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## HIGHER EDUCATION REFORMS IN MONTENEGRO TOWARDS COMPETITIVE AND PRODUCTIVE ECONOMY WITHIN THE EU SINGLE MARKET

*Higher education in Montenegro has seen numerous changes in the last decade, and the Bologna process has been their most important driver. Changes have been introduced by the Law of High Education (2003), which has a European dimension, because it is based on the essential principles of the European Council and Bologna Declaration. Modern economic development has to be based on constant competition growth, the key of which is in high quality education system. Without quality education, which will bring well educated individuals, it is hard to count on long-term sustainable economic development. After a decade of implementation of the Bologna Declaration, there are still some unresolved issues and dilemmas in Montenegrin educational system.*

*Keywords: human capital, labor productivity, higher education reform, Bologna process, Montenegro.*

*JEL Classification: E24, J24, I25, I23.*

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## РЕФОРМИ ВИЩОЇ ОСВІТИ ЧОРНОГОРІЇ: НА ШЛЯХУ ДО КОНКУРЕНТОСПРОМОЖНОЇ І ПРОДУКТИВНОЇ ЕКОНОМІКИ В МЕЖАХ ЄДИНОГО РИНКУ ЄС

*У статті описано численні зміни в системі вищої освіти Чорногорії протягом останнього десятиліття з особливою увагою до Болонського процесу. Відправною точкою реформ став Закон про вищу освіту (2003 р.), який можна назвати по-справжньому європейським, адже він враховує базові принципи Болонської декларації та Єврокомісії. Сучасний економічний розвиток спирається на постійне зростання конкурентоспроможності, що в свою чергу не можливе без системи якісної освіти. Тільки якісна освіта спроможна сформувати особистості, які у подальшому гарантують довготерміновий та стійкий економічний розвиток всієї країни. Після десятиліття з моменту підписання Чорногорією Болонської декларації все ще лишається низка питань та проблем, які вимагають подальшого реформування системи освіти.*

*Ключові слова: людський капітал, продуктивність праці, реформування вищої освіти, Болонський процес, Чорногорія.*

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## РЕФОРМЫ ВЫСШЕГО ОБРАЗОВАНИЯ ЧЕРНОГОРИИ: НА ПУТИ К КОНКУРЕНТОСПОСОБНОЙ И ПРОДУКТИВНОЙ ЭКОНОМИКЕ В РАМКАХ ЕДИНОГО РЫНКА ЕС

*В статье описаны многочисленные изменения в системе высшего образования Черногории на протяжении последнего десятилетия с особым вниманием к Болонскому процессу. Отправной точкой реформ стал Закон о высшем образовании (2003 г.), который можно назвать по-настоящему европейским, так как он учитывает базовые принципы Болонской декларации и Еврокомиссии. Современное экономическое развитие основано на постоянном росте конкурентоспособности, который в свою очередь не возможен без системы качественного образования. Только качественное образование способно*

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*сформировать личности, которые станут гарантией долгосрочного и устойчивого экономического развития всей страны. После десятилетия после подписания Черногорией Болонской декларации всё ещё остаётся ряд вопросов и проблем, требующих дальнейшего реформирования системы образования.*

*Ключевые слова: человеческий капитал, продуктивность труда, реформирование высшего образования, Болонский процесс, Черногория.*

## **1. Introduction.**

Montenegro has started the process of transition and shift to a market economy in early 1990s. Political and economical reforms have influenced the strong need for educational reforms, with special attention to higher education. Higher education (HE) has been recognized as one of the most important drivers in speeding up the process of economies transformation, market building, efficiency increase and employment. In the intensive process of reform, HE has put special attention to humanities and the social science. The educational reform process has been strongly supported by the government, international community and donors.

Montenegro has introduced radical reforms of educational system during the last decade, accelerating the process in the last 5 years. At the same time, changes in economic structure have occurred and the heavy metal industry became less important than previously. Nowadays, its importance has declined, due to deteriorating competitiveness, and the new potential growth engines are the tourism, service, energy sector and other knowledge-driven industries.

Moving closer to the EU accession, Montenegro will need to increase significantly its competitiveness. University education is recognized as a creator of both human capital and knowledge. In this context, universities may become the driving force of its development, or at least, for improving its competitiveness, both regionally and globally (World Bank, 2011).

Changes in European Higher Education Area and Europe, and Montenegro's aspiration to European integration have created a strong commitment to reform of higher education. Higher education reform and reorganization of the University system of Montenegro began by signing the Bologna Declaration in 2003. Bologna declaration (1999) didn't simply define the tasks and goals of cooperation in higher education; it is also a recognition by European politicians and academia that cooperation in the field of education is indispensable to develop and strengthening stable peaceful and democratic society. With this idea, the Declaration focuses on South-Eastern Europe, which has experienced several bloody conflicts in early 1990 (Orosz, 2008).

The Bologna process became the major reform initiative of the past decade in Montenegro. Formal application started by adopting a new legal framework, which consisted of the Law on Higher Education (2003), and continued by adoption of the statute of universities and faculties (2004) and regulations on their implementation. This created a legal institutional framework for higher education in Montenegro.

Montenegro was in need of the transformation of higher education, even prior to this period. Before introduction of the Bologna process, higher education in Montenegro was very inefficient and represented the most problematic part of educational system. Average duration of studying was much longer than it was originally designed, usually 6–8 years, and at some study programs even 9 years. Human

resources at the University were inadequate, with very low investments (Chamber of Commerce, 2010). The learning practice was more oriented on memorizing facts and less problem-solving and curriculums supported the needs of central planning and old industrial structure of the economy.

## **2. Importance of investment in education. Theoretical background.**

The academic literature on the subject emphasizes the role of education in income growth. The cross-country regressions indicate that changes in education are positively associated with economic growth (Kruger and Lindaht, 2000). Strong positive links between educational quality and country's GDP growth rate have been found in the empirical work of Hanushek and Kimko (Hanushek and Kimko, 2000). For some others, education quality improves productivity most significantly in the economic environment open to foreign trade and influence (Jamison, 2006; Topel, 1999). For achievement of positive growth rates in the long run and constant improvement of living standards of Montenegrin citizens, the most effective measure is to increase the human capital level, as Montenegrin economists state (Montenegrin Academy Education and Macroeconomic, 2010; Bacovic and Lipovina Bozovic, 2010).

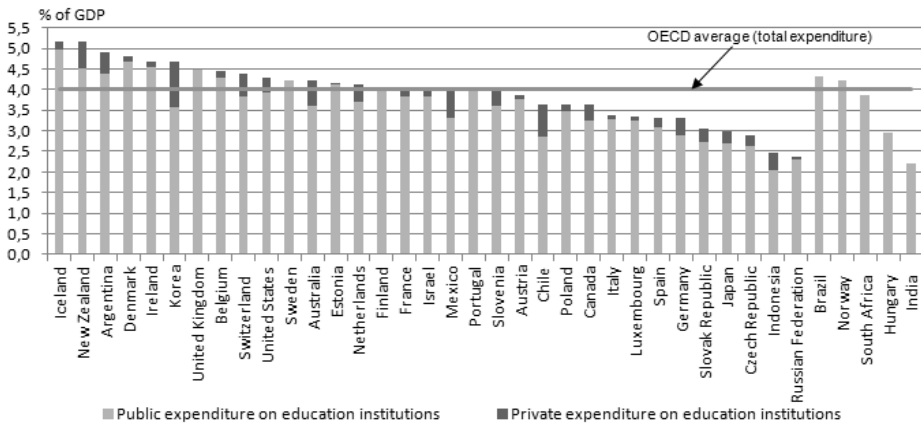
Highly educated individuals are creating the conditions not only for economic development but also for the overall sustainable development and human society based on democracy. A large deal of empirical works supports the idea that higher education leads to more democratic politics (Barro, 1999; Glaeser et al., 2004; Papaioannou, Siourounis, 2005). Higher education environment predicts the transition from dictatorship to democracy but not the other way around (Randers-Pehrson, 1999). More educated democracies are more stable than the less educated ones.

Economic growth and the sources for its growth have been in the focus of many economies for decades. Economic history has shown that only few countries experienced persistent growth in income per capita in the long run. Classical theories like typical Solow's type growth model have not provided answers to growth in modern terms. The central role of these models was given to capital, and labor effectiveness, which exact meaning is not specified, was taken as exogenous. Modern theories have taken strongly in consideration labor as an important factor, where accumulation of knowledge behaves endogenously (Romer, 2001). This is caused by the fact that more output can be produced today from a given quantity of labor and capital than a century ago.

The growth of knowledge appears to be the central reason that output and standards of living are so much higher today than in previous centuries. Analyzing the type of relationship between economic growth and human capital, modern economists proceeded a step further. More recent works put human capital as a central variable in the growth models. The key assumption is raising the rate of return on human capital as the stock of human capital increases (Becker et al., 1990; Becker, Murphy, 1992; Dias, Dermott, 2009; Temple, 1999; Sequeira, 2008).

Even the most recent researches have further developed the relationship between human capital and the level of development of countries (measured by the level of GDP per capita). The findings are that for medium income countries, investment in education and skills are more important, while for higher income countries, innovations are the key source of growth (World Economic Forum, 2011).

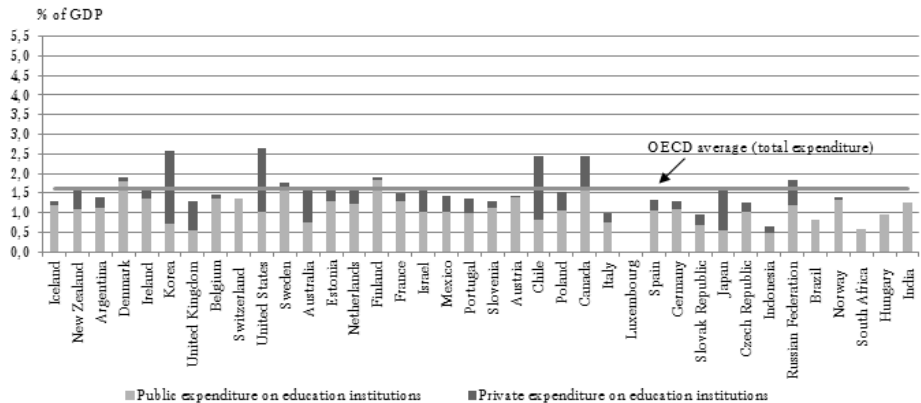
For OECD, expenditures on education can foster economic growth, enhance productivity, contribute to personal and social development and reduce social inequality. We will test the causality of this relationship using the OECD data for the countries that invest in education more and have higher GDP. Average education expenditures in the OECD countries are around 6% of GDP (OECD official site), including preprimary, primary, secondary and tertiary education. Most of these countries spend about 5% of GDP on education, where the significant part comes from the public sector. But the highest spending on educational institutions, with approximately 7% of GDP are in Chile, Denmark, Iceland, Israel, Korea, Norway and the United States (both public and private spending) (Figure 1).



Source: [http://www.oecd-ilibrary.org/economics/oecd-factbook-2011-2012\\_factbook-2011-en](http://www.oecd-ilibrary.org/economics/oecd-factbook-2011-2012_factbook-2011-en).

Figure 1. Expenditures on education institutions as % of GDP (2009)

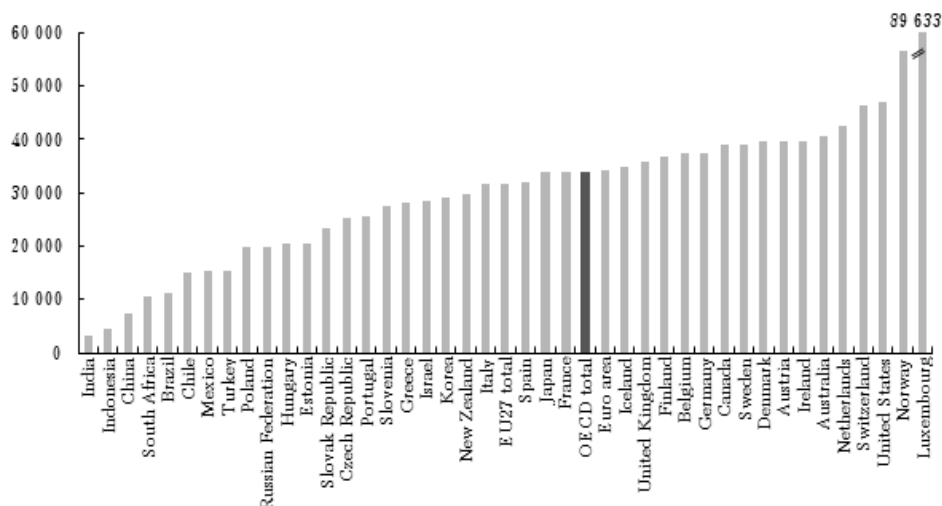
Tertiary education represents 30% of these countries' education spending. Some countries (Canada, Chile, Israel, Korea, the US) spend between 1.7 and 2.7% of GDP, while some others spent more for pre-university education, such as Belgium, Brazil, Estonia, France, Iceland, Ireland, Switzerland and the UK. On average, OECD spending on tertiary education is around 1,5% of GDP (Figure 2).



Source: [http://www.oecd-ilibrary.org/economics/oecd-factbook-2011-2012\\_factbook-2011-en](http://www.oecd-ilibrary.org/economics/oecd-factbook-2011-2012_factbook-2011-en).

Figure 2. Expenditures on tertiary education as % of GDP (2009)

On the other hand we can compare the level of GDP to the level of educational expenditures for the OECD countries. The levels of GDP are presented in Figure 3. Comparing the level of GDP per capita and education expenditures we can conclude that education investment is closely related to economic growth. Countries that invest in education above the OECD criteria are the countries with the highest GDP per capita (Figure 3).



Source: [http://www.oecd-ilibrary.org/economics/oecd-factbook-2011-2012\\_factbook-2011-en](http://www.oecd-ilibrary.org/economics/oecd-factbook-2011-2012_factbook-2011-en).

Figure 3. OECD countries GDP per capita (2009)

**2.1. Need for higher education reform in Montenegro.** Western Balkan countries spent less on education, 4% of GDP on average, including all the levels of education. Pre-university education level is financed from public sources. The countries of this region spend less on tertiary (university) education, on average 1,26% of GDP, while Montenegro spent 1,10% (Ministry of Education, 2011).

Low level of education investments in the region with falling expenditures on education during the transition period could have significant effects on the quality of education (Campos and Dean, 2004). Quality of education is the most important factor for human capital, labor quality and labor productivity. For sustainable long-run economic development the quality of labor force, effecting the labor productivity is a significant impulse. The OECD sees labor productivity growth as the key dimension of economic performance, where labor productivity is an essential driver of changes in living standards (OECD, 2012).

The OECD defines labor productivity as GDP per hour worked, while the Eurostat states that labor productivity is measured in several ways, but it is commonly measured as GDP at constant prices divided by either total employment or total hours worked.

For the purpose of this research, the authors will measure the labor productivity as the indicator of GDP/total employment, and in addition, we will calculate the sector indicators for labor productivity and will identify the sectors with over average labor productivity (Table 1).

Table 1. Labor productivity in Montenegro, 2006–2010, in ths.

|   | 2006          | 2008           | 2010           |
|---|---------------|----------------|----------------|
| Agriculture, forestry and fishing                     | <b>80,184</b> | <b>19,670</b>  | 3,440          |
| Mining and quarrying                                  | 8,790         | <b>116,610</b> | <b>131,364</b> |
| Manufacturing   | 7,981         | 7,152          | <b>24,139</b>  |
| Electricity, gas supply                               | <b>15,611</b> | <b>26,369</b>  | <b>63,567</b>  |
| Water supply  | 55,752        | <b>26,369</b>  | <b>47,254</b>  |
| Construction  | 14,090        | <b>15,844</b>  | <b>34,601</b>  |
| Wholesale and retail trade, repairs of motor vehicles | 10,126        | 10,928         | 14,485         |
| Transportation and storage                            | 7,340         | 8,659          | <b>18,053</b>  |
| Accommodation and food service activities             | <b>21,688</b> | <b>19,145</b>  | 8,757          |
| Information, communication and financial activities   | <b>26,410</b> | <b>40,270</b>  | <b>143,795</b> |
| Real estate activities                                | <b>52,353</b> | <b>47,466</b>  | 4,572          |
| Public administration, defense and social security    | <b>21,319</b> | <b>17,647</b>  | 3,216          |
| Education   | 8,618         | 10,819         | 1,060          |
| Health and social work activities                     | 8,885         | 10,274         | 2,270          |
| Other utility services and personal services          | 7,992         | 3,566          | 1,265          |
| Montenegro average                                    | 14,702        | 13,975         | 16,028         |
| EU-27   | 46,993        | 48,946         | 49,278         |

Figures in bold represent sector GDP labor productivity above average.

Source: Monstat, Eurostat, authors' calculations.

Based on the calculated labor productivity indicators for Montenegro we can conclude that labor productivity is low, despite the increasing trend during 2006–2010, achieving the highest level in 2010. Comparing the data for the same years in the EU-27, we can see the same pattern. The OECD explained the increase of labor productivity in 2010, "income and productivity growth bounced back strongly in the majority of countries as they moved out of recession, while the labor market's recovery was much slower and unemployment remained high in most countries" (OECD, 2012).

Measuring the gap between labor productivity in the EU-27 and Montenegro, we can conclude that this indicator in Montenegro is just about 30% of the relevant indicator in the EU-27. This means that labor productivity in Montenegro is far below the productivity level in the EU. One part of this gap comes from low quality of education and another – from the low level of skills. Skills and experience acquired under the communist system became less marketable in the new market environment, as compared to human capital acquired during the transition (World Bank, 2012).

The sectors that generate GDP above the average labor productivity level are the production of energy and water, construction, hotel services and food, real estate, financial services and government.

During the further process of the European integration of Montenegro, a lot of efforts should be put into the increase of labor quality and productivity. One of the best ways to provide this is good education to young individuals through the constant process of education reforms.

### 3. Reforms in Higher Education in Montenegro.

In the last decade, Montenegrin higher education system has been under the intensive transformation. The Bologna process has been the major reform initiative (Lucin, Samrdzija, 2012). Higher education reform and reorganization of the University system of Montenegro began by signing the Bologna Declaration in 2003

but formal application started by adopting a new legal framework, which consisted of the Law on Higher Education (2003), and continued by the adoption of the statute of universities and faculties (2004) and regulations on their implementation.

Application of this institutional framework in Montenegro has led to an increase of both higher education institutions and the number of students. At the early stage of implementation of the Bologna process, the University of Montenegro was the only institution of higher education in Montenegro. The changes introduced by the Law in 2003 brought more open and flexible system of higher education, so that the greatest obstacles to its implementation were at the University of Montenegro, which still has had the strength and capacity to overcome internal resistance and their own conservatism, and thus facilitates the reform and necessary innovation (Montenegrin Academy of Education).

The Law promoted the equality of public and private institutions of higher education and established the basic principles for the organization of new universities and study regime is established in accordance with expert recommendations. Today, there are 3 universities in Montenegro, i.e. the University of Montenegro (UCG) – state university (which consists of 20 faculties, 3 research institutes, and one independent study program, located in 8 different towns), 2 private universities, Mediterranean University and the University of Donja Gorica and 7 independent private faculties. The number of students has increased significantly and amounted to approximately 25,000 students, out of which approximately 20,000 students study at the University of Montenegro, and about 5,000 – in private institutions of higher education. This is by 65% more students comparing to the academic year 2005/6 with the share of self-financed students increasing from 53.3% to 79.7%. In terms of preferences structure of the enrolled students, there is a typical high interest of students in Humanities – about 70%, while only 3% are enrolled in Art Studies.

The new Law on Higher Education has provided the reform of higher education, primarily aiming to increase the efficiency of studies and the system of harmonization with the European trends in higher education based on the principles of the Bologna Declaration and Lisbon Convention.

Education activities at the institutions of higher education are realized through academic and applied courses. Study programs are organized in 3 cycles as undergraduate, postgraduate and doctoral programs. Undergraduate academic studies last for at least 3 and maximum 4 years (from 180 to 240 ECTS credits), and applied undergraduate studies last for 3 years (180 ECTS credits). Postgraduate specialist studies last for one year (60 ECTS credits). Postgraduate master studies (both academic and applied ones) last for one year (60 ECTS credits) following the specialist studies, and 2 years (120 ECTS credits) if taken after undergraduate studies. Doctoral studies last for 3 years (180 ECTS credits) (Ministry of Education, 2011).

**3.1. Assessment of implementation of the Bologna process options for improving higher education in Montenegro.** Implementation of the Bologna process on Higher Education System (HES) of Montenegro has caused many changes and has had different effects on all the actors involved in this process. Based on the current implementation, it can be said that the principles of the Bologna Process in Montenegro, from the technical, normative and organizational perspectives, have been adequately implemented. This is indicated by the evaluation results obtained at the Ministerial

Conferences which measure the implementation of the Bologna Process among the signatory countries, where Montenegro has achieved the highest rating of 3.88 at the last Ministerial Conference held in Bucharest in 2012.

One of the objections mentioned in academic work (Montenegrin Academy of Education, 2010) is that the reform was implemented without any previous strategy, action plan or other similar planning documents. Secondly, no special budgetary funds were allocated to this reform, but it is mostly financed by the University of Montenegro and foreign donations through appropriate projects.

The issue of quality is certainly the central issue of the application of the Bologna process and will play an important role in the coming years in Montenegro. Although at present we have no reliable criteria to measure the quality of higher education in Montenegro, the most important stakeholders in the higher education process indicate that one of the biggest problems of this process is the issue of quality. The evaluations of labor market and international partners (World Bank and European Commission) are indicating that the increase in quality of higher education is the basis for Montenegro competitiveness growth and its survival at the large common EU market.

Again, it should be pointed out that the current implementation of the Bologna process in Montenegro was mostly referred to building of institutional and administrative preconditions for its implementation. Up to date, the Bologna process has brought many positive changes, such as: the duration of study is significantly reduced, the organization of education process is better designed than in "old" system – students must regularly carry out their duties, if they wish to complete their studies on time, and the possibility of acquiring an internationally recognized diploma was created as well.

The reform of the education system delivers multiple benefits to researchers, through their mobility and the possibility of involvement of our scientists into the European research area. Very important segment of higher education is the stimulation of R&D, which has been at a very low level so far, as measured by all indicators (the number of articles published in reputable journals etc.) The biggest problem in achievement of more significant results in scientific research activities are the lack of sufficient resources and equipment for research, predominance of state financing, while the interest of companies, particularly SME is very low (Montenegrin Academy of Science, 2010).

What will characterize the next period of implementation of the Bologna process is the orientation of all interested stakeholders on fundamental and essential changes in higher education that will have an effect on quality increase.

Increasing the quality of higher education today necessarily requires innovation of the curricula, in order to define learning outcomes and acquisition of knowledge adapted to the needs of the labor market, to ensure greater employability of students after graduating. Increasing quality means improving the existing academic staff, predominantly through the increased mobility of teaching and non-teaching personnel, as encouragement to young staff that works at higher education institutions to continue their education i.e. to prepare their master and doctoral thesis at European universities.

Increasing the compliance with the labor market is also very important. Employment of graduates must be an important goal of higher education institutions,



through which their effectiveness is confirmed. According to the information of the Employment Agency, the current situation at the labor market is characterized by much larger labor supply than demand by employers, labor supply is inadequate because employees have lack of knowledge and skills, and there are lot of vacancies due to lack of training for unemployed (Chamber of Commerce, 2012). The World Bank experts have found that Montenegro suffers from the disbalance between the skills and knowledge provided by its education system and the needs of the labor market (World Bank, 2011). While the labor market is in transition, from manufacturing and agriculture to knowledge and service industries, tertiary education is not changing fast enough to provide skilled staff for these new industries.

#### 4. Conclusion.

Socioeconomic changes in Montenegro, as a young democracy, have led to the need for reform of the educational system, especially higher education, to support and speed up the process of transition of its economic, political and social system. Highly educated young individuals are the most important factor for building modern democratic society, with a strong EU integration aspiration. The Bologna reform as a European success story (Zgaga, 2010) was the major reform path for the educational system in Montenegro towards more competitive and knowledge based economies since 2003. Implementation of the Bologna process in higher education system of Montenegro has caused significant reforms and has had different effects on all the actors involved in this process. Based on the current implementation, it can be said that the principles of the Bologna Process in Montenegro, from technical, normative and organizational perspectives have been adequately implemented. The current implementation of the Bologna process in Montenegro was mainly directed at building of institutional and administrative preconditions for its implementation.

Up to date, the Bologna process has brought many positive changes, but still there are lots of challenges in front of Montenegrin higher education. The biggest challenges ahead are constant and persistent increase of quality and level of research, and better compliance with the labor market. And on the other side, tertiary education is not changing fast enough to provide usable and modern knowledge. The next phase of reforms in higher education should focus more on transformation of education to modern and quality system to support further economic growth.

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