Towards Knowledge-based Economies: Challenges and Perspectives in the Western Balkans

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Abstract

The Europe 2020 Strategy was adopted in 2010 as a key strategy for boosting the potential of a European 'smart, sustainable and inclusive economy' in a global multi-polar world. The adoption of this strategy acknowledged the limitations of the EU Lisbon Treaty in addressing the challenges of knowledge-based economies and the lack of political support for delivering economic growth, the supply of jobs, and competiveness and social inclusion. In line with the key goals of the European Union's strategy for growth "Europe 2020," the Western Balkan states confronted their need for national and regional strategies for research and innovation, aiming to increase the impact of research and innovation on economic growth and employment opportunities. However, there are several key challenges which remain to be tackled such as: low business expenditures on R&D, and outdated research infrastructure. With regard to this particular context, this chapter aims to address the key inhibitors to progress of knowledge-based economies and the economic growth in three Western Balkans countries: Macedonia, Bosnia & Herzegovina and Serbia. The comparative data of Macedonia, Serbia and Bosnia offer insights into the key challenges for fostering the progress of knowledge-based economies such as: low company spending on R&D, poor capacity for innovation, and slow university-industry collaboration. The data is based on the latest Global Competitiveness Report 2013-2014 issued by the World Economic Forum and the Western Balkan regional R&D strategy for innovation. The aim of these comparative perspectives is to emphasize the importance of the need for strong governmental support towards the implementation of national, regional and supranational policy instruments and mechanisms as well as the need for good governance and a platform for developing smart, sustainable and inclusive economies, based on knowledge. In conclusion, a number of policy recommendations are offered, based on the provided comparative indicators.

Keywords: knowledge-based economy; Europe 2020 strategy; research and development; innovation, globalization, university-industry collaboration.

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Globalization and the Knowledge-based Economy

The development of the knowledge-based economy and globalization has been seen as a closely related process in the 21st century. Firms and enterprises have started to see the value of creating a knowledge economy by exploring and integrating the assets of innovation, R&D and human capital. Consequently, people and knowledge workers have become the heart of knowledge-based economies, serving as a key pre-requisite for any kind of growth or sustainability of societies in an era of globalization, rapid innovative industries, progressive economic transformations and close, mutually interdependent states and people. In such a context, the role of both Governmental and non-Governmental actors largely impacts upon the development of a platform for knowledge-based economies, as a modern concept of smart, inclusive, competitive and sustainable economies, based on knowledge and a highly productive and competitive work force.

In such a global context, the Europe 2020 Strategy has been adopted in order to address the challenges of globalization, the demands of competitiveness and the need for economic growth. Adopted in 2010, this strategy serves as the key mechanism for creating a European 'smart, sustainable and inclusive economy' in a global multi-polar world. The acknowledgment of the new geopolitical and geo-economic challenges, such as the rise of the emerging economies, has encouraged European states to rethink their own national strategies for meeting the challenges of globalization and the transformations of economies based on knowledge.

As such, the Western Balkans have been confronted with both, global and EU demands to transform their societies and economies into modern, inclusive and sustainable entities and to launch themselves as potential EU member states and equal contributors to the global market. Consequently, the process of creating sustainable platforms for the progress of national and regional knowledge-based economies should be seen as a complex process which needs to be addressed from both a political and economic perspective. This chapter therefore aims to emphasize the importance of the practices of good governance as an integrated part of the states' efforts to move themselves forwards into becoming knowledge-based economies.

Theoretical Background

The early framework of the post-Keynesian and neo-classical economic model of "growth economies" outlined the primacy of impersonal, disaggregated private markets, driven by the interactions of individual firms or consumers. In the following years, it was Robert Solow who added technology and innovation as a critical element of economic growth. Then Lucas advanced this approach and introduced the understanding of "human capital" as a certain including both intellectual capital and technical and scientific knowledge (Olssen & Peters, 2005). However, for a period of time, knowledge and technology were considered as having only an external influence on production. Then the OECD emphasized the idea that economies are actually much more heavily dependent upon knowledge production, distribution and use than ever before. This was summarized as follows: "OECD science, technology and industrial policies should be formulated to maximize performance and well-being in 'knowledge-based economies', economies which are directly based on the production, distribution and use of knowledge and information. This is reflected in trend in the OECD economies towards growth in high-technology investments, high-technology industries, more highly-skilled labor and associated productivity gains" (OECD, 1996).

This concept was based on the new theoretical approaches of Shumpeter, Galbraith, Goodwin and Hirschman on innovation, and of Romer and Grossman on new growth theories (Olssen & Peters, 2005). Romer classified education, skills training and knowledge as non-rival goods which could 'diffuse knowledge' through the economy, thereby enhancing competitive and entrepreneurial incentives, which in turn could create new employment opportunities in dynamic sectors and firms, as well as increasing productivity and fostering economic growth (Dolfsma, 2005). Today, this concept has become one of the key economic approaches towards understanding a knowledge-based economy. Within this concept, the theorists of economic growth addressed some aspects of the transformative role of governments alongside the transformation of economies based on knowledge. However, the key role of governments in addressing the challenges of the new interpretations of knowledge and education diffused through society and the economy have been emphasized by Stiglitz, the former chief economist for the World Bank. In 1999, Stiglitz argued that: "Changes in economic institutions have counterparts in the political sphere, demanding institutions of the open society such as a free press, transparent government, pluralism, checks and

balances, toleration, freedom of thought and open public debate. This political openness is essential for the success of the transformation towards a knowledge economy" (Olssen & Peters, 2005).

This implies that the rising power of knowledge and the need for a fast adaptation to global shifts should be seen from both an economic and a political perspective and in this regard, one of the key indicators of a country's readiness to address these challenges is the level of good governance practices.

The efficiency and the implementation of good governance practices in each modern and democratic state can be seen as being a highly relevant aspect for measuring the level of dedication and the ability of governments to cope with the dynamic transformations of economies based on knowledge. Furthermore, the interaction and mutual interdependence between the actors of the knowledge-based economies is largely integrated at a national, regional and supranational level through new market relations in the forms of partnerships, and business cooperation. As a result, the strong, effective and modern management of these demanding processes is an absolute necessity, and, as such should not be challenged by a lack of transparency, poor accountability or an unequal participation of all relevant state and non-state actors. The lack of such practices largely undermines good governance and its forms such as the rule of law, transparent decision-making, and the development of effective public and private partnerships. Consequently, strong leadership, transparent management and responsible governments are extremely necessary if one is to successfully address the transformations of modern economies and societies in accordance with new global impulses.

The Europe 2020 Strategy: Challenges and Perspectives

In 2008, the EU confronted the biggest global and financial crisis of the 21st century. In order to find the best European exit strategy from this crisis, the Europe 2020 Strategy was designed to turn the European Union (EU) into a smart, sustainable and inclusive economy. The aim of this strategy has been to deliver high levels of employment, productivity and social cohesion, thereby setting a new vision for Europe's social market economy for the 21st century (Europe 2020 Strategy, 2010). Aiming to reinforce cooperation in economic policy with a view to promoting sustainable growth in the EU, the Europe 2020 strategy succeeded the Lisbon Strategy (2000-2010), built on the objectives and toolbox of the revised Lisbon Strategy of 2005 (Bongardt et al., 2010). The first Lisbon agenda which was adopted in 2000, failed to reach its goals of

boosting the growth, innovation and employment performance of the EU, due to its excessive complexity and inadequate process (Pisani-Ferry & Sapir, 2006). Consequently, the revised Lisbon strategy adopted in 2005, aimed at placing the accent on national ownership, and adopting a more tailored, bottom-up approach (Ibid.) The implementation of the revised strategy needed to be advanced via the effectiveness of coordination and the degree of political ownership, but Lisbon 2 chose to focus on the ownership problem (Pisani-Ferry & Sapir, 2006). One of the key strategies for a successful implementation required effective coordination and a high degree of political ownerships, seen through three key criteria:

a. Attention devoted to the development of National Reform Programs by national governments.

b. The involvement of respective national parliaments and other stakeholders in the design and adoption of the reform programs (such as social partners, civil society, and follow-up groups).

c. Media coverage surrounding the design and adoption of National Report Programs, and the evolution of public perception (Ibid.)

The lack of involvement of national parliaments, the limited attention received by the media in designing and adopting the National Reform Programs and an overall lack of effective coordination among all relevant stakeholders have also had an impact on the overall success of the Lisbon 2 strategy. Therefore, the Europe 2020 Strategy which succeeds the Lisbon strategy remains to be challenged by the need for effective coordination, partnership and dialogue.

In this regard, the Europe 2020 Strategy set an e priority on reinforcing a vigorous EU policy of economic cooperation, to improve EU competitiveness and to ensure the EU's position among new emerging economies on the global scene, through three mutually reinforcing priorities:

- Smart growth: developing an economy based on knowledge and innovation.
- Sustainable growth: promoting a more resource efficient, greener and more competitive economy, and
- Inclusive growth: fostering a high-employment economy delivering social and territorial cohesion (EU 2020 Strategy, 2010).

Moreover, in order to define the EU position by 2020, one of several EU headline targets proposed by the Commission is that 3% of the EU's GDP should be invested in R&D (Ibid.) In order to catalyze the progress of this and other priorities, the Commission puts forward seven flagships such as the:

- "Innovation Union" aiming to improve framework conditions and provide access to finance for research and innovation so as to ensure that innovative ideas can be turned into products and services that create growth and jobs.
- "Youth on the move" to enhance the performance of education systems and to facilitate the entry of young people into the labor market;
- "A digital agenda for Europe" to speed up the roll-out of high-speed internet and reap the benefits of a digital single market for households and firms;
- "An industrial policy for the globalization era" to improve the business environment, notably for SMEs and to support the development of a strong and sustainable industrial base able to compete globally;
- "An agenda for new skills and jobs" to modernize labor markets and empower people by developing their skills throughout the lifecycle with a view to increasing labor participation a better match of labor supply and demand, including through labor mobility (Ibid.)

With regard to these flagships, several requirements have been identified, such as: improving the quality of tertiary and vocational education, strengthening research performances, promoting innovation and knowledge transfer trough the Union, information and communication technologies and ensuring that innovative ideas can be turned into new products and services that create growth, quality jobs and help address European and global societal challenges (Europe 2020 Strategy, 2010). Furthermore, the level of success of these reforms is expected to be supported by a solid combination of entrepreneurship, finance and a focus on user needs and market opportunities. Reaching the target of 3% spending of R&D in Europe should come from both, private and public sectors, the private-public partnerships and by reforming national and regional research and innovation systems to foster excellence and smart specialization. Such practices can accelerate job creation and can support the interrelated targets, set with the EU 2020 Strategy.

Moreover, the development of new technologies will boost productivity and raise incomes, not only in the innovating sector itself, but also in other sectors. In addition, according the Coe and Helpman paper of 1995, the investment in R&D will generate international spillovers as R&D in one country has an external effect on the actual productivity of the country itself as well as for its trading partners (Gelauff, & Lejour, 2006). Moreover,

productivity growth in ICT sectors competes with innovations in the organization and upgrading of worker skills, thereby contributing to further productivity growth (Gelauff & Lejour, 2006, see Baily en Kirkegaard, 2004).

Therefore it can be said that innovation is one of the driving forces of research and development, and the character of R&D in Europe needs to be changed whilst R&D spending ought to increase to 3% of GDP with companies performing two thirds of this target, as had been set as a Europe 2020 target. Nevertheless, public and private R&D expenditures in Europe are lagging behind those of the United States, given that GDP in Europe in 2003 stood at 2% by comparison with 2.8% in the United States, whilst the rest of the OECD stood qt 3.1% (Gelauff & Lejour, 2006).

If we are to reach the planned EU targets and boost the potential for research and intellectual capital as the core values of European knowledge-based economies, the priority will be on reinforcing cooperation and implementing joint programming between universities, research and the business community. Moreover, prioritizing knowledge expenditure, using tax incentives and other financial instruments would also be necessary (EU 2020 Strategy, 2010). Another necessary reform is the modernization of the agendas of higher education in terms of curricula, governance and financing, including the benchmarking of university performance and educational outcomes in a global context.

The improvement of the education system is of great importance to economic development and competitiveness. The education system contributes to increasing productivity and boosting innovation, based on the technical competence of an labor-active workforce and the rapid transfer of knowledge from educational and research institutions to various economic activities. In addition, higher levels of education have a positive impact on economic growth. (Krtic, & Stanisic, 2013; The World Bank, 2004). The development of information and communication technologies in the modern condition is of crucial importance in influencing the intensity and dynamics of economic development (Ibid.) Furthermore, establishing a legal framework for the coordination of public works to reduce costs and implement all other relevant EU flagship initiatives, policies, instruments and legal acts is also highly demanding (Ibid.)

Therefore, in order to reach these key priorities and ensure the EU's position in reforming the global order in future, a strong integrated approach to policy design and strong governance in the processes is necessary through the coordination of all relevant stakeholders. The proper management of

targets, resources and human capital is needed as well. Since human knowledge is the core value of competitive knowledge as a key driving force of the knowledge-based economies, mobilizing the citizens in the upcoming reforming process should be the key priority of stakeholders. In order to deliver successful results of the Europe 2020 strategy, a firm partnership and a permanent dialogue needs to be conducted between various levels of government, different national, regional and local authorities, closely associating parliaments, social partners, representatives of civil society, and the media. Such practices not only stand as core democratic values of modern societies, but also stand as an ultimate strategy to reach people potential and to involve the citizens on equal bases. Hence, one of the biggest challenges is to deliver successful reforms through strong political guidance, rather than by technically driven implications.

Western Balkans and the Regional R&D Strategy for Innovation

The renewed emphasis on research and innovation at the heart of the European Union's (EU) strategy for growth and jobs, the Europe 2020 strategy, is also pertinent to the Western Balkans. The global economic and financial crises had also hit the Western Balkans, leaving this region to struggle with stagnant productivity, high unemployment rates and slow economic growth. In addition to their commitments as EU candidate states to fulfill the Copenhagen criteria in order to become full EU member states, the Western Balkans states have both national and regional responsibilities to adapt their economies to the new global shift, in order to boost national and regional productivity, to accelerate competitiveness, increase economic growth and support the supranational efforts of the European Union to maintain the EU 2020 strategy in order to keep within the main course of long-term sustainability. This is why, over the past few years, the Western Balkan states have made several national and joint efforts to foster transformations towards knowledge-based economies and implement the EU 2020 targets. However, many challenges will have to be tackled to overcome the muted potential that is rooted back into the Yugoslav communist past when industrialization was monopolized by the state. Today such an inherited platform is supported by the slow progress of democratic practices and difficulties with the implementation of good governance as core values of modern and highly developed societies.

As a result of this, the Western Balkan economic and political transition in the 1990s also had serious and often negative consequences for

the region's research and innovation sectors. With economic reform dominating the policy agenda, science, technology and innovation policies became a serious priority, as the research capacity deteriorated and links with the productive sector disappeared (Western Balkans regional R&D strategy for innovation, 2013). Due to these policies, the Gross expenditure on R&D (GERD) in the Western Balkans has declined dramatically in the past two decades (Ibid.) In addition, the enterprise sector that emerged from the economic transition of recent decades had had a very little propensity to invest in research and innovation, and the economic liberalization of the 1990s shifted the productive structure of the Western Balkans away from manufacturing, especially those industries that are more likely to invest in R&D, toward the service sector (Ibid.) With this process of "de-industrialization", firms in the region were much less integrated into global value chains thereby limiting the access of local firms to knowledge and market opportunities for innovation (Ibid.)

Therefore, the Western Balkan states have a need and a responsibility to strengthen their research and innovation capacities in order to pave the way for full integration into the EU, as well as complying with EU requirements and standards in key industries. (Western Balkans regional R&D strategy for innovation, 2013) Moreover, a renewed emphasis on research and innovation can enable the region to gradually converge with the R&D and the policy targets set by the EU.

As a result of this and in order to boost the region's innovative potential and research capacity as the heart of knowledge-based economies, in October 2013, the Western Balkans signed the Regional Strategy for Innovation. The first coordinated effort for this strategy was launched by a joint statement in Sarajevo, signed on April 24, 2009, by ministers from the Western Balkan states who were responsible for science and research and the EU commissioner for science and research (World Bank report, 2013). Two years later in 2011, the World Bank signed an agreement with the European Commission (EC) to provide technical assistance for the development of the Western Balkans Regional R&D Strategy for Innovation, which was signed officially by government officials from Albania, Bosnia and Herzegovina, Croatia, Macedonia, Kosovo, Montenegro and Serbia (Ibid.). The aim of this strategy was to strengthen the region's research capacity, enhance intra-regional cooperation, promote collaboration with business sectors, explore the possibilities for financing R&D from EU funding schemes and other external

sources, and help integrate the region into the ERA and Innovation Union (Ibid.)

With this strategy several key reform priorities have been considered, aiming to boost the innovative potential of the countries and the region, emphasizing the priority for increasing investment finances into R&D and promoting collaboration and technology transfers between research institutions and industry (World Bank technical assistance project, 2013).

In order for these goals to be reached, strong policy prioritization, and incentives for performance and coordinated management will be necessary. Moreover, the governance of research and innovation systems should be improved by: broader reforms in education, greater accountability of public policies with the institutionalization of public consultation and feedback mechanisms and stronger regional cooperation (Ibid.)

These goals and challenges are firmly embedded in the national, regional and local priorities in each of the Western Balkan countries and therefore strengthening the governance of national research and innovation policies would be insufficient without the support of the good governance policies. The key characteristics of good governance are: accountability, transparency, implementing the rule of law in practice, responsiveness, inclusiveness, effectiveness, efficiency and being participatory (Graham et al., 2012). The key aspect of good governance is the necessary mediation of different interests in society, in order to reach a broader consensus on issues which are in the best interest of the community, citizens and the society (Ibid.) Such practices are based on balanced cooperation, an open sharing of information and expertise, know-how' or participatory 'experience, openness and dialogue among all involved actors within a relevant and effective legislative framework.

The lack of such practices can inhibit key cooperation among the state and non-state actors which contribute to development of smart, inclusive and sustainable growth and can create a negative impact on cooperation among companies, research institutions, and in university-industry relations. Furthermore, the lack of transparency, accountability or equal participation can create a negative platform that encourages bribery, corruption and inefficient partnerships, regardless efforts by governments to invest in innovation, technologies and R&D or to adopt national and regional strategies. In this regard, strengthening the role of national parliaments and building strong partnerships with: social groups, civil society and citizens or with professional media cover can firmly support the national, regional, local and

individual efforts to bring transformative global changes to the citizens. In addition, joint regional and national efforts are necessary to be further implemented by the Western Balkans states in order to reach the key priorities of both the Europe 2020 goals and to successfully transform its economies based on knowledge and innovation.

The Republic of Macedonia and the Knowledge-based Economy

The regional R&D strategy for innovation, supported by the World Bank and the European Commission was signed by the Republic of Macedonia. Serbia and Bosnia are also signatory countries to this strategy. The strategy combines: the advocacy of national-level policy reforms to improve the impact of research and innovation on economic growth and job creation for the long term; and, joint investments in selected regional initiatives (World Bank report, 2013).

In order for these strategies to be implemented, the enhancement of investment in research and development is needed, while at the same time the transformation of national innovation systems is a necessary prerequisite, in order to transform the research base, public institutions, private sector, market actors, and linkages among them into more effective, coherent, and competitive systems (World Bank country paper series: Macedonia, 2013). In other words, strong political commitment by the governments is crucial in achieving these transformations.

Since independence in 1991, Macedonia has faced a number of economic and political challenges that have heavily influenced the country's R&D activities, such as budgetary constraints and a weak institutional capacity, which have remained major impediments to the development of research and science in the country (Ibid.) Financing for science and research has been very low as has international donor participation in the Macedonian R&D sector (Ibid.)

However, the World Bank report on Macedonia confirms that the country has taken several steps in the last decade to make research and innovation more competitive in order to increase national economic growth. Yet, several challenges still remain, such as the need to generate new sources of competitiveness from the local research base, along with the need to capitalize on knowledge from the skilled diaspora through enhanced linkages (World Bank country paper series: Macedonia, 2013). Moreover, the economic crisis has diminished even further the scientific and research cooperation among universities, scientific institutions, and economic entities (Ibid.)

Otherwise, key challenges to Macedonia's R&D policy include: insufficient infrastructural facilities and institutional infrastructure; underdeveloped mechanisms for transferring knowledge and research in the business sector; an unbalanced distribution of researchers by sector; low investments in applied research and innovation and a low level of private investment in R&D; a low number of young researchers; and an unaccounted brain drain which confirms the lack of capacity to retain talents (World Bank country paper series Macedonia, 2013).

Many of these issues are addressed in the recently adopted National Innovation Strategy 2012-2020 and its Action Plan 2013-2015, adopted in November 2012. Furthermore, in May 2013, a new Law on innovation activity was adopted, defining innovation activity, and regulating the principles, objectives, and subjects of innovation activity (Ibid.) However, an increased budget for the implementation of the action plan is as fundamental to this project, as much as the establishment of the efficient management, administration and supervision of the main operating agencies in the area of innovation and research and the development of technology.

Improvements to the institutional framework which will impact on the implementation of mechanisms in the country is largely correlated with the need for good governance. As suggested within the Action Plan for Macedonia, the ICT and research systems that are competitive and transparent need to be driven by quality recruitment practices and efficient administrative procedures serving the purposes of institutional missions. In line with this, the better governance of universities and public laboratories needs to be achieved through new mechanisms, such as: the greater use of project funding, awarding contracts and grants through competition, the reform of management and the funding of higher education (World Bank report, country paper series: Macedonia, 2013).

Good governance for research and innovation policies means having an integrated and coherent policy-making process in place with stable institutions, and deploying policy agencies that perform according to policy objectives and well-defined implementation procedures. Elements of good governance include policy formulation mechanisms such as consultation identification, monitoring and accountability. However, a fundamental component of good governance is the legal framework for research and innovation activities in which the responsibilities of stakeholders are clearly defined, especially for funding and performing agencies. As such, the role of national Parliament is also highly important in delivering a sustainable legal

framework for the implementation of key governmental policies and instruments.

In order to become more familiar with the overall results that Macedonia is delivering, one of the indicators of the country's performance is the annual competitiveness report delivered by the World Economic Forum and according the findings in this report, the key imminent challenge for Macedonia as well as its neighboring countries is the need to advance its institutional capacity as a platform for advancing the transformation towards knowledge-based economies (World Economic Forum Report, 2012).

According to the same report, with regard to the key priorities of the Europe 2020 strategy for reaching smart, inclusive and sustainable growth, Macedonia "achieves scores similar to its EU candidate peers for its enterprise environment, where the private sector has seen slight improvements in obtaining financial resources since 2010. Improvements in ICT infrastructure, such as mobile phones and Internet bandwidth, have helped the country advance its digital agenda. However, Macedonia faces multiple challenges in the areas of education and training, and innovation and environmental sustainability, since according to the inclusive Europe sub-index, the dramatic rise in youth unemployment has been registered as well as a worsening in labour-employer relations perceived by the business sector and productivity alignment since 2010" (Ibid.) In order to tackle these challenges, Macedonia has identified policy challenges in terms of funding, governance and the reforms needed to make research systems more competitive, and more closely integrated with the ERA in a bid to increase their impact on knowledge-based economies. However, these challenges are also forcing the transformation of the political democratic environment of Macedonia and the other Western Balkan states.

Comparative Perspectives: Macedonia, Serbia, Bosnia & Herzegovina

According the Global Competitiveness Report 2013-2014, issued by the World Economic Forum, Macedonia is ranked in 73rd place with a score of 4.14 out of 148 countries with the highest score of 5.67 going to Switzerland; then Bosnia at 87th, with a score of 4.02 and then Serbia with a score of 3.77, ranked 101 with the lowest place among the EU candidate countries. According to this report, Macedonia performs inefficiently in several key areas which are impacting upon the efficient transformation of economies based on knowledge, innovation, research and development such as: the transparency

of governmental policy making, the efficiency of the legal framework, the country's capacity to retain talent, the country's capacity to attract talent the absorption of firm-level technology, the nature of competitive advantage, capacity for innovation, company spending on R&D, and university-industry collaboration in R&D. Bosnia by contrast to Macedonia, has better results in the fields of university-industry collaboration in R&D and the availability of scientists and engineers, while Serbia has better results than Macedonia and Bosnia concerning the quality of scientific research institutions (See Figure 1.)

Figure 1: Western Balkans (Macedonia, Serbia, Bosnia & Herzegovina) performance in key areas for efficient transformation towards knowledge-based economies, 2013

Country	**Macedonia**	**Bosnia & Herzegovina**	**Serbia**
Firm-level technology absorption	121	93	137
Capacity for innovation	94	108	133
University-industry collaboration in R&D	81	27	104
Availability of scientists and engineers	92	37	85
Company spending on R&D	91	86	133
Transparency of government policy making	47	64	118
Country capacity to retain talent	123	143	146
Country capacity to attract talent	134	140	147

Source: World Economic Forum, the Global Competitiveness Report 2013–2014, 260-261.

As we can also see from the available data, all three countries have low results in firm-level technology absorption, company spending on R&D and the countries' capacities to retain and attract talent. Bosnia is ranked the best by comparison with Macedonia and Serbia concerning university-industry cooperation and the availability of scientists and engineers. Macedonia on the contrary is ranked better than Bosnia and Serbia with regard to the transparency of government policy making. However, these common indicators show that Macedonia, Bosnia and Serbia, are still confronted with the necessity of the practical implementation of their national instruments for a successful implementation of the regional R&D strategy for innovation, and an efficient implementation of national polices for boosting the potential of the knowledge-based economies in a bid to achieve smart, inclusive and sustainable growth.

Conclusion

The general overview of knowledge-based economies, with a focus on the Western Balkans suggests that the contribution of technology transfer in the region is limited, as is reflected for example in the limited interaction between the research and enterprise sectors (Western Balkan regional R&D strategy for innovation, 2013). The research sector in the Western Balkans is characterized by lagging scientific performance, resulting from an insufficient supply of inputs in the areas of: human resources, research funding, facilities and a regulatory regime that does not encourage performance. While scientific performance has been improving, it still lags behind the EU member states and Eastern Europe in terms of both quantity and quality (Ibid.)

It therefore has to be recognized that the recently proposed Action plan for regional cooperation complements, strengthens and builds on national strategies, policies and programs while recognizing that the different levels of development of research systems and their contributions to development, are meant to be firmly embedded in the national, regional, and local priorities every Western Balkan country (Western Balkan inception report, 2013). However, the implementation of the relevant policies should be firmly supported by politically stable and adequately financed support structures (Ibid.)

Necessary transformations and investments are largely needed in higher education institutions, research centers, the development of public-private partnerships, and private company investment in the R&D and ICT sectors, supported by relevant governmental policies, and a wide variety of know-how and expertise in terms of collaboration, communications, involvement, and management, Consequently, innovative collaboration among stakeholders such as: governments, parliaments, social groups, the civil sector, citizens, and the media should be largely improved as well. Prior to boosting the potential of knowledge-based economies, it is necessary to boost the potential of citizens as the core value lying at the heart of knowledge-based economies. In order to strengthen human capital as the main asset of knowledge-based economies, the potential needs of citizens need to be properly managed and implemented.

The transformation of knowledge-based economies is a complementary, largely mutual, interrelated and interdependent process and therefore it cannot be seen only from a scientific perspective. As Pissani-Ferry and Sapir (2006) have commented:

An improved methodology will need to make the evaluation of national programs and policies consistent with the underlying rationale for EU engagement in different areas. In practice, this means a more systematic and consistent comparative assessment of the quality of national policies in areas such as employment, and concrete recommendations to member states for action in areas such as R&D where the rationale is interdependence. The latter would help ensuring that the goodwill shown by EU (candidate) countries in their national reform programs translates into actual deeds for promoting innovation, and that R&D efforts are increased where they have the best potential.

Moreover, transparency in decision-making processes supports the democratic process as it empowers national electorates to review the performance of their own governments and to open up public debates on key areas which have been underperforming. It is therefore recommended that states should strive to adopt minimum standards regarding the involvement of parliaments and the transparency of follow-up arrangements" (Ibid.)

In order to maximize the important role of the innovative economies and to boost the potential of R&D, innovation and technology in driving growth, all European states including the Western Balkans: Macedonia, Serbia, Bosnia and others must fully commit to understanding and contributing to their interplay within the wider knowledge economy. This includes improving the career path for researchers, providing more funding through competitive processes and continuing to strengthen policy co-ordination. Strengthening regional co-operation, especially in co-ordination with the EU, is important in order to reinforce the research and innovation sector. Moreover, its Governments must accelerate its efforts in engaging all relevant non-governmental actors: business communities, academia, the civil sector and media in order to keep pace with the changes of globalization and transitions towards internationalization, digitalization and modernization.

Macedonia, Bosnia and Serbia are facing the challenges of globalization and the changing concept of geopolitics and geo-economics in the 21 century. So, strong governmental will is more than necessary in order to face the challenges of the EU reforming processes as well as global modifications towards a smart and inclusive way of living, acting, thinking and performing. Moreover, the key stakeholders of Macedonia, Bosnia and Serbia need to closely address the recommendations of annual EU progress reports, including the need for the implementation of the rule of law in a much more effective, efficient and comprehensive manner. Such joint platforms and

political openness, dialogue and cooperation can accelerate the democratic maturity of the states in their effort to address diverse economic, political and social challenges. Furthermore, it can create extended opportunities for innovative cooperation, the exchange of experience, expertise and know-how, resulting in a joint consensus on issues which are of high importance to the knowledge-based development of their societies and economies. As a result, the relevant mechanisms for addressing the challenges of global competitiveness can be further developed and a strong service economy can be delivered with efficient industrial, research and academic support. The improvement of the research and innovation systems overall, can impact on economic growth and help to support the modernization of economies based on knowledge.

At the end of the day, the efforts made by countries to transform their economies and societies in line with the EU 2020 priorities and goals require the building of strong partnerships, with strong support for national parliaments and an efficient sharing of experience within the framework of good governance. This can firmly support national, regional and local efforts to bring global changes to their citizens. In order to meet these challenges, strong leadership and efficient management is necessary for implementing the necessary national, regional and supranational strategies for creating smart, inclusive and sustainable economies. The efficiency of the platform of good governance can largely improve supranational, regional and national policies as much as financial investments in reaching the necessary targets which shape the position of states within the competitive global drive towards knowledge, growth and wealth.

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