

## **ECONOMIC AND TECHNOLOGICAL DEVELOPMENT AND THE REQUIRED LEVELS OF QUALIFICATIONS IN EDUCATION OF STAFF\***

**Žika Stojanović<sup>1</sup>, Bojan Sešel<sup>2</sup>**

<sup>1</sup>High Business School Leskovac, Leskovac, Serbia

<sup>2</sup>Higher Vocational College Celje, Celje, Slovenia

In some countries a turbulent motion in the global economy have resulted in uneven economic growth and the unequal effects of the influence of technological progress. The subject of this paper is to present the influence of technological progress and economic development at the existing levels of qualifications which are a consequence of an appropriate system of education. As a statement of such social development and technological progress there are some necessary levels of qualifications and / or adaptations in an educational space to these changes. It specifically deals with the levels of qualifications in the Republic of Slovenia with regard to the need to resolve certain dilemmas that arise as a consequence of a unified educational system in Former Yugoslavia. The aim is to overcome precisely these consequences, and display some level of qualification in EU because it is one of the requirements when it comes to joining the EU, for which the Republic of Serbia has decided. The methods will be the methods of analysis and comparison and the method of description. Contemporary socio-economic and technological development requires new, more adapted level of qualifications which implies a new organizational system of education.

Key words: economy, economic growth, technological progress, the levels of qualifications, education, educational space

---

\* Rad saopšten na IX Simpozijumu "Savremene tehnologije i privredni razvoj", Leskovac, 21. i 22. oktobar 2011. godine

Adresa autora: Žika Stojanović, Visoka poslovna škola strukovnih studija Leskovac, Durmitorska 19, 16000 Leskovac, Srbija

E-mail: stojanovic.zika@vpsle.edu.rs

## Introduction

In most advanced economies, the recovery is expected to remain sluggish by past standards, whereas in many emerging and developing economies, the activity is expected to be relatively vigorous, largely driven by buoyant internal demand. Policies need to foster a rebalance of global demand, remaining supportive where recoveries are not yet well sustained.

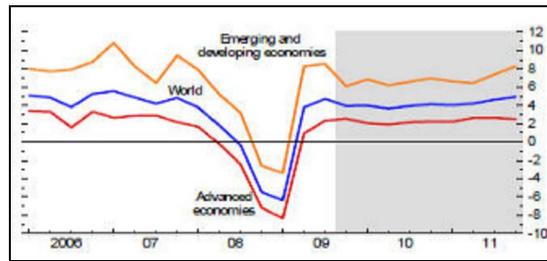


Figure 1. Emerging and developing economies, IMF

GDP policymakers are facing major structural policy challenges[1]. Shown trends indicate the need to adapt and system-level qualifications or restructuring of the educational process to meet the dynamic demands that the consequence of economic growth and the growth of the technological process.

### Area of education in EU (employment, job and education's level in EU)

There is also good news for Europe's employment prospects. According to latest forecast of the skills demand and supply (1) in Europe (2), around seven million more jobs will be generated by 2020 (new jobs created less jobs lost elsewhere) than there are today – despite the recession. In addition, it is estimated that another 73 million job opportunities will be created due to the need to replace workers who, for example, retire or change jobs. Consequently, the total number of job opportunities over the next decade is projected to rise to around 80 million. The question is, do we have the right skills. Although there will be job openings for all types of occupations, in line with recent trends, most new jobs, projected to be around 8.5 million, will be in knowledge- and skill-intensive occupations, such as high level managerial and technical jobs.

The number of skilled non-manual workers is not expected to increase significantly, but the structure of jobs within this group is expected to change [2]. While a demand for occupations such as office clerks is estimated to fall by around a million, the demand for occupations in service activities such as sales, security, catering and caring may increase by more than two million. In practice, the supply of skills also affects employment patterns. The projections of employment by qualification assume that historical trends will largely continue. This means that demand continues to grow for highly- and medium-qualified people even in lower-level occupations, while the demand for those with low (or no) formal qualifications continues to fall. This also leads to up skilling in many jobs previously occupied by low-qualified people.



Table 2: Future job opportunities (EU-27+), Skills Supply and Demand in Europe, (2010), European Centre for the Development of Vocational Training

Labor supply by qualification level is largely predetermined by demography and educational and training decisions already made. Most people aged 15 and 24 are still acquiring qualifications. Despite the recession, high- and medium-qualified workers still have more chance of finding better jobs than those with low qualifications. But forecast results also suggest that many people with higher- and medium-level qualifications will work in lower-level jobs. For some, this may be a temporary phenomenon (e.g. graduates taking up jobs in restaurants and bars); the longer it lasts, however, the more frustration it causes to those affected.

## Implications

The results of Cedefop's forecast show that the occupational structure of Europe is moving towards knowledge and skill-intensive jobs. Policy-makers clearly need to ensure the best use of currently available skills. For instance, as women will be more qualified than men, measures should help to use their potential and provide better opportunities to reconcile work and family.

It is also necessary to know more about what people really know and are able to do in particular jobs. Greater use of validation of non-formal and informal learning, as well as lifelong guidance, could support a better match of skills and jobs. Europe needs to make sure its human resources can respond to the needs of economy. The policy must enable people to raise and broaden their skills. Up skilling is not just something that allows people to get a better job: it is also what enables them to shape the jobs of the future, and thus to actively contribute to an innovative economy. Fast-developing nations such as Brazil, Russia, India, China (the so-called BRIC countries) are also aiming to increase their shares of high-level jobs. [3] Europe has no room for complacency. At the lower end of the skill spectrum, a demand for elementary occupations is expected to increase by around two million. But over four million job

losses are forecast for skilled manual workers. Many of these are likely to be routine jobs replaced by new technologies. These changes signal a risk of job polarization, with the increased demand at the upper and lower ends of occupations, and decreases or stagnation in the mid3).

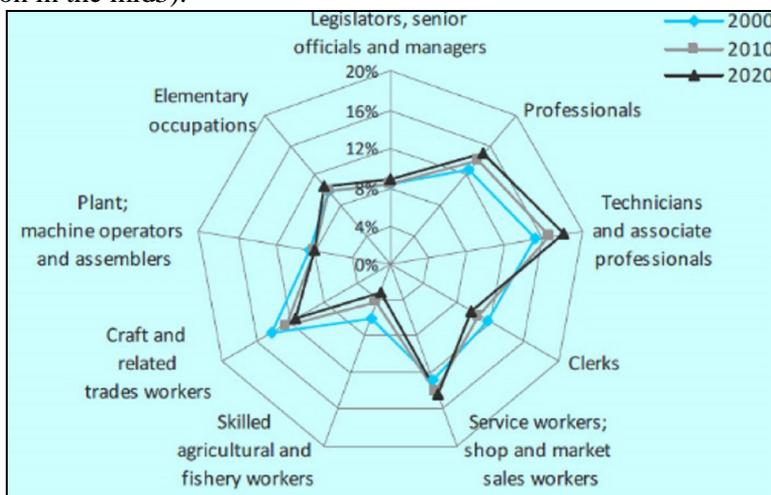


Table 3: Changing occupational structure (EU-27+), Skills Supply and Demand in Europe, (2010), European Centre for the Development of Vocational Training

## Slovenia

The project entitled the Slovenian Qualifications Framework (SQF) is planned for the period 2009-2013 and is funded from the resources of the European Social Fund and of the state budget.

The main objectives of the SQF project are:

- putting in place or setting up the SQF;
- establishing links between the Slovenian and European Qualifications Framework;
- elaborating the SQF for all professional fields and
- promoting the SQF.

The purpose of the project was to exchange experiences with social partners from different countries about the setting up of the National Qualifications Framework (NQF) and the implementation of the European Qualifications Framework (EQF). The main findings resulting from the project were as follows: [3]

- integration of social partners in the development of the NQF is indispensable
- as many different stakeholders as possible should be involved in the referencing process of the NQF to the EQF
- the introduction of the NQF in partner countries is recommended.

The lead partner was the European Student Union ESIB. Slovenia was represented in the project by the Education, Science and Culture Trade Union SVIZ.

With substantial funds support of the European Union, the Republic of Slovenia [4] and the Ministry of Education and Sport with the Center for Vocational Education has started the action of the adaptation of existing and the creation of new qualifications framework as the outcome of the entire educational system in Slovenia.

The expert group engaged for this work by the Republic of Slovenia showed that in the EU, in recent years, two types of qualifications frameworks as a function of the national system of education have been developing:

- communication framework
- reform framework (based on learning outcomes framework)

The purpose of the communication framework is to show the qualification system in the country and what the real differences between qualifications and their relationships are. This type is primarily a passive role and is used to solve the shortcomings of the system in the area of compliance, transparency and understandability of such billing system.

The purpose of the reform framework is a competent qualification system that will resolve to establish new relationships between qualifications and resolving all contradictions in the system and among the participants of the system that contribute to the development of instruments and increase the possibilities of the control and intervention, which implies an active role.

Communication framework is a less ambitious system, and it is being built at educational institutions and allows the realization ratios for different qualifications. Language used by educational institutions is generally understood within their system, but is less understood outside these institutions. In preparing proposals it was started from the idea that the Slovenian educational space is a relatively orderly and developed educational system, so that the Slovenian qualifications framework reflects the situation in the country, and that it implies the potential reform that allows dynamic instruments.

The analysis of the qualifications framework in the EU shows that currently used in Europe are on the line between communications and reform.

The proposed framework must meet the qualifications and other features:

- improving the quality of education and action training
- achieving international eligibility national qualifications and their evaluation
- improving mobility between different education systems and in particular the education system on the market
- evaluation and establishment of educated results in less formal educational regions or areas, which greatly contributes to a positive level of competence achieved.
- improvement in the flexibility of the social and economic situation, especially for people who would like to retrain.
- impact on migration flows within and outside the country.

## **Suggested levels of qualifications frameworks**

The use of ten levels of qualifications frameworks on the grounds that it presented a better present system which has eight levels was proposed. In the formation level of proposed repeats focuses on two main criteria:

- each level has specific rules for employment
- each level has specific laws regarding high education

Description of each level contains three elements: knowledge, skill, and competence.

The frames are broken down into two tables, first table contains descriptions of levels of learning outcomes, the second table contains the input and output parameters for the planned duration of education, which means the first table and represents the central core of the framework, and the second table has the function of clarifying the first.

Each higher level in general has the knowledge, skills contained in the lower levels. [5]

They propose three types of qualifications:

- education (officially recognized education where an individual acquires a success by attending accredited educational program)
- national professional qualification (professional work or professional competence to practice at a certain level).
- additional qualification (the result of education and training that complements, expands and deepens the knowledge, skills and opportunities for individuals performing certain jobs, which is expressed by a certificate).

### **Samples of the individual levels:**

- The first level provides the basic knowledge that allows further systematic study, or not completed eight years of education.
- The second level offers an eight-year basic education.
- The third level is lower professional education
- The fourth level is high professional education
- The fifth level of the Secondary Technical Vocational Education
- The sixth level of the higher vocational education
- The seventh level is higher vocational education (specialization after completing high school), higher university education (first level of Bologna), higher vocational education (the first level of Bologna),
- The eighth level of specialization in higher vocational education, higher university degree, master (second Bologna level)
- The ninth level of specialization in higher education in universities and Masters of Science
- The tenth level is the PhD (Bologna third level), and the Ph.D. degree (four years of academic and two-year master's of education).

## Summary

Positive trends of various indicators in the most developed world economies encourage and promote that less developed economies can be expected to end the depression of their economies and develop faster.

The development of the economy as a result of the technical - technological development sets new tasks to the entire society and the institutions of the educational system in all countries. Educational systems must adapt to the demands of social and technical - technological development. The EU set up special institutions whose mission is adjusting skill levels to current socio - economic development. Using the experience of the EU and its funds, the Republic of Slovenia is intensively and continuously working to reform their skill levels. The conclusion of this paper is that the reform of the Slovenian education system and its outcomes can meet the challenges of social development. The educational system in Serbia and their levels of qualifications should use the positive experience of EU and the Republic of Slovenia, the common ground in education that was previously present. In this way, we would solve many doubts as to the directions and objectives of skill levels in Serbia and would allow the effective reform of the educational system.

## Literature

- [1] Economic Outlook April 2010, IMF, (2010) p. 2,
- [2] Skills Supply and Demand in Europe, (2010), European Centre For The Development Of Vocational Training, p. 58, 59.
- [3] Predlog medresorske delovne skupine za pripravo nacionalnega ogrodja kvalifikacij, Slovensko ogrodje kvalifikacij, (2011), Ljubljana, p. 5.
- [4] Zakon o visokem šolstvu (Ur. l. RS, št. 119/06 - UPB)
- [5] Zakon o strokovnih in znanstvenih naslovih (Ur. l. RS, št. 61/06 - UPB )

## IZVOD

### **EKONOMSKI I TEHNOLOŠKI RAZVOJ I POTREBNI NIVOI KVALIFIKACIJA U OBRAZOVANJU KADROVA**

(Originalan naučni rad)

**Žika Stojanović<sup>1</sup>, Bojan Sešel<sup>2</sup>**

<sup>1</sup>Visoka poslovna škola strukovnih studija Leskovac, Leskovac, Srbija

<sup>2</sup>Viša strukovna škola Celje, Celje, Slovenija

Turbulentna kretanja u svetskoj ekonomiji imaju za posledicu nejednak privredni rast ali i nejednake efekte uticaja tehnološkog progressa na pojedine zemlje. Predmet ovog rada jeste prikaz uticaja tehnološkog progressa i ekonomskog razvoja na postojeće nivoe kvalifikacija koji su posledica odgovarajućeg sistema obrazovanja. Kao izvod

ovakvog društvenog razvoja i tehnološkog progresa neophodni su određeni nivoi kvalifikacija, odnosno prilagođavane edukativnog prostora ovim promenama. Posebno se obrađuju nivoi kvalifikacija u Republici Sloveniji sa osvrtom na potrebu da se reše određene dileme koje su nastale kao posledice jedinstvenog obrazovnog sistema u SFRJ. Cilj rada je prevazilaženje upravo pomenutih posledica, kao i prikaz kakav nivo kvalifikacija postoji u EU, jer je to jedan od zahteva, kada je u pitanju pridruživanje i članstvo u EU, a za šta se i Republika Srbija opredelila. Metode će biti metoda analize i metoda komparacije kao i metod deskripcije. Savremeni društveno-ekonomski i tehnološki razvoj zahteva novi, prilagođeniji nivo kvalifikacija, što implicira novu organizaciju sistema edukacije.

Ključne reči: ekonomija, privredni rast, tehnološki progres, nivoi kvalifikacija, obrazovni sistem, edukativni prostor

Primljen / Received: 30. april 2011. godine

Prihvaćen / Accepted: 07. jun 2011. godine