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**COMPETITIVENESS, ECONOMIC GROWTH
AND DEVELOPMENT OF BOSNIA AND HERZEGOVINA**

Abstract

Bosnia and Herzegovina (B&H) is a relatively small and poor country which faces numerous issues such as consequences of war, poverty, emigration of qualified people and, especially, useless and barren political conflicts. The country is in a very difficult economic situation. It is enough to say that in 2015, B&H had EUR 3200 per capita GDP, and that Greece, which is in the focus of Europe and world because of its economic crisis, had EUR 16,000 per capita GDP. Bosnia and Herzegovina was ranked low on the current Global Competitiveness Report 2015-2016. It was 111th out of a total of 140 countries. At this moment, Bosnia and Herzegovina is mainly a loser in the process of globalization with an excess labor force that is fighting for survival. Data on the structure of exports confirm that the inclusion of BiH in the international division of labor is based on the extraction of limited natural resources and production based on cheap labor. This paper analyze most important elements for the

development of the economy in B&H, a private sector, scientific and technological institutions (universities, faculties, institutes, etc.), educational and government institutions for economic development. The challenge ahead of Bosnia and Herzegovina in the next 5-10 years to build the conditions for transition from the current economic model characterized by the use of natural resources and low-educated labor, to use the new drivers of development and export competitiveness - new technologies and knowledge. The special focus is on the change from the environment where a majority of population lacks skills and knowledge to create competitive products and services for domestic, regional, European and global markets to the environment in which most people possess them. Basically, authors analyze possibilities of transition from the present-day economic model characterized by use of a semiskilled labour force and manufacture of products with low added value to the knowledge-based development model. In simple words, from ignorance to knowledge.

Key words: *competitiveness, economic growth and development, knowledge economy, transition, labor force, products with low added value*

JEL: O0, O5

1. INTRODUCTION

This paper analysis the economic situation in Bosnia and Herzegovina. Much has been achieved since the beginning of postwar renewal of Bosnia and Herzegovina – a democratic system and open market economy have been established. B&H has also become integrated into international structures. However, its achievements have been focused on the most immediate needs of the country while overall development has been insufficiently consistent and coordinated. It is clear that a political agreement concerning the country's long-term development is required.

The challenge in Bosnia and Herzegovina within next ten years is to create a transition from the present-day economic model characterized by use of a semiskilled labour force and manufacture of

products with low added value to the knowledge-based development model. This can be treated as a vision of focused development of Bosnia and Herzegovina.

2. FROM IGNORANCE

Crisis and stagnation

Bosnia and Herzegovina (B&H) is in a very difficult economic situation. It is enough to say that in 2015, B&H had EUR 3200 per capita GDP, and that Greece, which is in the focus of Europe and world because of its economic crisis had EUR 16,000 per capita GDP. In case of B&H, in the last five years we have had a recession and very low growth (from -1.1% in 2012 and from 1 to 2% in 2010, 2011, 2013 and 2014). Overall socio-economic situation in such circumstances deteriorated. In this period, the number of unemployed persons in B&H increased for almost 33,000 people (from 517,000 in 2010 to 550,000 in 2014).

In the period prior to the global financial and economic crises, the real growth rates in BiH amounted to over 5%. However, the global economic recession has led to decrease of economic activities in BiH. After the drop of the real GDP in 2009 by 2.9% and two years of crises, with very modest growth rates, the economy in BiH did not mark economic growth in 2012 either. Contrary, 2012 marked a drop of the GDP by 1.1%, which presents going backwards compared to the modest 0.7% of 2010 and 1% of 2011. Also in 2013 and 2014 there were modest growth, far from pre-crisis growth rates of above 5%, necessary to converge to the living standard not only of developed but also of the majority of transitional counties as well as those in the region.

¹ BH Agency for statistics

Table 1. Review of key macroeconomic indicators of BiH, 2007-2012.

	2008	2009	2010	2011	2012	2013	2014
Nominal GDP (in millions of KM)	24,897.7	24,202.0	24,772.8	25,680.1	25,654.3	26,296.8	27,258.7
GDP, nominal growth in %, (g/g)	13.5	-2.8	2.4	3.7	-0.1	2.2	1.9
GDP, real growth rate in %, (g/g)	5.6	-2.8	0.7	1.0	-1.1	2.5	1.1
Population (estimate, thousands)	3,842.0	3,842.6	3,843.1	3,840.0	3,836.0	3,832	3,827
GDP per capita (in KM)	6,443.0	6,246.0	6,397.0	6,688.0	6,688.0	6,862	7,123
Number of unemployed (registered)	492,819	497,581	516,949	529,690	543,390	552,494	549,607
Number of employed (registered)	689,924	680,161	668,567	679,510	688,340	673,135	684,501
Unemployment rate (official statistics), in %	42.1	42.2	43.6	43.8	44.1	45.2	44.5
Unemployment rate (ARS - ILO), in %	23.4	24.1	27.2	27.6	28.0	27.5	27.5
Average salaries (in KM)	752.0	790.0	798.0	816.0	826.0	827.0	830,0
Average pensions (in KM)	328.0	341.0	333.0	338.0	336.0	335.0	333.0
Consumer price index (aver. ann. changes in %)	7.4	-0.4	2.1	3.7	2.1	2.2	-0.7

Source: Agency for Statistics of BiH

Total socio/economic situation has, under these circumstances, deteriorated, especially when 2008 is compared, as the last ‘pre-crisis year’ with 2014. During this period of crisis, a significant increase of the number of unemployed in BiH was marked. The rate of administrative unemployment has increased from 42.1% (2008) to

44.1% (2012), while according to the Labor Force Survey (LFS), the real unemployment rate in BiH has increased from 23.4% to 28% in the same period.

Low value added products

The additional difficulty is unfavourable structure of B&H economy, where trade and services are dominant economic activities (of 26395 active² firms in B&H in 2014, 12763 or 48.3% are trade or services³). Together with that, the production is dominated by low value added products.

We can see that goods imported to B&H on average are 60% more expensive per 1 kg than goods exported from B&H. It is not uncommon that we export raw materials and import finished products that are manufactured by these same raw materials (raw leather, raw wood, etc.).

Low economic activity

In 2014, there were 26,395 active companies operating on the territory of Bosnia and Herzegovina⁴. More than one third (33.7%) was located in 4 cities: Sarajevo (4390 active companies), Banja Luka (2169 companies), Tuzla (1216) and Mostar (1139).

The real picture of the economic activity in Bosnia and Herzegovina can be seen by comparing the number of companies per 1000 citizens with the others. The area has about 3.9 million inhabitants and 26.395 active small and medium-sized companies i.e. about 7 companies per 1000 inhabitants. If the above is compared to somewhat more developed and relatively closely located areas, the situation is different. If said percentage is compared with Croatia which has 21⁵ active small and medium-sized companies per 1000 inhabitants, we are clearly lagging behind. This means that this area should have three

² Active firms are firm that have revenues greater than 0

³ Source: www.tron.ba data base

⁴ Active company has submitted the final report and has earned income higher than zero

⁵ Croatian Bureau of Statistics, Statistical Yearbook 2014, www.dzs.hr

times as many companies to come closer to the level of Croatia's development. And Croatia is one of least developed EU countries.

In terms of the sector structure, 35.2% of all companies in Bosnia and Herzegovina are traders. Next are services, construction, transport and wood processing sectors. Only one processing industry is in the first five sectors by the number of companies.

In the processing industry, most companies in 2014 operated in the wood processing sector (1120), metal industry (886), food and beverage production (809). Hospitality, agriculture and forestry must not be neglected (902 and 802, respectively).

From the overall number of active companies, 26,137 of them are small and medium-sized, while only 194 are large companies. In the period between 2012-2014, large companies lost 1890 workplaces, while small and medium-sized created 8860 new workplaces. All this data indicates that the sector of small and medium-sized companies is currently crucial for increasing the employment rate in Bosnia and Herzegovina. Therefore, our further analysis will focus on small and medium-sized companies (SME).

Trade has the largest share in the overall income accounting for 48%, while construction and food industry came second and third. Contrary to data on the number of companies, top 5 sectors by total income are processing industries i.e. food and beverage production with KM 2.06 billion and metal industry with KM 1.76 billion as two largest processing sectors by overall income. Wood processing follows with KM 1.2 billion.

Low Employment and High Unemployment

The sector comparison by the number of the employed in 2012, 2013, and 2014 should also be made. Following top ranked trade, construction and services, metal industry comes fourth with its 18,983 employees in 2014, followed by the wood processing sector with 15,341 and food and beverage production with 13,140 employees.

The official number of the unemployed in Bosnia and Herzegovina in 2014 was 550,000 i.e. 44.5% of its workforce, which is an exceptionally high rate. The real rate of unemployment measured by the Workforce Survey according to the methodology of the International Labour Organization was 27.5% in 2014, which is still rather high.

Such a high unemployment rate over a longer time period indicates structural unemployment which stems from the transition and transformation of economy, migration trends and other changes on the labour market. The consequence of the economic transition is a large number of unemployed workers, especially in large (former) social and public companies, although the unemployment is also high among the young whose search for a job is very difficult and slow. Such a situation could have been anticipated from the experience of other transitional countries. However, the issue of its rate arises.

Data supplied by the Federal Office of Statistics of Bosnia and Herzegovina regarding the unemployment rate by municipalities shows a surprisingly high rate of unemployment in more than half municipalities. This also shows that the unemployment is a key and largest weakness of this area.

Bad export structure

Metal industry and trade recorded the highest share in export, followed by wood processing and transport. Trade includes trading companies which export domestic products produced primarily by metal, wood and food processing sectors, while the transport sector provides services to foreign clients. Food processing industry and the production of rubber and plastics are also big exporters.

Profit – good and not so good

Data on the overall profit by sectors indicates sectors in which the harmonization of business operations to crisis was positive. It can be assumed that the profit making sectors have already undertaken important steps for crisis management. This means they have either returned to their old markets or they have found the new ones, market

niches and products with possible profit making opportunities, and started using modern technologies, changing capital structure through various funding forms, changing the internal organizational structure, etc. Such a restructuring is usually carried out in line with strategic goals of focusing on a core business. Therefore, many companies sell everything which is not considered their core.

The overall profit data shows only if the sector's restructuring is successful. It does not show the level it has reached. The restructuring quantity is evident but not the quality.

Trade again differs most compared to other sectors, followed by construction. It is interesting to note that the ICT sector, although quite smaller than the others, is fourth by the overall achieved profit. Metal, food and wood processing industries generate the largest share of the overall profit. The rubber and plastics sector is similar to ICT as it is ranked much better by recorded profit than by the overall income and the number of employees. In terms of stagnating or loss-making sectors, the worst ranked are mining and energy.

Profit rate is the first indicator of the restructuring quality and the operating success of individual sectors. Best ranked is the ICT sector (9.7%). In Bosnia and Herzegovina, this sector includes 606 companies and employs 5,703 workers. Second is leather and footwear production, and construction comes third. In the processing industry, rubber and plastics production and metal industry are ranked high followed by the wood-processing industry. The last two (by the number of employees) are large sectors. Traditional food processing industry is usually low accumulative, so that the 2.5% rate for this sector is quite solid.

The second group to mention includes the textile sector, chemical and pharmaceutical industries (the profitability of pharmaceutical industry is very high, while chemical industry records big losses), and companies operating in agriculture and forestry. Textile production stands out by sector size and a modest but positive business result.

The third group includes sectors with significant problems. This is primarily mining which operations generate a significant loss at the

rate of -11.4%, thus causing big problems. Similar issues exist in tourism and hospitality. This is somewhat unusual in view of tourism potential. Some energy companies, especially, district heating, are obviously in trouble as they generate losses not because energy production is non-competitive on this territory but because of internal reasons of individual companies.

Low productivity

The most important indicator of business efficiency is productivity. It is most often measured as a volume of produced goods per one working hour. However, for our purposes we will calculate it as a value added of produced goods per employee. Our indicator shows how much added value is produced by one employee of a sector. Profit per employee, as the most important competitiveness factor providing us primarily with the information on effectiveness and operating efficiency, will be used as a value added indicator.

The ICT sector stands out with the highest productivity level i.e. the level of profit per employee. Mining has the lowest level of competitiveness by far. Somewhat less worse are tourism and hospitality.

The multidimensional competitiveness of Bosnia and Herzegovina

The Global Competitiveness Report measures competitiveness of 140 countries in various stages of their economic development. According to the methodology applied by the World Economic Forum, competitiveness is defined as a group of institutions, policies and factors affecting the productivity level of a country. On the other hand, the level of productivity represents a level of progress an economy can reach. The level of productivity also sets the rate of returns on investments which are fundamental drivers of economic development. In other words, a more competitive economy is the one which future growth will probably be faster.

The current 2015-2016 report was published at the time when it seemed that the world economy finally exited the most severe economic crisis in the last 80 years by returning the economic order to

its pre-crisis level. Regardless, Bosnia and Herzegovina was ranked low. It was 111th out of a total of 140 countries. As a comparison, neighbouring Croatia was ranked much higher. It was 77th, although the country was last among EU countries in terms of competitiveness (only Greece, ranked 83rd, was worse than Croatia).

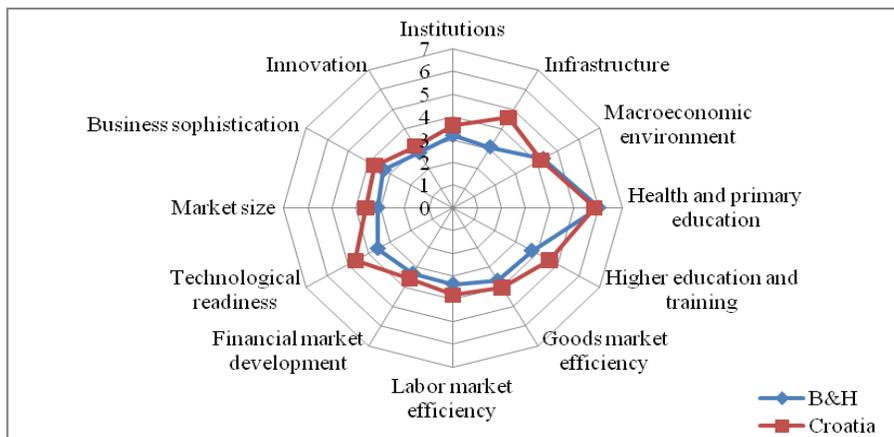
This is why we will conduct this analysis of the competitiveness of Bosnia and Herzegovina by comparing all individual components with the Republic of Croatia as its neighbouring country and the country which came last in EU competitiveness. Thus, we will obtain a real economic position of Bosnia and Herzegovina and how much it really lags behind in both competitiveness and meeting economic criteria important for European integration.

Competitiveness components will be analyzed through 12 pillars of competition:

1. Institutions,
2. Infrastructure,
3. Macroeconomic environment,
4. Health and primary education,
5. University education and professional training,
6. Commodity market efficiency,
7. Labour market efficiency,
8. Financial market development,
9. Technological readiness,
10. Market size,
11. Business sophistication,
12. Innovativeness.

Before the analysis of each pillar of competition, we will analyze all twelve together. Figure 1 shows the position of Bosnia and Herzegovina and Croatia.

Figure 1. Twelve pillars of competitiveness, Bosnia and Herzegovina and Croatia, 2015

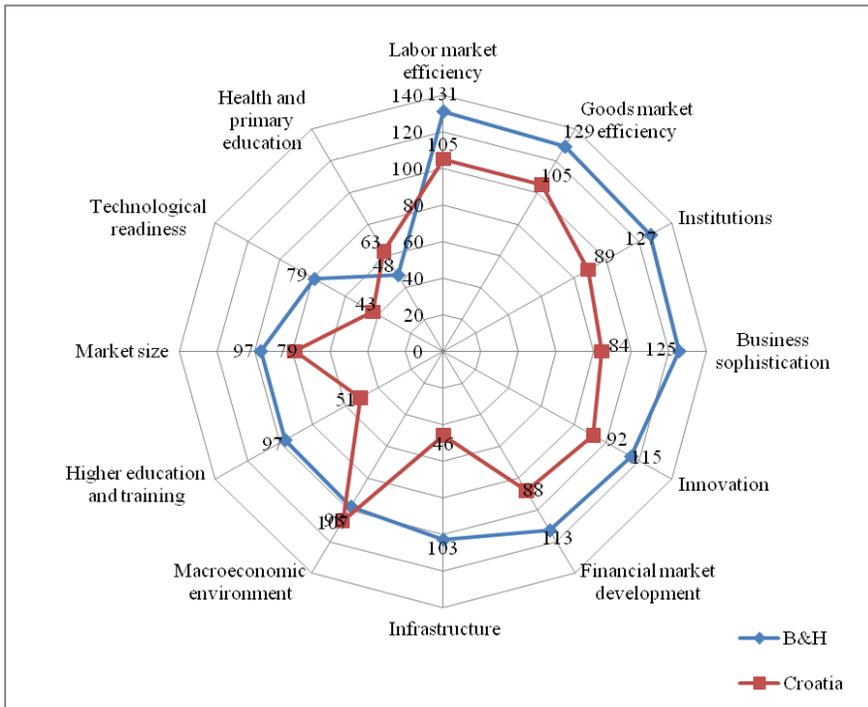


Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

Graph 1 shows a significant competitive lag of Bosnia and Herzegovina compared to Croatia as one of the least competitive EU countries. The only two similar areas are macroeconomic environment and health and primary education. In all others, Bosnia and Herzegovina is left significantly behind.

This situation is even more visible if the position of these two countries is compared on the ranking of 140 countries.

Figure 2. Position of B&H and Croatia by pillars of competitiveness, 140 countries, 2015



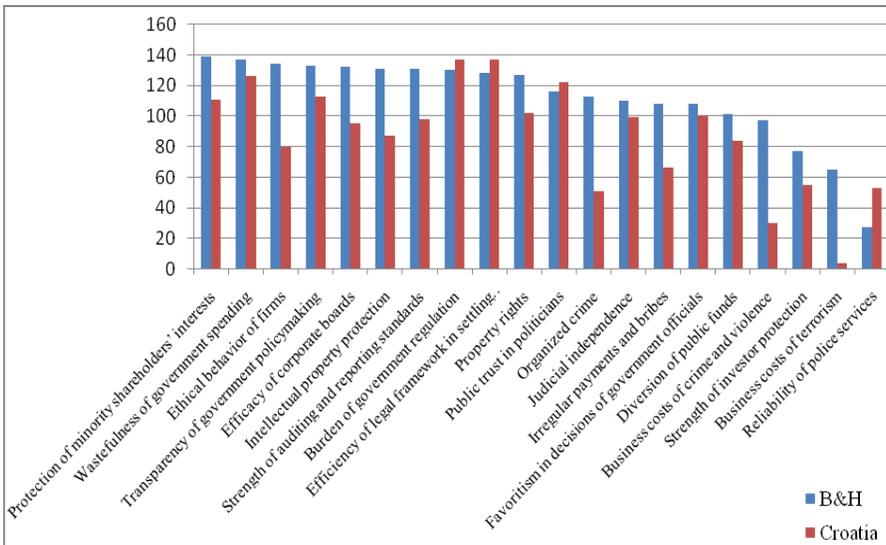
Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

First of all, it must be noted that Bosnia and Herzegovina is ranked in the first part of the list (top 70 countries) only by one criterion: health and primary education compared to Croatia's four areas (infrastructure, health and primary education, university education and professional training, technological readiness) in the first 70. The largest ranking difference by pillars of competitiveness between Bosnia and Herzegovina and Croatia is in infrastructure, university education and professional training, business sophistication, institutions and technological readiness. However, for obtaining the true insight, the separate analysis of each pillar needs to be carried out.

Institutions

The institutional environment was set under the legislative and administrative framework within which individuals, companies and governments affect each other to earn income and wealth in an economy. The importance of a robust institutional environment was especially evident during the crisis by increasing a direct role of the state in the economies of many countries.

Figure 3. Positions of B&H and Croatia by institution-related criterion, 140 countries, 2015



Source: Global Competitiveness Index,
http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

The weak quality of institutions in Bosnia and Herzegovina is strongly connected with its weak competitiveness and growth. Under most criteria, Bosnia and Herzegovina is ranked between 120th and 140th place. Croatia is much better ranked under most criteria. Only under legislation and the efficiency of legal framework it is ranked worse than Bosnia and Herzegovina.

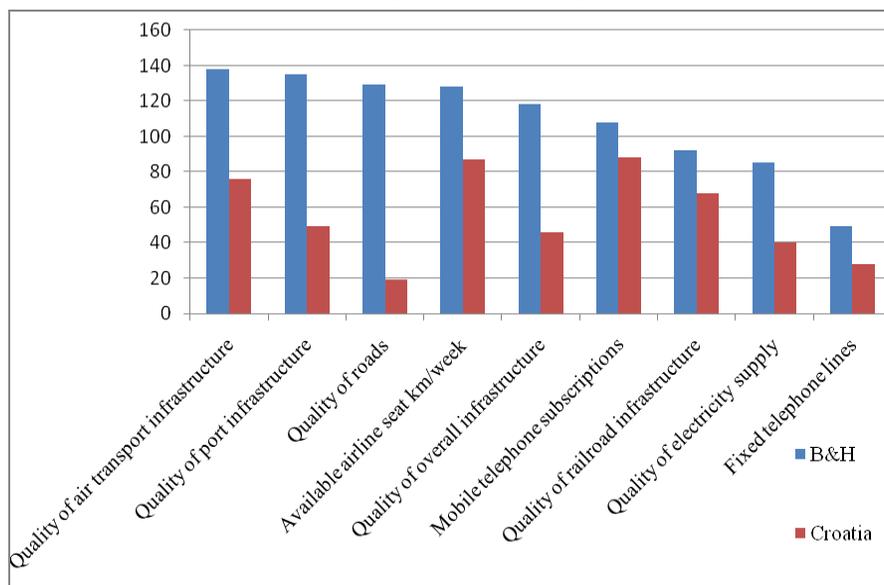
Such weak institutions in Bosnia and Herzegovina affect investment decisions and the organization of production. They play the main role in the manner in which the society allocates the benefits and covers the cost of development strategies and policies. For example, land owners, shareholders, owners of intellectual property are often not willing to invest in Bosnia and Herzegovina as they fear for their capital in light of such circumstances. Bad public finance management is also a significant factor affecting the lack of trust in the business environment in Bosnia and Herzegovina.

Infrastructure

A developed and efficient infrastructure is the basis of competitiveness. It is important for ensuring efficient economic operations as well as for setting the factors and types of local economic activities and sectors which might develop the economy. A well developed infrastructure decreases distance effects between regions which results in the integration of national markets and their connection at low costs on the markets of other countries and regions.

Apart from the above, a quality and comprehensive infrastructural network has a significant effect on economic growth and decreases income inequalities and poverty. The above is connected with a well developed transport and communication infrastructural network as a precondition for less developed communities to connect basic economic activities and services.

Figure 4. Positions of B&H and Croatia by infrastructure-related criterion, 140 countries, 2015.



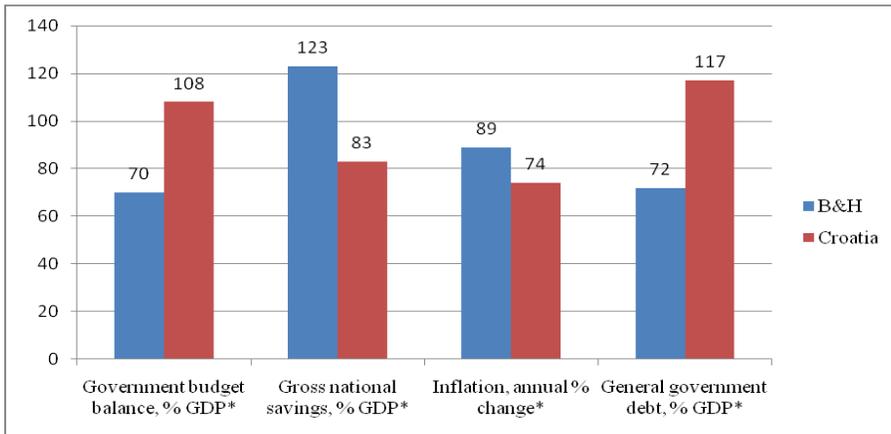
Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/20152016/GCI_Dataset_2006-2015.xlsx

According to the above assessments, the position of Bosnia and Herzegovina is worse in the area of commodity, people and service transport such as roads, railways, harbours, air transport etc. It decreases the possibility of an entrepreneur to timely market their goods and services, and commute more easily to the most adequate jobs. Bosnia and Herzegovina was ranked between 120th and 140th place by four criteria. Croatia was ranked much better by all criteria.

Macroeconomic Environment

The stability of the macroeconomic environment is important for doing business and the overall competitiveness of a country. Macroeconomic stability cannot increase country's productivity by itself. At the same time, macroeconomic disturbance damages the economy. Countries cannot ensure quality services if they pay high interest on due debts.

Figure 5. Positions of B&H and Croatia by macroeconomic environment, 140 countries, 2015.



Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

Bosnia and Herzegovina is ranked better by macroeconomic environment than by overall competitiveness. However, Croatia is ranked worse. Differences in budget deficit and general public debt must especially be emphasized between these two countries. Budget deficit in Bosnia and Herzegovina and Croatia is 3% and 5% of GDP, respectively. General public debt in Bosnia and Herzegovina and Croatia accounts for 45% and 81% of GDP, respectively.

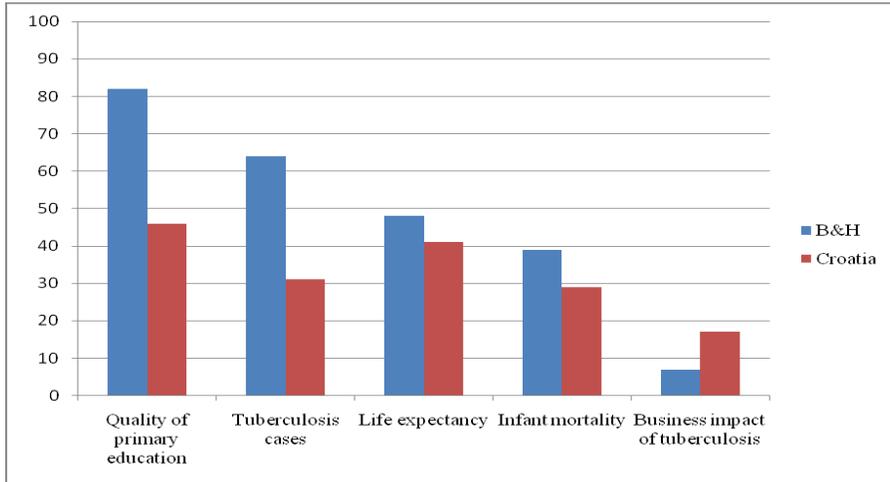
It must be pointed out that the permanently present fiscal deficit limits the ability of the state to react to business cycles in the future. All in all, economy cannot grow sustainably without a stable macroeconomic environment.

Health and Primary Education

Wholesome workforce is important for competitiveness and productivity of a country. Sick workers are not able to utilize their potential, which results in low productivity. Bad health leads to significant operating costs as those workers are often absent and their

work is inefficient. Investment in the provision of health services is as much moral as it is crucial for the progress of an economy.

Figure 6. Positions of B&H and Croatia by health and primary education, 140 countries, 2015



Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

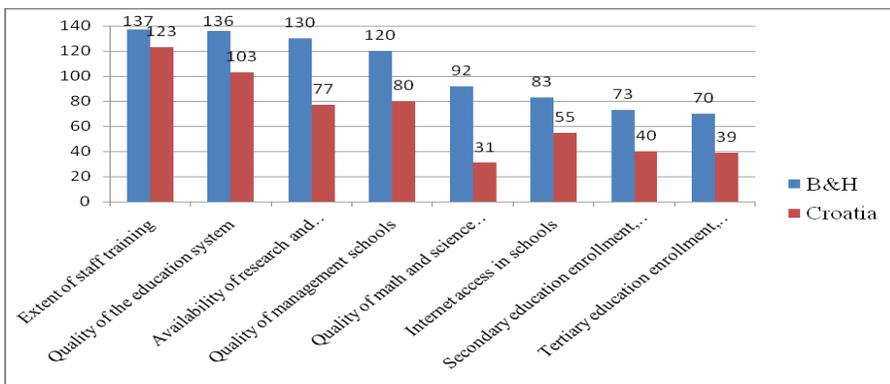
Apart from health, the scope and the quality of primary education acquired by population is also important for this pillar. Good quality primary education increases the efficiency of every worker individually thus affecting the competitiveness of the entire economy. Workers with a low level of acquired education can do only manual work. They adjust to more advanced production processes and technologies with more difficulty.

As bad health and lack of primary education can limit business development, companies improve their production with difficulty. Both Bosnia and Herzegovina and Croatia are ranked quite well, while the only problem represents a somewhat lower quality of primary education in Bosnia and Herzegovina.

University Education and Professional Training

Quality university education and professional training are crucial for the economies which wish to enhance simple production processes and products. Current economic globalization requires economies to have well educated workers who are able to adapt to rapid environmental changes.

Figure 7. Positions of B&H and Croatia by university education and training, 140 countries, 2015



Source: Global Competitiveness Index,

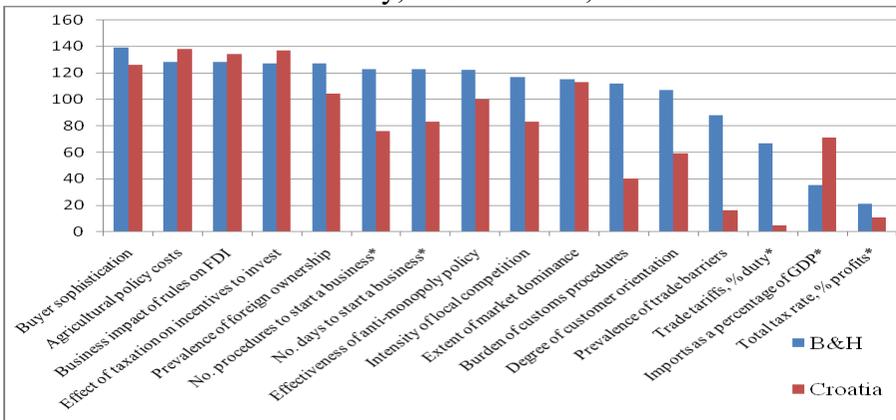
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The situation in Bosnia and Herzegovina in this area is quite bad, especially in terms of training and the overall education quality assessed by a business community. The level of professional training of staff contributes to competitiveness due to the importance of professional and permanent job training (neglected by many economies), which will ensure a permanent enhancement of workers' skills and harmonize them with the requirements of developed economy. Croatia ranked rather low in this area although much better by other criteria. However, it is still worse than most EU countries.

Commodity Market Efficiency

The position of the countries with inefficient commodity market is worse as they are unable to produce a number of products and services in accordance with supply and demand requirements nor are they in a position to trade such commodities. On the other hand, a robust competitive market, foreign and domestic, is important for achieving market efficiency and operating productivity, and enables the most efficient companies to produce the goods in market demand. To achieve the best possibilities for commodity exchange in the environment, a minimum state intervention is required not to hinder business activities.

Figure 8. Positions of B&H and Croatia by commodity market efficiency, 140 countries, 2015



Source: Global Competitiveness Index,

http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

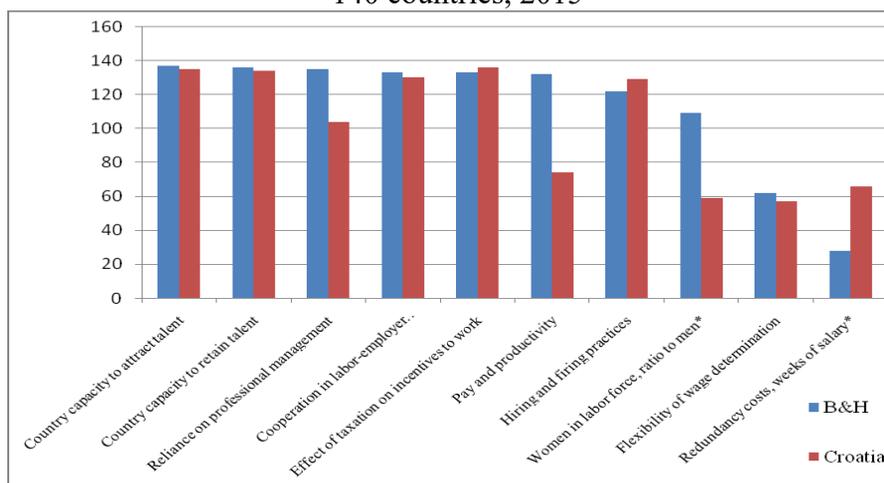
Market efficiency depends on consumer orientation and customer sophistication. Culturally, customers in some countries can be more demanding than in others. This can create a significant competitive edge as innovative and focused customers strengthen company market efficiency. However, such sophistication is very low in Bosnia and Herzegovina. This represents an issue in Croatia as well, the country which is ranked worse than Bosnia and Herzegovina by several criteria.

Fiscal and especially parafiscal charges and administrative procedures in Bosnia and Herzegovina hinder competitiveness and international trade. This creates economic delay which results in a slowdown of trade and the increase of unemployment, in turn increasing the pressure of the state to adopt measures for protecting domestic companies and operations. However, limiting overall trade would not only increase the current decline but it would also decrease the economic growth of Bosnia and Herzegovina in the long run.

Labour Market Efficiency

Labour market efficiency and flexibility are crucial for ensuring the most efficient utilization of workers in an economy provided the market stimulates said workers to invest their best efforts in finding the work which they will conduct professionally and at a quality level. The labour market must therefore be flexible to enable employee fluctuation from one economic activity into the other at low costs to enable profit without much social unrest.

Figure 9. Positions of B&H and Croatia by labour market efficiency, 140 countries, 2015



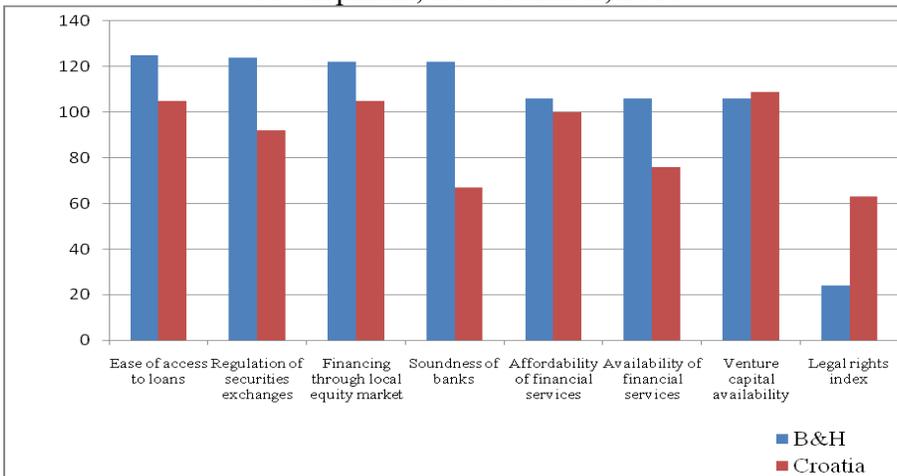
Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

The low ranking of both Bosnia and Herzegovina and Croatia is obvious here. The ability to retain and attract the talent is among the worst in the world. Apart from this big disadvantage, the labour market in Bosnia and Herzegovina must also ensure a clear relation between employee stimulation and investments of their effort as well as the use of the best available power including the male/female equality in the business environment.

Financial Market Development

Good operation of the financial sector is important for economic activities. The efficient financial sector allocates citizens' funds as well as funds coming from abroad to their most productive use in an economy. Funds are channeled into those entrepreneurial or investment projects which expect the highest rates of return on investments. A basic and accurate risk assessment is of key importance. Business investments are crucial for productivity and competitiveness, there is no developed financial market without them.

Figure 10. Positions of B&H and Croatia by financial market development, 140 countries, 2015



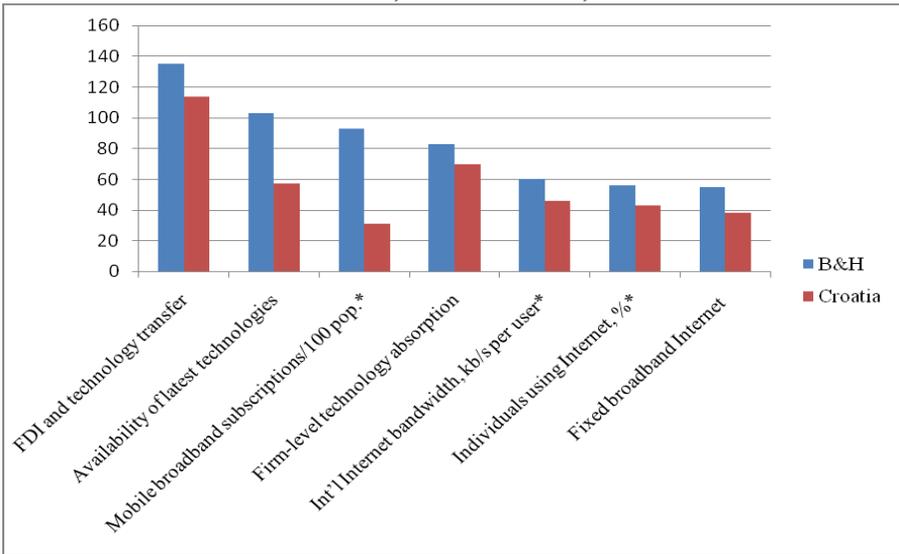
Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

Despite a relatively well developed banking sector in Bosnia and Herzegovina, other parts of the financial system are fully undeveloped. The situation is similar or somewhat better in Croatia. However, economies require sophisticated financial markets which can enable the availability of capital for investments in the private sector as well as a more efficient exchange of securities, capital etc. To meet all these functions, the financial sector must be developed, reliable and transparent.

Technological Readiness

This pillar measures the agility with which an economy adopts the existing technologies for improving the productivity of its industries. In the current globalized world, technology is increasingly becoming an important element for progress and competitiveness. ICT has especially developed into 'general purpose technologies' of our time in view of its expansion in other economic sectors and its role as efficient infrastructure for commercial transactions.

Figure 11. Positions of B&H and Croatia by technological readiness, 140 countries, 2015



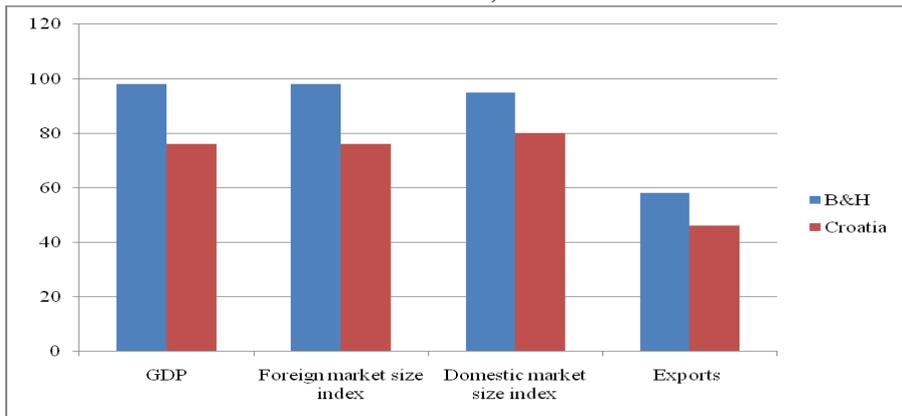
Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

According to this data, the lack of technological transfer by foreign investors in Bosnia and Herzegovina is obvious. It is a well known fact that among main sources of foreign technologies, direct foreign investments often play a key role. Domestic companies operating in Bosnia and Herzegovina do not have a sufficient approach to advanced technologies. As far as the internet use criterion is concerned, both Croatia and Bosnia and Herzegovina are relatively highly ranked.

Market Size

Market size affects the competitiveness as big markets enable companies to use market opportunities better. Traditionally, markets available to companies are limited by state borders. In the globalization era, international markets have become a replacement for domestic ones, especially for small countries. A positive openness to trade to growth ratio has been proven.

Figure 12. Positions of B&H and Croatia by size of market, 140 countries, 2015



Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

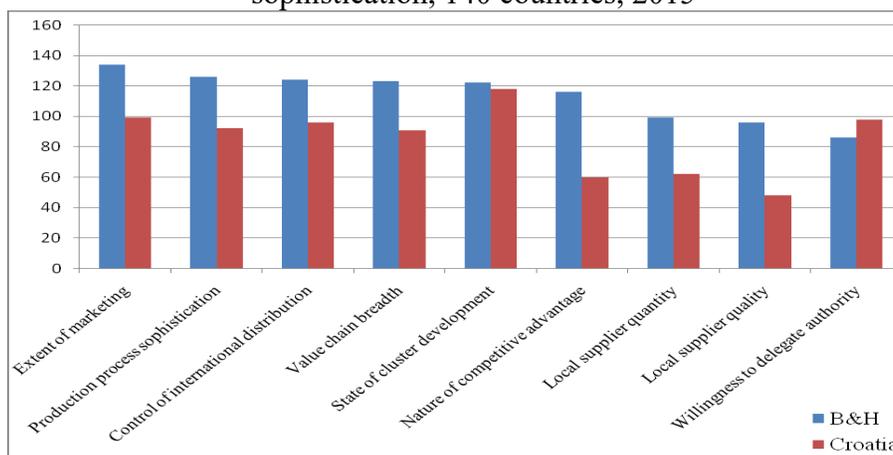
According to the overall GDP, domestic and foreign markets for products and services of companies from Bosnia and Herzegovina, it is clear that the size of the market for Bosnia and Herzegovina is

relatively small, especially in comparison with the other 140 countries. Croatia ranks better here as well. A positive effect of trade on growth must be emphasized, especially for countries with small home markets such as Bosnia and Herzegovina and Croatia. In the currently high world interdependency, the recovery from the present day recession and slowdown will require the increase of the foreign trade exchange from both Bosnia and Herzegovina and Croatia resulting in a higher demand for their products and services.

Business Sophistication

Business sophistication is important for higher efficiency in the production of goods and services. This leads to increased productivity which strengthens company's competitiveness. Business sophistication attends to the quality of the entire business network of a country as well as to the quality of individual companies and strategies. This is especially important for the highly developed countries which base their further development on knowledge and innovation.

Figure 13. Positions of B&H and Croatia by business sophistication, 140 countries, 2015



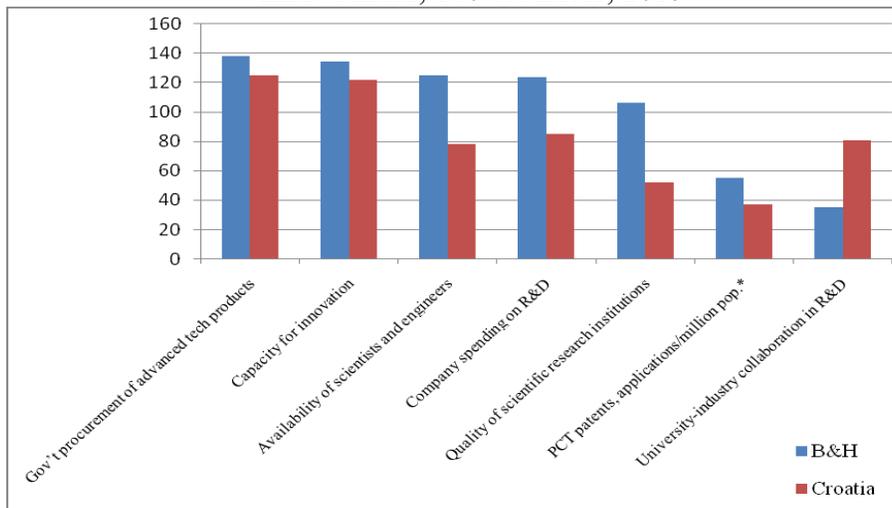
Source: Global Competitiveness Index, http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

There are as many as five criteria in this area by which Bosnia and Herzegovina is ranked between 120th and 140th place. It means that Bosnia and Herzegovina is almost at the bottom of the rankings in this area. Croatia is somewhat better, but not by much. It must be said that the sophistication of business processes depends on company's individual activities and strategies (marketing, branding, product sophistication), which are all rather weak in Bosnia and Herzegovina. The quality of business networks and supporting industry is also important for various reasons. If companies and suppliers from individual sectors are mutually connected into geographically nearest groups (clusters), their efficiency is enhanced, possibilities for innovations increased, and obstacles for the entry of new companies reduced.

Innovativeness

The last pillar of competitiveness is innovativeness. In the long-term, the standard of living can improve only by innovations. Although less developed countries can still improve their productivity by adopting the existing technologies or make improvements in other areas, those which have already reached the innovation driven degree of development, productivity increase is no longer sufficient. Companies in those countries must create and develop top-notch products and processes to maintain competitive borders.

Figure 14. Positions of Bosnia and Herzegovina and Croatia by innovativeness, 140 countries, 2015



Source: Global Competitiveness Index

http://www3.weforum.org/docs/gcr/2015-2016/GCI_Dataset_2006-2015.xlsx

Bosnia and Herzegovina is ranked low here as well. According to most criteria, it is ranked between 120th and 140th place. Croatia is ranked better in most areas, especially by the availability of scientists and engineers, funds used by companies for research and development, and the quality of scientific and research institutions. It is surprising to learn that the cooperation between universities and industry is much better in Bosnia and Herzegovina than in Croatia. However, insufficient investment in research and development especially by the private sector and the insufficient number of good quality scientific and research institutions are not a good basis for any further development of the economy of Bosnia and Herzegovina in terms of products and services with higher value added.

3. TO KNOWLEDGE

Human capital in B&H

Where do we stand in terms of knowledge economy? At first glance, the answer seems easy. However, it is neither easy nor simple. Many sources, especially foreign⁶, often state that people in Bosnia and Herzegovina are well educated. According to the UNDP Human Development Report, the average number of the years of schooling for entire Bosnia and Herzegovina is about 8.3 years for working population⁷. This average in highly developed countries is most often between 10-12 years. China, for example is far behind as well as India and most African countries.

Similar positive results are obtained from enrolment data for various education levels. The primary education rate is about 98%, depending on the observed category. In case of secondary and university education, results are also similar. According to this data, we can conclude that in terms of the standard results of the education system, the results of the Bosnia and Herzegovina are relatively good, especially if they are compared with undeveloped countries i.e. the so-called developing countries.

However, the highest doubt in the accuracy of such situation has been arisen by data reflecting what has been created by us in our economy. What we produce by ourselves is the best indicator of the knowledge and skills at our disposal. We already analyzed data on average values of export and import per 1 kg of goods.

It must be emphasized that although the export volume of Bosnia and Herzegovina is much bigger than its import, the value of such export is almost 6 times smaller. Essentially, we export raw material and import knowledge. The picture becomes clearer when data is observed in the context of the structure of education of the working population of B&H, 50.8% of the population completed only primary education

⁶ UNDP reports on human development, some World Bank studies etc.

⁷ United Nations Development Programme, Human Development Reports Data, available on: <http://hdr.undp.org/en/content/mean-years-schooling-adults-years>

or lower, 40.1% secondary, and mere 9.1% have university degrees. When it is considered that at least one third of those with secondary education have degrees which are not useful on the market, then it becomes clear that about 2/3 of the population does not possess human and intellectual capital for creating any significant added value.

It can freely be said that standard data on a relatively high level of education i.e. human capital of the population of Bosnia and Herzegovina unfortunately provides a false picture. More than a half of the population finished only primary school or even less. The system of adult education is almost non-existent, and the majority of our population either has degrees which are currently useless or does not have a degree at all. The education system does not contribute to improving such a situation. It is for the most part aggravating it. The reason behind it is the non-existence of almost any link between the education system and the economy in Bosnia and Herzegovina.

World in the process of change

The macroeconomic research of the new endogenous growth theory and the economic success of numerous (often small) countries indicates an increasing connection between knowledge, productivity, competitiveness and economic growth⁸. The world has changed in the last 20 years – often unprecedentedly. The new world economy is emerging encouraged by two forces: technological and economic revolution. The technological revolution, stimulated by a lower cost of information and communication technology and increasing codification of knowledge, prompted the development of technologies in many other areas (such as biology, energy, nanotechnology and new materials)⁹. This results from a close relationship between companies and researchers, increased innovation rates and a shorter product life. On the other hand, it has increased the importance of

8 See e.g. Black, S., Lynch, L. (1996), “Human Capital Investments and Productivity” American Economic Review

<http://netec.mcc.ac.uk/WoPEc/data/Articles/aeaacrevv86:y:1996:i:2:p:263-67.html>

9 See e.g. Cameron, Gavin “Economic Growth in the Information Age: From Physical Capital to Weightless Economy”, Journal of International Affairs, vol. 51, no. 2 <http://hicks.nuff.ox.ac.uk/users/cameron/papers/jia.pdf>

education, work skills and life-long learning. Finally, investments in intangible goods (research and development, education, software) in OECD countries are bigger than foreign capital investments.

The economic revolution is preceded by a strong expansion of world trade and cross-border investments. The economic revolution resulted in faster production processes with minimum workforce which key factors are speed, shorter design and production cycles, shorter marketing flows, and shorter price cycles. Company alliances became most important (companies with joint ventures as well as acquisitions and takeovers), while value chains (allocation of functions in production and marketing among company partners doing business abroad as well) became longer. An increasing number of services is offered remotely, companies are restructured completely, ideas regarding new products and services are being born.

The new world economy (the concept which stems far beyond the ICT-based economy) creates unprecedented opportunities as well as increasing threats and challenges. Opportunities are visible in the form of new products, markets and methods of work, they promise increased productivity growth and better opportunities for catching up, especially for smaller countries (which come to a modernization decision much more easily). The other side of it is a significant number of problems in companies, governments, countries, regions, and individual citizens, which arise from the necessity to adjust to new rules emphasizing speed, networking, knowledge and competitiveness. In light of different adjustment capabilities, inequality is likely to emerge among as well as within individual countries.

The emergence of the new world economy created three new realities with far reaching consequences for the method of economic management in the future. Firstly, open economy and cross-border business ventures significantly reduced the ability of governments to manage economic flows. Secondly, borderlines between the role of the public sector, business community and civil society in creating wealth and ensuring welfare is dimmed. Finally, traditional top to bottom functioning hierarchies face increasing challenges imposed by

networks of the communities of interests, partly facilitated by the ICT revolution.

Within such a new world concept, creativity and knowledge have become important production factors, the same as the capital, work, land, and natural resources. The ability of an economy to create, acquire, use or disseminate knowledge becomes a key factor in determining its competitiveness. It is very likely that the importance of knowledge for the development of an economy will continue to grow and soon become the main differentiating factor between prosperity and poverty.

B&H position in a global context

At this moment, caused by previously mentioned factors, Bosnia and Herzegovina is mainly a loser in the process of globalization with an excess labor force that is fighting for survival. Data on the structure of exports that we analyzed confirm that the inclusion of BiH in the international division of labor is based on the extraction of limited natural resources and production based on cheap labor. This confirms the peripheral position of BiH, as well as the need to reiterate that it is a key issue that must be discussed is how to move from the peripheral position. The current global challenges, as well as the answers that are offered in the country are, however, cementing the status quo.

Some ideas present in BiH are completely opposite. Some say that the future of BiH is in agriculture. Others point out the comparative advantages offered by cheap labor and suggest that the country should use various measures to support those who engage cheap labor. Perhaps most influential are those who see a way out in a consistent adherence to the measures advocated by the IMF. Macroeconomic stability, privatization, deregulation, cuts in public spending, lowering and widening the tax base, adequate protection of property rights and encouraging foreign direct investment is presented as the magic wand (or at least the only possible point) to BiH to achieve economic growth. Notwithstanding that each of these responses has certain good points, it must be noted that they are related to the partial interests of certain social groups and layers. There is no doubt that the implementation of any of these strategies would contribute to interests

of those who propose them, but the society as a whole is remaining in peripheral position.

With such circumstances Bosnia and Herzegovina is faced with a series of challenges. We have to have in mind that there are several important categories in the global economy. These categories are:

- producers of high value based on knowledge and human capital,
- large-scale manufacturers based on cheap labor,
- producers of raw materials based on natural resources,
- uncompetitive producers - losers of globalization

When we look at position of Bosnia and Herzegovina in this process, most of the domestic economic structure belongs to the category of uncompetitive producers - losers of globalization. If the country stays long time in this position, the danger is that it will not achieve significant economic growth and living standards of our people for a long time. Therefore, the key question on the political and economic agenda is how to get out of this position.

The economic growth in the last couple of years in Bosnia and Herzegovina was mainly based on the exploitation of natural resources, and is unsustainable in the long term. This approach limits the improvements in technology and the development of knowledge and skills in the economy. As we saw, even the range of products based on natural resources is relatively small, and they do not achieve sufficient competitiveness, not only at the world and European, but also at the regional market. Concerning the next aspect of our competitiveness - a relatively cheap labor, it is cheaper in many parts of the world and in this area we can compete only in the short term. Especially as the pressure of competition will be increased as Bosnia and Herzegovina approaches EU and faces increasing competition on a common market. Competing on the basis of utilization of natural resources or products produced by unskilled labor force will become increasingly difficult as the economic growth raises the level of wages and non-renewable natural resources vanish.

Therefore, it becomes clear that the key to increase the competitive ability of Bosnia and Herzegovina should be systemic collection, use and transfer of knowledge in the economy and society - not just in areas of high technology, but in areas such as food processing, wood industry, metal industry, energy and agriculture, not only among the educated elite, but among the entire population. Especially because some predictions say that after this economic crisis, globalization could be less focused on the liberalization of goods and capital flows, and more on liberalization of flows of knowledge and ideas.

The challenge ahead of Bosnia and Herzegovina in the next 5-10 years to build the conditions for transition from the current economic model characterized by the use of natural resources and low-educated labor, to use the new drivers of development and export competitiveness - new technologies and knowledge. All this can not be achieved overnight, and, in the short term, it is still necessary to rely on natural resources and cheap labor as a source of competitiveness, but it should serve only as a means to achieve long-term goal - a competitive economy based on knowledge. Although from today's perspective, this attitude incomprehensible acts, and those who understand the senseless, global circumstances make his rethinking unavoidable if we want to change the current status of the peripheral.

Bad starting position

Based on the so far said it can be concluded that the basic problems in the way of social development of BiH, of solving these problems depends on the resolution of almost all the obvious pressing problems:

- Peripheral structure of the economy, that is a question of finding ways in which B&H can be included in the international division of labor based on production of goods and services of high value and, in this regard, the problem of affirmation of human capital.
- The low level of social responsibility and particularly low level of responsibility of the political elite. A concrete political problem associated with this issue is to establish an institutional framework for the rule of law, a social problem is finding mechanisms to interiorizovati responsibility.

- Decrease in the level of general social trust, which requires activating mechanisms that will contribute to increasing and then stabilizing the level of trust in society. This includes the development of civil society, which is not limited to the establishment of non-governmental organizations.

If these problems seriously and we look at the historical context, we will see that they are not new, but their importance grew along with the changes in global conditions dating back to the beginning of the eighties. Instead of being seen as a challenge, new circumstances have served as an excuse to do nothing. The result were decades peripherization, atomization and polarization of society.

The estimated range of changes is related to the level of the extent of poverty, unemployment, rising living standards, rehabilitation and repair of infrastructure, availability of goods and services, reducing the scope and importance of the gray market, in part, the introduction of order in public administration, finance , education, mentions, in addition, the reform of the security services and some elements of macroeconomic policy and so on. These results should not be underestimated even though they can be relativized by using different measurement instruments. In support of the ratings that indicate positive developments should be noted that there has been an improvement in the increased level of political freedoms, above all, freedom of fair elections, repaired relations with international institutions and the overall international situation of the country.

Having reviewed the overall condition in B&H, one must admit that it leaves a bitter taste in one's mouth. We have managed to prove that standard data on a relatively high level of education i.e. human capital of the population of Bosnia and Herzegovina, is unfortunately false. The system of adult education is almost non-existent, young generations are less educated, and a majority of our population either possesses professions which are currently useless or does not have a degree at all. The education system itself does not contribute to improving such a situation, but it is, for the most of its part, aggravating it. We have seen the reason for it: the link between the education system and the economy in Bosnia and Herzegovina is

almost non-existent. When all of the above is considered, it's no wonder our economic creativity i.e. our ideas, knowledge, abilities and skills used in the economy is a fiasco. Despite relatively good standard data on education (average number of schooling years, enrolment rates, etc.), other data considered in this book tells us that most of our knowledge and skills is a 'paper tiger'. All those who claim that our population is well educated, are simply wrong.

Education system

The education system itself does not contribute to improving such a situation. For the most part, it aggravates it. Education of many young people for professions which are almost useless is a total failure and only exacerbates the situation. The education of children and the young is such that it does not stimulate creativity, entrepreneurship spirit and initiative across all levels. Curricula are packed and glorify volumes. The education system as a whole suffers from ineffectiveness and inefficiency. Especially inefficient is the university education with only a small percentage of degrees.

It is desirable to develop the system of assessing required knowledge and skills now and in the future, which will closely cooperate with the economy and determine short-, medium- and long-term needs for knowledge and skills in key economic areas.

The system of collecting information on current and future requirements of the labour market and development needs must be defined first. Then follows the development of adequate educational programmes in line with information collected through analyses.

In the long-term, these measures will depend on the development of a more flexible educational model than the existing one. Why? Because the increasingly faster rate of technological development increases the problem of adjusting technological needs to education, which cannot be resolved in a satisfying manner by frequent changes of curricula. Much knowledge gets out-dated faster than its transfer by education.

In light of the above, the objective of our education system must be to ensure better foundations for permanent knowledge enhancement

though a life-long learning concept, which has already been defined as a fundamental concept of the entire system. Primary and secondary curricula must be adjusted to the development of basic competences i.e. multifunctional knowledge with a high transfer value and competences required by the labour market.

There is a need for wider based knowledge and skills which can easily be adapted to market needs as well as to current and future requirements of economic development. Examples of such knowledge may include computer skills, foreign languages, entrepreneurship, problem resolution method, communication skills, learning ability, etc. Some of this knowledge has proven exceptionally good taking the example of classical high schools. The introduction of such programmes in the early years of secondary education offers students a better foundation for the later selection of their profession. Workforce mobility requires the prevention of too early secondary school specialization as well as too early education completion without any satisfactory competences. During last years of this educational level, specialization should focus on a smaller number of wider-base professions (contrary to the current number of a large number of specialized professions), which is defined in flexible terms in line with economic needs.

Adult education and life-long learning

One of biggest failures is almost a complete non-existence of adult education in B&H. One must not forget that, even if we had an excellent young people's educational programme, which we didn't, one cannot wait for young generations to acquire knowledge and bring change. The biggest opportunity for change is usually where the biggest problem is i.e. adult working population. Our current education system focuses only on children and the young. It does not implement the life-long learning concept, which must be applied if we wish to build the knowledge-based society – a creative society.

As the adequately educated workforce is the assumption of success in modern economy, adult education and improvement is the most efficient method of increasing the competitiveness of the existing workforce. Additional education of working population improves

employment possibilities and labour market fluctuation, and, even more importantly, significantly contributes to the development of the entire economy.

The concept of life-long learning and prequalification must be built in the education system, especially for knowledge and skills in demand. Educational institutions are expected to offer accelerated programmes, a mixture of regular education, classical training and studies while working, more flexible educational methods (remote learning), as well as more room for adult education.

Individuals must be stimulated financially through tax reliefs and loans to enrol into programmes of additional education. Adult education programmes of general national interest (primary education, acquisition of first qualification, prequalification for professions in demand) must be fully funded by the Republic of Srpska, while other programmes must be funded by the republic, local self-government and learners themselves, equally.

University education

As far as universities, the quality of the knowledge and practical skills of students in particular are very limited. There is an overproduction of personnel in occupations for which there is no market demand, and the number of students in lacking professions such as engineers and technologists is not enough in comparison with the demand in the economy.

Companies are willing to work closely with them, so that students would be allowed for practice to get right skills from which students and companies can benefit . However, such cooperation does not exist. There is insufficient cooperation between the universities and the economy, although the big role of individuals from certain faculties must be stressed, and some companies see this as the only support that exists.

If the B&H wishes to meet its development objectives, it must conduct important changes in its approach to science and university education. The introduction of the Bologna process must be used for introducing significant changes in the system of science and university education.

Changes in the system of the university education in the B&H should focus on improving the structure of qualifications in population. A contribution by universities and other institutions of higher education in generating new values is important as well as the conceptual and formal inclusion of science and university education of the B&H into European trends, ERA (European Research Area), and EHEA (European Higher Education Area). Universities must be encouraged to develop curricula in line with the development of world science, while university professors must be wholeheartedly supported in improving the quality and efficiency of study programmes and their execution.

The flexibility of the higher education programme must be increased through a wider scope of study groups and elective courses, studying while working, remote studies, computer-aided studies, and ensured that the content of such programmes meets the real needs of the labour market.

Interdisciplinary study programmes must be introduced in line with the world trends and needs for a wider scope of knowledge and skills. Applied practical work should become a standard part of higher education and facilitate an easier transition from being a student to becoming a part of the labour market.

In order for our universities catching up with those in Europe and the world, equipment must be modernized – both scientific-research and teaching one. The influx of young staff must also be stimulated. Higher education should encourage specialization and additional education of young teachers and researchers abroad as well as invite foreign lecturers to our universities.

Measures proposed here are only some of those necessary for us becoming a creative society.

And most importantly, the development of such a creative society in Bosnia and Herzegovina is not the question of a faster or slower development. Today, in a time of globalization, it is the question of survival.

The connection between companies and scientific - research community

Companies are main drivers of innovation worldwide. However, domestic companies as a whole spend little on research and development. Operating cost for research and development in Bosnia and Herzegovina is almost negligible compared to 1.28 percent of GDP¹⁰ in EU and an average 0.32 percent for candidate countries.

Demand for research and development services and innovation looks weak, partly because companies are struggling to survive in the current business environment. A negligible number of scientific and research staff is employed by the private sector. Cases of interaction between companies and government scientific and research institutions are rare. Most companies develop new technologies in-house or buy licences in cooperation with other companies or foreign experts.

The prevailing opinion among business community representatives is that government institutions provide little result of economic importance (which is contrary to their positive assessment by some scientists often engaged by companies in the implementation of new technologies). Almost complete disconnection between scientific-research and business communities, additionally aggravated by weak company demand for innovations does not indicate any bright future for domestic innovative achievements and competitiveness.

Main stakeholders of an innovation system are universities and scientific institutions, private companies (including foreign ones) and their organizations, investors and other owners of funds, government and its associated agencies. This also includes foreign partners in research, business and finances. The innovation system depends on setting an appropriate division of functions and processes among the government, the scientific-research community and the private sector. Bosnia and Herzegovina owns important elements of the innovation system such as universities, state-owned scientific and research

¹⁰ COMMISSION OF THE EUROPEAN COMMUNITIES, "Building the Knowledge Society - Social and Human Capital Interactions", Brussels 2003

institutions and the business community. However, Bosnia and Herzegovina has still not managed to ensure a successful and systemic interaction among these various elements of its innovation infrastructure within a single connected and coordinated framework which would link the scientific-research with the entrepreneurial community. Thus, they fail to utilize a significant potential for transferring knowledge into wealth creating business activities.

Innovation is present at company level, in some high tech companies, but in a very few number of isolated cases. These several successful examples reflect only the innovation potential, and not the systemic utilization of this country cognitive values. Much more effort must be invested in defining the innovation policy and setting its instruments and support in the form of the institutional framework which allows its potential innovation partners to join forces in the creation and the application of knowledge for own as well as for economic benefit.

During early transition, Bosnia and Herzegovina retained the inherited, centralized and closed scientific system which ensured significant funds for narrowly specialized areas and the scientific-research community which was, for its most part, isolated from the rest of the world. A large share of the entrepreneurial research and development capacity from the former system disappeared during privatisation. Compared to West European scientific-research systems, our system is inflexible and directs all budget funds into existing institutes. The nature of such a system is not prone to changes of priority, changes in the manner of fund allocation in business. The cooperation and interaction between companies and scientific-research institutes and universities is modest and irregular. The same applies to the cooperation and interaction between scientific-research institutes and universities.

This paper emphasizes key issues and policy proposals which should be implemented. If policy makers do not take initiative for resolving these issues, Bosnia and Herzegovina might continue not utilizing its innovation potentials and increased competitiveness and miss on important opportunities for innovations provided by the EU membership.

Knowledge economy and poverty

Education is the most important factor in reducing poverty. Even in the Republic of Srpska, an educated person finds work more easily and faster, which undoubtedly provides additional non market-based effects not only for the poor (e.g. easier access to information, more care for own health and a more active participation in social life which encourages a responsible democratic behaviour of a citizen, the vote on democratic power and the establishment of the rule of law).

Failure to join education is especially dangerous for poor people's children. According to the research conducted by the World Bank in 2001, poor people's children are more likely to leave the education system sooner which reduces their employment possibilities and increases the danger of staying poor so that the poverty of current generations can easily be transferred onto their successors thus closing the vicious circle of poverty. A large number of the young in the Republic of Srpska drop out from secondary and higher education. This has, among others, been caused by a lack of second chance schools intended for the young dropouts or those facing such destiny i.e. those who are affected by structural changes in secondary and higher education. A high dropout rate results in increased costs per a participant in the education programme. A dropout rate needs to be reduced and the professional training system improved.

A systemic prevention and efforts invested in the prevention of young dropouts can be created by optimum flexibilisation and educational progression. Flexibilisation means that the education system is adaptable to needs of its participants, societies and markets. Educational flexibility can be achieved by the recertification of the individual's existing education and the acceptance of informal and self education results i.e. by introducing the system of accepting informally acquired qualifications (by introducing certificates on acquired abilities).

In order to mitigate difficulties caused by high school dropouts and for the purpose of preventing unemployment and poverty, offices and advisors for employing young dropouts need to be set up and their permanent training ensured. They need to aid young dropouts with

their entry into the labour market. In order to resolve a complex issue of young dropout employment, a close cooperation among various government institutions, private and non-profitable organizations included in the issue of employment is needed.

In view of the education and employment of the young, measures which encourage the return into the education system and the participation in secondary and university education in particular may contribute to an increase of employability, a decrease of unemployment, the prevention (or mitigation) of long-term unemployment and social exclusion.

In the course of the last 25 years, all EU countries as well as developed European states have increased their participation in education. However, differences between individual countries, areas of a country and individual social-economic and ethnic groups are huge. For example, almost an entire Norwegian young population finished its secondary education, 60% of whom is educated in specific areas, compared to only 68% of the young in Spain with finished secondary education, while 23% of them is educated for area-specific professions (OECD, 1996).

Despite a significant difference between the unemployment environment and causes in the Republic of Srpska and the EU, unemployment rates are significantly higher among lower educated levels. It is estimated that the Republic of Srpska, just as France and Finland, would benefit from motivating its young unemployed people for further education and, just as Spain and Italy, from encouraging increased opportunities and programmes of area-specific education and training as well as a bigger participation of the young in such programmes. This will greatly facilitate their employability, as the most important determinant for avoiding poverty and an encouragement for existing it.

Lacking domestic research and data and basing our conclusions on information from several countries (Wolf, 2002), we can say with great certainty that the education system increases the existing social differences. The benefit for the poor is low because, amongst other, the children of the rich attend better and better quality schools which

provide more favourable possibilities for further education, employment and professional advancement.

The existing education systems in most transitional countries are expensive and inefficient, pupils and students learn more facts than the young in developed countries and obtain more information, but are significantly weaker in its implementation and the utilization of knowledge and abilities in unforeseen circumstances. Therefore, the education focus should be placed on the active relationship and enhancement of the system's inner efficiency as well as on the improvement and the modernization of teaching methods.

There is no doubt that many of those who have been long unemployed are primarily poorly educated and/or possess knowledge and expertise which is not in demand on the labour market. It can be assumed that they also possess a low level of literacy and mathematical knowledge, while some lack formal education completely.

There are many indicators and reports suggesting that the encouragement of low paid workers in finding employment and leaving the system of unemployment or social protection is insufficient. Employers complain about the inability to find workers, even in high unemployment areas. On the other hand, long-term unemployed workers are in an unfavourable position due to their loss of knowledge and skills while waiting for a job as well as due to a negative attitude of the employer towards their employment. Therefore, significant efforts in improving basic knowledge and expertise of the long-term unemployed must be invested as well as a new approach and programmes for the acquisition of work experience developed.

Apart from improving formal education, attention must be focused on mitigating huge functional illiteracy and raising the minimum ability threshold. Consequences of functional illiteracy are long-term unemployment and decreased employability. Even Sweden – the country with the highest percentage of literate population – is estimated to have about 8% of inhabitants with serious reading and text understanding issues. This share is about 25% in other countries, which means that a significant share of adult population is unable to

understand information published in brochures or instructions for using workplace machinery (UNESCO, 2000).

The minimum ability threshold requires a certain scope of knowledge necessary for the survival on the labour market. This usually implies minimum computer skills and basic knowledge of foreign languages. The term also includes personal capabilities and the possibility of cooperation, team work, user service provision, ability to learn and motivation.

Social protection as an instrument of knowledge economy

Scientists and politicians around the world vividly discuss the efficiency of welfare programmes as it has often been claimed that welfare, just as many other expressions of noble intentions, contain a spoiling seed. It has often been said, although only partially justifiably, that generous and long-lasting unemployment fees or huge rights within the social welfare system (which is not the case in the Republic of Srpska) may encourage the unemployed and the poor to look for new employment longer and be more picky as well as to reduce their work efforts and withdraw from being employed. Large formal funds allocated to social needs are not a guarantee of their efficient disbursement and use.

The efficiency of the social welfare programme is especially bad in transitional countries, in which scarce available funds are mainly insufficiently allocated to the most vulnerable social groups. At the same time, some programmes, although expensive or luxurious, may successfully help the poor while the others – cheaper and less affluent – are ineffective in reality (or with a very weak effect) with regard to reducing and/or mitigating poverty. Therefore, programme implementation must constantly be monitored and scientifically researched.

It cannot be expected that the market itself shall facilitate welfare and justice. The state has to be decisive in reducing poverty and inequality. To do so, it needs a transparent and just social welfare system based on the inclusion of all citizens and the non-existence of discrimination. A social security network needs to be strengthened by

focusing and monitoring social welfare programmes better, by encouraging non-government organizations in the provision of social services, by decentralizing some social services, by putting a more precise focus of social welfare, and by a better definition of the employment policy.

The most important goal of social policy must be to enable new employments or the return to the labour market. The social protection system must be re-focused from the provision of financial help and the relief in kind to the provision of help in the acquisition of knowledge, expertise, abilities, and motivation. Most people are not satisfied with being dependent on state aids as an alternative to being employed, not even in the sense of material wealth.

It is desirable, where possible, to find work outside grey economy. Such jobs are not only safer but also provide bigger opportunities for education and the acquisition of knowledge and skills. This will result in increased tax and contribution basis and in a way facilitate the reduction of indirect cost of work. More attention needs to be paid to improving the position and the possibility of employing people from a hard core of poverty, which requires our help the most.

A significant reduction of poverty in B&H can be realized by a careful allocation of expenses and improved coordination among the existing welfare programmes. Key assumptions are the following: a) adopt the programme of a comprehensive role of non-government organizations in their provision of services to the poor by subcontracting and b) ensure a close cooperation between the system of social welfare programmes, education and the employment office to improve the possibilities of returning the poor and the unemployed back on the labour market. Incentives in this area should in time improve the efficiency of expenses allocated to social purposes.

The achievement of the efficient allocation of funds depends on free market mechanisms as well as social justice-related ones. Gathering poverty indicators and conducting appropriate poverty analyses is necessary for the purpose of acquiring a comprehensive and detailed insight into the social environment. Unbiased poverty analyses should aid the adequate listing of the poverty issue among political priorities

nationally and locally. Poverty indicators can serve as a good basis for setting and shaping various measures of social policy. One purpose of such indicators is to monitor the effect of social programmes.

Much has already been done. However, the quality, scope and frequency of statistics, including the social protection system, must be improved further as well as poverty, economic inequality and social exclusion research encouraged. Such information and research is necessary for social planning and defining the appropriate policy. If the government policy aims at making social security networks available to the poor, information must be gathered as to who these poor are, where they live and what share of this help reaches the target group.

In most cases, countries (especially transitional) spend significant funds on social security networks without gathering information and without sufficient monitoring of who receives such relief and what benefits there are. Such information should be available to the research community and the public. These two steps would strengthen government responsibility across all levels, and the voters would gain more information on the state policy, which would also improve the quality of public debate and increase the participation of citizens in political decision making. It might also contribute to a clearer setting of government objectives in terms of poverty reduction, a better focus on measure implementation, and a more active participation of entities and individuals on various government levels.

The experience of the knowledge economy creation of many countries has clearly shown that poverty reduction depends on a close cooperation between the education system, public and private sectors as none of them can do it alone in an efficient and complete manner. A clear division of authorities and responsibilities of institutions is important as well as the improvement of the entire system. Successful programme implementation depends on strong decisiveness and will as well as a wide consensus. It must be understood that this process shall not end fast. It is a long and hard path requiring perseverance and patience from its participants.

In order to improve public information and ensure a better access of the poor to education and social programmes, two activity types are required. First, as a support of education and social protection system reform, competent ministries need to ensure access to information on the possibilities of education, social rights, programmes and policies to the public and to all levels of government. Citizens and potential users must have clear information on the existing education and social programmes offered by public institutions, regionally and locally. Information availability should be achieved via various media. They must be clear as to which type of the programme is available in each institution. Thus, a comprehensive system would be created, which would improve not only the level of knowledge and productivity in a population but it would also contribute to the poverty reduction in our country. Reforms focused on building an advanced and sustainable economy will succeed only if they are accompanied by successful investment into people.

Challenges Ahead

How will Bosnia and Herzegovina – public sector, private sector, civil society – approach the challenges set by a focus on the knowledge economy? This paper provides indications that Bosnia and Herzegovina considers policy implementation but does not carry out any activities in a wider scope of the areas encouraging the creation, acquisition, utilization and dissemination of knowledge through economy. This paper also provides indications which attempt to integrate, in the best possible way, such intentions with an aim of a concrete provision of support to the knowledge economy. The area of reforms, integration and policy borders with four key dimensions of the knowledge economy:

- Education systems which create educated and qualified population that can create, acquire, use and disseminate knowledge.
- The system of innovations which includes firms, research centres, universities, consultants and other organizations which can acquire more global knowledge, assimilate and adjust it to local business needs thus creating new products and services.

- Information society which provides a dynamic ICT infrastructure to facilitate successful communication, information exchange and processing.
- Economic and institutional regime which encourages a more efficient use of existing and new knowledge and entrepreneurial boom. A good rule in both the public and private sectors is essential for the establishment of such a regime.

As we have already stated, knowledge becomes increasingly important for productivity, competitive capability and development. Bosnia and Herzegovina uses its potential in this area – human potential, education system, scientists, entrepreneurs, etc. – below its capacity, thus missing international opportunities for achieving any potential development and income.

In the last several years, Bosnia and Herzegovina has shown progress in several economic areas, especially in terms of improving its economic and institutional system and developing its infrastructure. However, much less progress was made in improvements of education system and the connection between economy and universities. Very poor results were achieved in the creation of innovation systems.

4. CONCLUSION

In the development of the territories such as Bosnia and Herzegovina there are periods more crucial for the future, more dire for people and their lives, than some other periods. For us, such a period is the beginning of the 21st century.

Many won't admit it, but it is clear we have found ourselves in a kind of a trap in which bad education contributes to poverty, and poverty prevents the society from a sufficient investment in the acquisition and the creation of knowledge as the most important factor in the creation of tangible and any other wealth. This vicious circle takes us away from being a knowledge-based society.

Globalization, the process of European and regional integrations, and a true Philosopher's Stone of the modern economic theory – development of human capital and the knowledge-based society, offer Bosnia and Herzegovina unprecedented possibilities. It would be a shame to miss it.

Other countries in the region and elsewhere achieved progress as a result of their amended approaches to education, telecommunication regulation, and their science and technology-related policies. And yet, Bosnia and Herzegovina faces exceptional barriers in the implementation of the changes leading to the development of the knowledge economy. Distrust between the public and private sector, bad communication among public institutions, and insufficient cooperation continue to exist. The establishment of a closer cooperation among various social factors will be crucial for the progress of Bosnia and Herzegovina.

The conclusion of the Stabilisation and Accession Agreement with the European Union and the availability of significant financial means from the EU pre-accession funds provide Bosnia and Herzegovina with an opportunity to finance a wide scope of the knowledge economy-related public investments and support programmes. In view of the time needed for achieving said consensus, policy execution and making change, Bosnia and Herzegovina must immediately start acting.

Bosnia and Herzegovina is a relatively small and poor country which faces numerous issues such as consequences of war, poverty, emigration of qualified people and, especially, useless and barren political conflicts. Those who wish to acquire a dominant position in Bosnia and Herzegovina through political conflict in the present day globalization when the creation of the knowledge-based society becomes an imperative, are old-fashioned in their beliefs and damage Bosnia and Herzegovina. These barren attempts by a part of the domestic political elite in Bosnia and Herzegovina create a permanent political instability, which has a very bad effect on the economic and any other development of our country.

The current moment is a large challenge. It consists of increasing competitive capability by systemic collection, utilization and dissemination of knowledge in the economy and the society – not only in high technology but also in food and wood processing industries, energy and agriculture; not only among the educated elite but across the population.

We have to wake up right now and invest huge efforts in the key change – from a present day society to a knowledge-based one. This is a key change for Bosnia and Herzegovina. In reality, it means a change from the environment where a majority of population lacks skills and knowledge to create competitive products and services for domestic, regional, European and global markets to the environment in which most people possess them. Failure to utilize offered opportunities means to take a wrong turn on a very important crossroad of our history. Let us remind you, the creation of a creative, knowledge-based society, today, in a globalized world, is not an issue of a faster or slower development – it is an issue of survival.

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