compared with lower educated individuals, as shown by trend data in Table 4.

4. Employment and education policy development

The economies and labour markets of EU countries depend upon stable supply of well-educated workers to further their economic development. In situation of stable higher unemployment rates and higher demand for specific labour skills the coordination between employment and education policies is even more important⁸. The Lisbon agenda stresses that action is needed to tackle the persistently low employment rates of young people, the unskilled, women, and older people. For that reason employment policies are needed.

⁸ The employment experiences in Western Europe seem to show that unemployment has an important structural component that cannot be handled by demand policies only. This explains why supply-side policies have been recommended by many analyses. One such supply-side policy, which has been put to use in many European countries, is active labour market policy (Fukushima, 2001, 2).

4.1. Employment policies

Employment policies relate to active and passive labour market policies. Passive policies correspond to measures aiming at financial compensation for the loss of income through unemployment, i.e. mainly wage compensation. Such policy measures as long and generous unemployment, disability, and sick benefit payments induce workers who lose their jobs to stay out of the labour market permanently and to let their labour skills and their human capital whither away and thus creating hysteresis (Johansson, et al., 2007, 34).

Active labour market policies (ALMPs),⁹ aim at (re-) integrating the unemployed into regular employment. They are expected to correct labour market imperfections. The main aims of ALMPs are to adapt the skills of the unemployed to the demands by employers and to maintain the effective supply of labour by preventing the unemployed from dropping out of labour force. The Lisbon Agenda suggests the use of active labour market policies, which can make workers more flexible.

The labour market flexibility increases, if workers can be easily (re-) assigned to different tasks, and if workers can easily change jobs. Therefore, on-the-job-training is often proposed. Investment in human capital through general on-the-job-training allows employees to adjust to changing circumstances more easily (Johansson, Karlsson, Backman, 2007, 18). To ensure employability, policies for promoting education and lifelong learning have to be adjusted to changes in the economy and society. Namely, as levels of skill tend to rise with educational attainment, the costs incurred also rise when those with higher levels of education do not work.

Training incentives will only be effective if the income difference between out-of-work benefits and in-work labour income is increased. This can be achieved by, among other things, tax rebates for workers, possibly combined with a reduction of the minimum wages, active labour market policies, and stricter requirements, and sanctions in handing out social benefits. In particular, interventions should target youngsters who, for various reasons, lag in schooling and learning (Johansson, et al., 2007, 34).

To achieve main labour market goal of Lisbon Strategy – to raise the employment rate from an average of 61% today to as close as possible to 70% by 2010 and to increase the number of women in employment from an average of 51% today to more than 60% by 2010 – following active employment policy measures should be taken into consideration:

- Improving employability and reducing skills gaps by furthering all aspects of equal opportunities, and making it easier to reconcile working life and family life;
- Promoting special programmes to enable unemployed people to fill skill gaps by providing learning opportunities;
- Giving higher priority to lifelong learning and adaptability through flexible management of working time and job rotation;
- Increase the labour mobility and in the same time increase the knowledge spillovers;
- Force trade unions to be positive towards technological changes.

4.2. Development of education system and policies

Development of education system is becoming a precondition of competitive modern economies. There is no economy in the world that can afford to neglect education. OECD studies show that one additional year of education in the OECD area, over time, generally increases economic output by between 3 and 6% (OECD, 2007).

The EU plays an enhancing and complementary role in the field of education, with its policies geared to increasing the quality of education across Europe and promoting it inside the EU and worldwide. However,

⁹ Active labour market policies or programs (ALMPs) include retraining, employment services (information, counselling, job search), and job creation (Betcherman, 2000, 135).

competence for the content and the organisation of educational programmes remains at the national level. As the jobs are becoming more and more demanding of skills and as a result workers need to upgrade their skills, the European Commission specially develops policies which focus on vocational training and on higher education. The EU's Lisbon Strategy stresses importance for higher education policy development. Higher education is seen as crucial to the success of the Lisbon Strategy.

In keeping with the schedule of the Lisbon Strategy, education ministers have agreed on three major, shared objectives to be achieved by 2010, benefiting both the European Union and individual citizens themselves. Those objectives (European Commission, 2005):

- To improve the quality and effectiveness of EU education and training systems;
- To ensure that these systems are accessible to all;
- To open up education and training to the wider world.

The European Commission's 'Education and Training 2010' programme attempts to integrate all education and training actions geared towards the Lisbon Strategy currently taking place at European level (European Commission, 2007). It recently warned that accelerated reforms and stronger political commitment will be necessary if the goals established in Lisbon are to be met.

The goals of the Lisbon Strategy and their implications for higher education are closely linked with the objectives of the Bologna Process, and the drive to create a European Higher Education Area by 2010. Areas where these goals affect higher education systems include (The Europe Unit, 2005):

- Removing barriers to student and teacher mobility;
- Promoting lifelong learning and guidance;
- Improving Europe's research capacity; and
- Encouraging language learning.

The level of educational attainment of the adult population provides a good indication of the knowledge and skills available in the EU. There is evidence of a very close relationship between educational attainment levels and labour market participation. As a consequence, improving the educational attainment of the working age population is one of the most important challenges in the EU. In 2006 23% of the EU's working age population had attained tertiary education, an increase of more than 3% point compared to 2000¹⁰.

If the EU is to become a world-leading knowledge-based economy, the collaboration on education and training policy is essential. Namely, governments are pursuing an expansion of tertiary education, because more high-level skills are needed in an advanced knowledge economy. As a result, EU should focus on investment in higher education since yields a higher payoff than investment in primary and secondary education.

5. Concluding remarks

Irrespective of the severe unemployment problems in Western Europe, it was first in the mid-1990s that Western Europe started to fall behind the US in growth performance. In order to reduce the economic gap to the US, the European institutions set the Lisbon Strategy in 2000, with the main goal to become "the most competitive and dynamic knowledge-based economy in the world" by 2010. The agenda set out to many, to ambitious goals, and therefore it was reformulated in 2005.

One of the major concerns behind the Lisbon Agenda is that Europe is lagging behind in the emerging knowledge economy and characterised by very rigid labour market which produces high unemployment. Unemployment rates thus provide a signal of the match between what is produced in the education system

¹⁰ Finland, Denmark and Estonia were the countries with the highest share of population with tertiary attainment with more than 30%, while some Member States still had shares of less than 15% (European Commission, 2007).

and the demand for these skills in the labour market. The reformulated Agenda in 2005 put main focus on growth and jobs and knowledge society. The research notes the crucial importance of investing in human capital as well as the need to concentrate on the structural labour market mismatch. For that reason, the importance of labour market and education policies is emphasized.

To ensure employability, policies for promoting education and lifelong learning have to be adjusted to changes in the economy and society. Joint employment and education policies should increase participation of adults in lifelong learning. Lifelong learning is fundamental, not only for the competitiveness, and economic prosperity of the EU, but also for social inclusion, employability, active citizenship and personal fulfilment of people. Individuals must be able to update and balance their knowledge, competences and skills throughout life.

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