

# *Mainstreaming ICTs for Smart Growth: Dynamics of Research, Development and Innovation in Albania*

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## **Abstract**

*In the context of a knowledge-driven economy, knowledge, information and innovation are interrelated with economic and social objectives and are deemed as drivers of development and smart growth. It is argued that the Western Balkan countries need to shift their growth model towards production and trade in order to be able to compete in the European market and benefit from the EU accession. In achieving this model of growth, the WB countries such as Albania face challenges such as the legacy of fragmented reforms, low levels of R&D, deterioration of research infrastructure and brain drain; low levels of business and research collaboration, lack of strategic policy processes, politicization and lack of systematic monitoring and evaluation of research performance. This paper explores the dynamics of research, development and innovation in Albania. By using secondary data and document analysis and drawing from a regional project<sup>1</sup>, it argues that the strategic aims for the smart growth of Albania in the context of a knowledge-based economy should be: (i) improvement of research base and conditions for research excellence; (ii) enhancement of effective research commercialization and fostering research and business collaboration; (iii) improvement of business sector innovation and establishment of start-ups.*

**Keywords:** *Information and knowledge based economy, R&D, Research and innovation systems, Albania, ICTs*

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<sup>1</sup> This paper presents part of the findings conducted in the framework of the project “Joint research and workshop on Knowledge-Based Regional Development in Albania and Kosovo - Reducing social and economic disparities through social and economic innovation”, led by the Vienna Institute for International Economic Studies (wiiw), Austria and implemented by UET Centre, Albania and Riinvest Institute, Kosovo.

## Introduction

The emergence, development and the rapid proliferation of information and communication technologies (ICTs) have significantly transformed almost all dimensions of our contemporary world leading to a conceptualisation of a knowledge-based economy. Its prominent interpretation is that of a network society and economy that are based on command and control centres of knowledge generation and information flows (Castells, 2001). Though scholars do not agree on a common, all-encompassing definition of the knowledge-economy concept, in the sphere of politics, policy-making and private sector various international and national programmes are being established so as to develop it further. As such the European Union Strategy 2020 focuses primarily on the ways in which smart growth could be boosted by concentrating efforts on the knowledge sector, which entails research, development and innovation. Particular attention is paid to the extent and the ways in which research and innovation could contribute to development and economic growth. The aim of paper is to investigate to what extent and in what ways, if at all, strategies, and policy interventions and programs for the development of a knowledge-based economy in Albania could contribute to smart growth. First, the paper will identify the main approaches (strategies, policy interventions and programmes) towards the development of a knowledge-based economy in Albania. Secondly, it will assess the key components of the Research and Development (R&D) and innovation systems. Finally, it will analyze the potential for moving from R&D to Research and Innovation (R&I) in emerging economies such as the case of Albania.

## Methodology approach

The paper applies a qualitative methodology approach by making use of secondary resources and document analysis. One of the main difficulties of the research was the limited quantitative data to measure the impact of R&D on economic growth. However secondary quantitative data from secondary resources and document analysis are used in order to address the main research question. The desk research of secondary resources provides an overview of the international scholarship on knowledge-driven economy and R&I. In addition, through desk research the main approaches (strategies, policy interventions and programmes) towards the development of a knowledge-based economy in Albania were explored. This was done mainly through document analysis and use of secondary data. Document

analysis and secondary data were also employed to analyse the main features and dynamics of the public policy framework in Albania and Kosovo regarding regional development and social cohesion and its interrelations with strategies, policy interventions and programmes for knowledge-based economy and society. The main resources used were: policy documents, reports from international organizations, secondary data from governmental institutions, independent and non-governmental organization as well as project reports.<sup>2</sup>

## Research and Development in the Western Balkans

The Western Balkans countries (WBC) have followed the economic strategy shared by the EU new members states as a sign of the political will for the EU integration and free market economy and as a result their product and services markets have been integrated in EU through instruments such as EU association agreements, CEFTA, FDI inflows (Radosevic, 2014: 59). Economists (Kadare, et.al. 2014; Becker, et.al, 2010) argue that the impact prior to 2008 crisis was not entirely satisfactory with the trade balance deteriorating and the FDI composition biased in favor of banking and real estates. Consequently the economic growth of the region seemed to go more towards 'spurt' and less catching-up. The 'spurt' tendency implies that there is a short period of high growth, but it exhausts itself due to limited technology upgrading, innovation, institutional reforms and restructuring of the economic system as a whole (Radosevic, 2014). Considering that the EU accession is the 'only game in town', technology upgrading, innovation and R&D as factors for economic growth and social progress have emerged as new policy issues in the WBC (Kadare et.al. 2014).

In principle it is argued that R&D leads to innovation, which then enhances competitiveness, and therefore economic growth is generated. The question is whether this model may be of relevance in emerging economies like it has proven to some extent for the developed countries. Radosevic (2014: 60) argues that this model is not relevant for the WBC as these countries operate behind technology frontier and their R&D competences are very weak. However, innovation is as important in the WBC as it is in developed countries, but it has to do more with acquisition and adoption of machinery rather than the conventional meaning of R&D. In this light the policy demand for R&D and innovation has been low, but with a recent emergence at the national and international level. Considering the above, R&D cannot be the only growth model for the WB.

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<sup>2</sup> Full list of resources used for document analysis and secondary data analysis can be found in Annex 1 – List of Resources.

**TABLE 1:** The R&D Capabilities in the WBC

*The Scientific performance is below the average of EU country in terms of quantity and quality despite improvements.*

The average number of citations per document in the WB (0.62) in 2003–2010 was about half the EU-27 average (1.27).

*The Enterprise sector's investment in research and innovation is low and sporadic.*

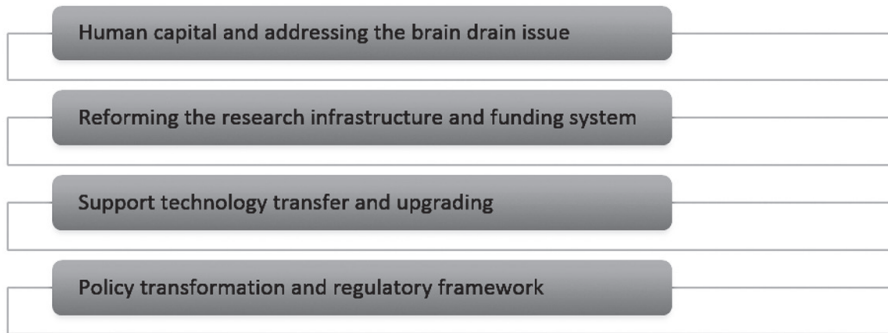
None of the WB countries surpassed the EU-27 or the world's "impact factor" average in the same period.

*Research and industry collaboration tend to be driven by occasional opportunities and short time objectives.*

In a science-industry collaboration ranking of 144 countries, the Western Balkans' average stands at the 88th position, compared to the 40th of the EU-27.

Source: SCIMAGO Research Group 2012

Scholars (Radosevic, 2014; Becker, et.al, 2010) point out that the growth model of WBC should be based on pattern of technology upgrading for latecomer economies. This implies that the first step is the improvements of production capability and then followed by technology upgrading and innovation. In this sense, R&D sector in WBC means moving towards applied research in priority areas of the economic growth, social progress and overall country development and EU integration processes. Radosevic and Lepori (2009: 659) argue that the major challenge of post-communist countries' research funding systems is 'to achieve balance between scientific excellence and socioeconomic relevance'. Even though this does not fall within the mainstream policy on R&D, it is a contextual fit based on the market structure of WBC, their institutional landscape, political issues as well as higher education and research dimensions. As such R&D should be more about social and economic relevance of the research and its impact rather than excellence and pure science. Given that Horizon2020 is based on the principle of excellence, it may be a constraint for the R&D system in WBC, where the funding schemes should be not only about excellence, but also about social and economic relevance.

**TABLE 2:** Mainstreaming Research and Innovation in the WBC

Despite the challenges for R&D in the WBC and the notion that R&D shall not be considered as the only model of growth, the European Commission includes the WBC into the overall objectives of innovative Europe, which based on research excellence. Drawing from the principle that science and research are the driving forces for the economic growth, social progress and stability of the emerging economies, European Commission in cooperation with the World Bank and Regional Cooperation Council have developed the following projects:

- Southeast European ERA.NET – SEE-ERA.NET, a platform launched to support the integration of SEE into the European Research Area. It aimed not only to link EU members states with SEE in terms of R&D but also to interconnecting existing research activities at the national, regional and bilateral level. In order to enhance research cooperation, in 2009 a follow up project was initiated, SEE-ERA.NET PLUS.
- Since 2008 within the 7<sup>th</sup> EU Framework Programmer, the ‘Steering Platform on Research for the Western Balkan Countries’ was funded by the EC and was technically supported by the WBC-INCO.NET. It is evaluated that WBC-INCO.NET ‘was crucial for fostering European and regional dialogues concerning structured participation in FP7, monitoring and analyzing S&T cooperation, facilitating networking and increasing participation of the WBC’s researchers in European RTD projects through structural measures’. (Martinovic & Dall, 2014: 14).

Under the auspice of the Regional Cooperation Council and the funding of the EU and WB, in October 2013 the ministers responsible for science and education in seven Western Balkans countries met in Zagreb to sign a declaration endorsing the Western Balkans Regional R&D Strategy for Innovation (Polajnar, 2014: 66). This is a clear confirmation of the importance placed the WBC countries and the

international community on the R&D and innovation sectors in the region. The aim of the Strategy and the Action Plan is to create a regional common framework to address the WBC's priority of improving their R&D, innovation, economic growth and thus prosperity. The Strategy seeks to propose institutional and policy reforms in order to improve the quality of R&D, which then contributes to innovation and therefore to the establishment of knowledge-based economies that will generate growth. The target of the Strategy is to 'to mobilize additional resources from public and private sources, the EU and other stakeholders to reach an average of 1.5% of GDP of Gross R&D expenditures at the regional level by 2020' (Polajnar, 2014: 68). This will facilitate the integration of WBC in the European Research Area and improve their innovation capacity, which can lead to the convergence of the R&D set by the EU.

**TABLE 3:** EC Recommendations for R&D and innovation in the WBC

<p>Improve Research Excellence</p>	<ul style="list-style-type: none"> <li>• Brain gain</li> <li>• Investment in human capital</li> <li>• Increase research funding</li> <li>• Improve research infrastructure</li> <li>• Incentive for research performance</li> <li>• Attract talented researchers from the scientific diaspora</li> <li>• Promote researchers' mobility</li> </ul>
<p>R&amp;D and innovation policy</p>	<ul style="list-style-type: none"> <li>• Completion of the reforms of the higher education and research systems</li> <li>• Development of research management competences</li> <li>• Regional collaboration</li> </ul>
<p>Research-Industry Collaboration and Technology Transfer</p>	<ul style="list-style-type: none"> <li>• Research-Industry Collaboration and Technology Transfer</li> <li>• Enhancing the performance of technology parks and incubators</li> <li>• Enable Business Investments in Research and Innovation and in the Creation of Start-Ups</li> </ul>

The concrete results of the Strategy and Action plan are still to be evaluated in terms of the impact they will bring in the WBC R&D and innovation systems. The concern is that they will remain yet again good strategies in paper, rather difficult to be implemented in practice in the region due to various constraints of the research system. As shown in Table 3 the first recommendation coming from the Western Balkans Regional R&D Strategy for Innovation, is that of improvement of research excellence through investments in the development of human capital. The lack of funding from governments in WBC and the brain drain

remain obstacles in improving the research excellence. The competition with the frontier research of the EU and other regions in the world makes this even harder. Thus the action plans supported by the EC shall focus more on the applicable research and its social and economic relevance for the needs of the region. The recommendations for R&D and innovation policy as well as research and industry collaboration also highlight the necessity for regional cooperation and business investments in research.

### **The case of Albania: Approaches towards a knowledge-driven economy**

The Albanian Government is addressing issues related to research, science and technology at the level of strategy and policy-making only recently, in line with the ambition to join the European Union and be part of the European Research Area. Between 2006–2013 the research system in Albania experienced some essential transformation with the introduction of policy, national strategies, programs and action plans addressing higher education, research, science and technology and innovation. In this regard, research institutes, previously separated from higher education institutions and linked to line ministries, were reorganized and 12 Technology Transfer Centers and Agencies were created, having as their main mission the transfer of technologies and knowledge with technical support (ERA Watch Observatory, 2014). The development of a knowledge-based economy in Albania can be traced in various policy, national strategies, programs and action plans, which focus on research, innovation, science and ICTs as key instruments for the economic growth and social progress of the country.

First, the establishment of new faculties of science and technology such as: (i) the Information Technology Faculty of the Polytechnic University of Tirana; (ii) the Faculty of Biotechnology and Food of the Agricultural University of Tirana; (iii) the Applied and Nuclear Physics Centre and Biotechnology Department of the University of Tirana. In addition, other specific programs and curricula in higher education were introduced both in the public and private sector with a particular focus on ICT, innovation and entrepreneurship. In addition, a new Law on Higher Education was introduced in 2007 in line with the Bologna Process, which is currently under revision with the new Government as will be analyzed in the following section. Moreover, another element is the participation in the EC Framework Programs, FP6 and FP7 and recently Horizon2020 and Erasmus+, particularly in areas such as infrastructure, transport, health and ICT.

Secondly, the Brain Gain Programme was launched in 2006 by the Albanian Government and supported by the UNDP aiming at attracting highly qualified

scholars in the diaspora to return to Albania, but also to prevent brain drain in the future by providing incentives to remain in the country (Zeneli, 2012). In order to support human capital, the GoA established in 2008 the Excellence Fund to provide scholarships for young researchers and scientist to study at top universities abroad mainly for masters and doctoral programs.

Third, the launch of the Cross-cutting Strategy on Information Society (2008 - 2013), aiming at coordinating the efforts towards information based economy. To implement the goals of the strategy, the National Agency for Information Society (NAIS) was established in 2007 to coordinate government activities in information technology and communication. In addition, for the first time in 2009 the National Strategy for Science, Technology and Innovation was launched (2009-2015), which establishes the instruments for designing the foundations of a functioning scientific research system in Albania. The strategy was based on the model of the national innovation system, which is also currently moving towards the Triple Helix model. The establishment of the Albanian Agency of Research, Technology and Innovation (ARTI) in August 2009 aimed at improving policy implementation followed this. The role and functions of ARTI are now under revision with the introduction of the reform on higher education and research in Albania.

A dedicated government unit at the level of ministry was created for Innovation and ICT in 2010, namely the Minister for Innovation, Information Technology and Communication. In September 2013 with the new government this became the State Minister for Innovation and Public Administration at the Council of Ministers. In terms of the private business sector, the Business Innovation and Technology Strategy (2011 - 2016), including Strategic Programme for the Development of Innovation and Technology of SMEs for the period 2011 - 2016, was introduced in 2011 seeking to provide concrete support to SMEs by promoting the innovation process, improving technological capacity, and establishing an innovation system that will enhance interaction with institutions that support enterprises.

The new GoA, which came into power after the parliamentary election in 2013, marks a shift from the 8-year right wing government to a left wing coalition, which is currently introducing substantive reforms in various sectors such as education, health, justice etc. The Government has initiated in 2014 a reformation process of the higher education and research system in Albania with a particular focus on science and research development. The Government in line with the EU integration has reconfirmed the previous government stance on the importance of the R&D and scientific progress as the indication of the country social, economic, and cultural development, as well as a factor of democratic consolidation and EU accession perspective. The new government introduced some institutional decomposition of



the line ministries and institutions supporting R&D and innovation in Albania, for instance, the previous Ministry of Education and Science is now composed as the Ministry of Education and Sport, the previous Minister of Innovation, Technology and Information Communication is now composed as the Minister of Innovation and Public Administration, the previous Ministry of Economy, Trade and Energy is now split in two ministries: Ministry of Economic Development, Trade and Entrepreneurship and Ministry of Energy and Industry. Though MES remains the key governing authority in the area of science and technology, other ministries such as Ministry of Economic Development, Trade and Entrepreneurship, Minister for Innovation and Public Administration and the Ministry of Social Welfare and Youth are engaging more in the area of R&D.

The NSDI (2007-2013) did not manage to grant funds for some of the key issues included in the programme such as Fund for transfer of technology and knowledge, Cluster programme; Incubation Programme; Research Infrastructure Programmes; Albanian Centers of Excellence Programme; Research Eagle Grants. In this light, the innovation policies towards addressing societal challenges, supporting research infrastructure in academia, supporting young researchers and innovative project from business and public sector still face major challenges. The new GoA has completed the evaluation and revision of the NSDI 2007-2013 and a new strategic document has been developed. The NSDI 2014-2020 proposes to increase funds for research through National Programmes and International Programmes for Research and Development, (bilateral and multilateral), so that funding for this sector accounts for 1% of GDP in 2020 (NSDI, 2014-2020).

## **Dynamics of the Research, Development and Innovation in Albania**

As part of its efforts to integrate into the larger European economy and research area, and in line with EU integration processes and the candidate status, Albania has undertaken a number of strategic reforms and has adopted policies aimed at developing its research, development, and innovation system. As noted by the World Bank assessment of the R&D in Albania, profound challenges remain in terms of research capabilities and innovation. Even though, various programs have been implemented such as the Brain Gain Programme, Albania does not have a critical mass of specialized researchers, nor does it have sufficient infrastructure and funding for research excellence (Correa, 2013: 7). Another concern is that it is not adequately capitalizing on knowledge from skilled nationals abroad through enhanced innovation

linkages, much less reversing migration trends by providing professionals new and better employment opportunities (Correa, 2013: 7). Other issues relate to research infrastructure, low levels of research and industry collaboration and funding.

In order to assess R&D capabilities in Albania, it is necessary to consider the following indicators: Expenditure for research; internationally recognized papers/publication; resident patents; technology transfers; research – industry collaboration. Even though the number of patents and international recognized publication in WBC is relatively low compared to the EU, production capability has improved in Albania, Macedonia and Croatia with technology upgrading and product differentiation in sectors such as food, furniture, clothing and footwear (Radosevic, 2014: 62). However, number of internationally recognized papers/publication and resident patents as well as technology transfer is low (Kutlaca, 2013). According to ERA Watch Observatory, most private companies in Albania are still in early phases of development, and the technologies and knowledge that are needed to grow their business already exist on the market. Thus, the approach has been mainly to import innovations. Albanian companies generally are not willing to spend much on R&D or in becoming partners in possible research projects with public institutions.

The lack of public-private partnerships for research remains a critical weakness in the Albanian research system and one of the main policy challenges for the future of R&D in Albania. Most policies are aimed at developing research and scientific capacities of the higher education sector. However, the GoA has also introduced policies targeting the business sector R&D such as the launch of the Albanian Business Innovation and Technology Strategy (BITS) 2011 – 2016, to provide concrete support to SMEs by promoting the innovation process, improving technological capacity, and establishing an innovation system that will enhance interaction with institutions that support enterprises. In 2012 some of the Business Innovation and Technology Strategy (BITS) programmes were launched. For instance the public-private partnership ProTIK Innovation Centre, began operations fully in 2013 as well as Albanian Investment Development Agency. The Ministry of Economic Development, Trade and Entrepreneurship has revised the previous national strategy on business and investment development and is currently finalizing the draft 'Business and Investment Development Strategy 2014-2020'. The strategy is in line with the program of the new Government, EU 2020 and SEE 2020 and focuses on a competitive Albania. The strategy is an important policy document, which engages to revitalize the Albanian economy through a dynamic entrepreneurship and productive industry, where 'an important part of the strategy is given to innovation and entrepreneurship culture for SMEs' (Draft BIDS, 2014).

**TABLE 4:** Key actors in R&D in Albania

Innovation-related government institutions
Governmental programmes and policy
Technology and Innovation Centres
Innovation Clusters
Technology and Science Parks
Business Start-up
Technology Incubators
Higher education and research institutions
International organisations

Similar to other post-communist countries, the funding of research system in Albania, has undergone significant transformations in the past 25 years, which were impacted by the structural changes in the economic system; the opening up of the research and innovation system and the introduction of the quality as a funding criteria (Radosevic & Lepori, 2009: 661). The R&D funding flows in Albania are principally from the state budget and small amount from the private sector. An increasing support is received from international organizations. The flows of R&D funding in Albania are as follows:

- State budget through Ministry of Education and Science through:
  - This is institutional financing allocated by the state budget to research institutions such as Albanian Science Academy, Albanian Institute of Statistics, other research centres of line ministries and public universities. The funding flows goes via the Ministry of Education.
  - Programme financing within the framework of the information society under the Minister for Innovation and Public Administration.
  - Bilateral programmes between the Albanian Government and other countries (e. Austria – Albania Science and Technology Fund; Turkey and Albania Research Fund) financed through ARTI and/or MES;
  - National Programme for Research and Development financing scheme through ARTI.

- International collaborations. International donors have been one of the most relevant sources of funding and support to the research and development in Albania such as: Austrian Development Agency; Swiss Agency for Development and Cooperation; The Research Council of Norway, the European Commission and World Bank.
- Private financing from the business sector, private universities and other organizations. The funding of R&D from international organization has, apart from the benefits, created new gaps between the local business and enterprise sector and the R&D.

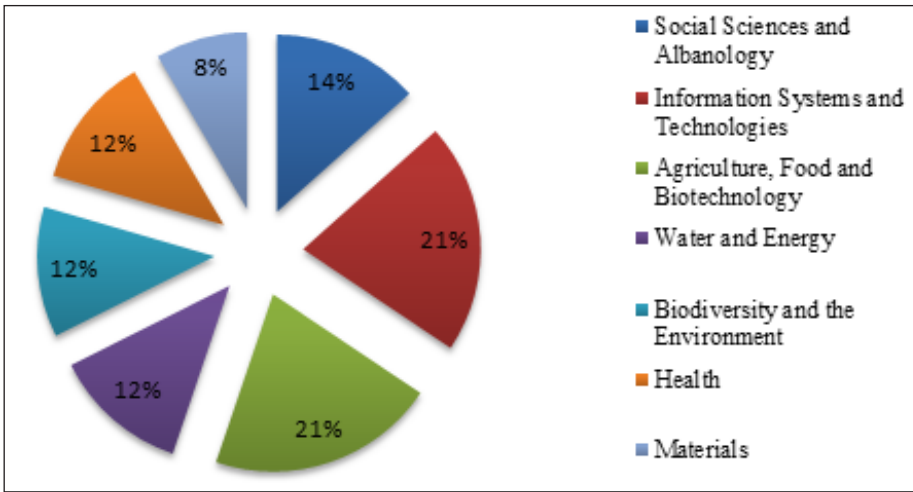
**TABLE 5:** Albanian Government Expenditure on Education and Science

Albanian Government: Expenditure on Education and Science	2008	2009	2010	2011	2012	2013
% of expenditure on the education system from the total state budget	15,2%	16,4%	16,3%	15,6%	15,8%	15,4%
% of expenditure for research activities from the state budget in the field of education	1,3%	0,62%	0,5%	1,6%	1,6%	0,7%
Share of GDP for scientific research	0,4%	0,2%	0,2%	0,3%	0,3%	0,1%

Source: Era Watch and Open Society Foundation  
for Albania, Monitoring Draft Budget 2014

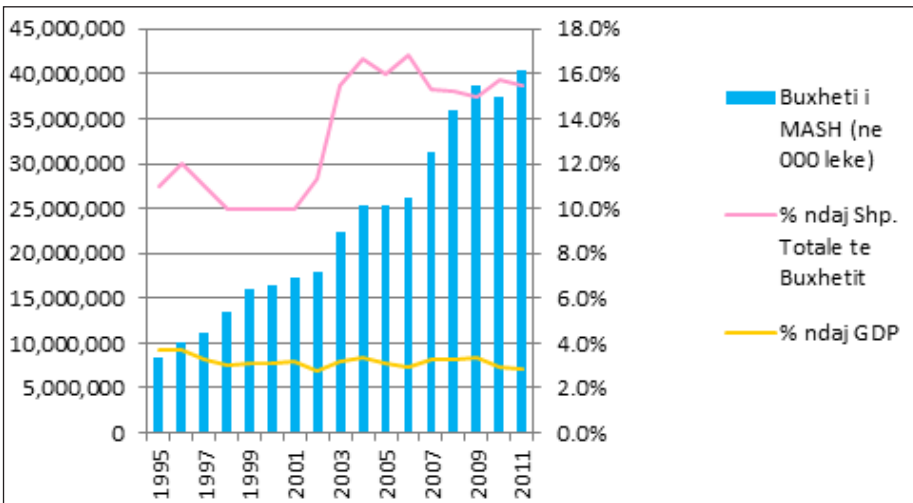
According to the Era Watch Research Policy Observatory, it is estimated that in 2012 the Albanian Gross Expenditure on R&D was close to 15m Euro, which represents only 0.04% of the GDP, i.e. the lowest in Europe and far below the Lisbon target of 3%. R&D is concentrated primarily in the public sector, higher education and line ministries of the government. According to UNESCO statistics, 52,1% of the R&D was performed by the public sector and 47,9% by the higher education and research centres under the auspices of the MES. In terms of funding, UNESCO data indicate that 80.8% of R&D is funded by the government sector, with 8.6% supported by higher education, 7.4% from abroad and 3.3% by business enterprises. It is estimated that the gross business enterprise expenditure on R&D to GDP in Albania is approximately 0,00025% (Era Watch Observatory, 2014). There is a growing pattern of R&D performance in the private sector, particularly in private universities, non-governmental organization as well as companies focusing on innovation.

**FIGURE 1:** National Priorities for R&D Budget



For the period 2010 – 2012, there are seven National Programmes of Research and Development. In terms of expected funding for the period 2010-2012, the programmes for ITC and Agriculture, Food & Biotechnology received more than a fifth of the R&D funding, whereas the next four priorities received around 12-13% of the funding.

**FIGURE 2:** Albanian Budget for Education System 1995-2011



Source: Open Data Albania 2014 based on World Bank; Ministry of Finances and Bank of Albania

The R&D policy in Albania is based on the National Strategy for Science, Technology and Innovation and the soon to be introduced Law on Higher Education and Research. Even though the aim of the strategy is to introduce competitive funding criteria for policy instruments in R&D and innovation, this has not been achieved so far. The new Law on Higher Education and Research seeks to remedy this and provide a new funding scheme for higher education institutions and research in Albania. The budget for higher education represents 14, 8% of the overall budget for the Ministry of Education and Sports, whereas the science fund represents only 0,45%. The total budget for education sector, including the vocational and professional education, for 2015 represents 2.75% of the GDP and 8, 9% of the total budget expenditure for 2015. Despite the slight increase in the state budget for MES, the share for higher education and science/research is still low.

**TABLE 6:** Ministry of Education and Sports Budget 2015

Ministry of Education and Sports	Total Budget Expenditure for 2015 in 000 ALL
Total	39,049,980
Planning, management and administration	805,730
Basic education	24,887,628
Secondary general education	6,879,263
Higher education	5,797,590
Science Fund	177,000
Development of Sports	502,769

Source: Ministry of Finances, State Budget 2015

The Prime Minister created a Commission for the Reformation of Higher Education and Scientific Research in early 2014. The commission introduced a First Draft Report on the Reform of Higher Education and Scientific Research in Albania in spring 2014, and upon consultation with stakeholders, a final version was launched in July 2014. The Commission then developed a draft law on Higher Education and Scientific Research in Albania, which is currently still under discussion in the Parliament. Some important changes regarding science and research proposed in the new reform and which most likely will go through are:

- The establishment of the National Agency for Financing Higher Education, which will allocate funds to the higher education institutions in terms of: institutional support fund for the public HEIs; Scholarships and Support fund for students; funds for scientific activities, research and development.

- ARTI will be transformed into the National Agency for Scientific Research, composed of academics and managers elected by MES. The main function of the Agency will be the allocation of funds for scientific activities, research and development based on a competitive application process for all HEIs in the country and scientific performance indicators. The Excellence Fund for doctoral programmes will be managed by the agency.

Progress has been made in terms of regional and international cooperation in research and development. Two main policy papers have been drafted, in which the Albanian Government engages to cooperate with UN organizations and address a regional approach to R&D and innovation policies. These main documents are expected to potentially affect the R&D policies towards a better integration with the regional priorities and access more international support as regards support measures. The two papers are: (i) Albania – United Nations Programme of Cooperation 2012-2016 represents a common action plan for 20 UN agencies with the Government of Albania for the coming five years. The programme substantiates the UN's contribution to national priorities and outlines a series of expected results in four priority areas: Governance and rule of law, Economy and environment, Regional and local development, and Inclusive social policy. (ii) Regional Strategy for Research and Development for Innovation for Western Balkans represents the regional strategy, as analyzed above.

## **Concluding remarks**

The research topic is relatively under-explored in Albania and aligned to its current priorities. This research topic is relevant to the Albanian policy framework development given that since 2014 the government and stakeholders are in the process of evaluation of existing strategies and drafting the strategies till 2020 in line with the European Union accession process. In this sense, the interplay between research, innovation and growth needs to be fully explored in order to inform sound policy. Of particular interest to policy-making and accession process in Albania is the extent and the ways in which R&D/R&I could contribute to smart growth at all in the context of an emerging economy like Albania. Across the academic world, intensive research is being conducted in order to investigate the ways in which knowledge-based economy impact growth. The transition of emerging economies towards knowledge-based and innovation-driven growth is of particular research interest. The paper aligns with the knowledge-based models of endogenous growth, which imply that through fostering and supporting clusters, innovation systems and networks so as to establish an innovative milieu, whereby

by knowledge production and flow is of central importance, it is possible to achieve innovative outputs and economic growth. Future research should elaborate an econometric model to measure concrete impact of the R&D and innovation on growth in Albania and in the region. In addition, further data shall be collected in order to statistically measure the impact of Triple Helix on economic and social disparities at a regional level.

## Reference

- The policy documents to be analysed during the desk research in order to explore strategies, policy interventions and programmes on knowledge-based growth and regional development include:
- Cross-cutting Strategy on Information Society, Republic of Albania, Council of Ministers, National Agency on Information Society, Tirana, 2008.
  - National Strategy for Development and Integration, 2007-2013, Republic of Albania, Council of Ministers, Department of Strategy and Donor Coordination, Tirana, 2007.
  - Draft National Strategy for Development and Integration, 2013-2020, Republic of Albania, Council of Ministers, Department of Strategy and Donor Coordination, Tirana, 2013.
  - Business and Investment Development Strategy, 2007-2013, Republic of Albania, Ministry of Economy, Trade and Energy, Tirana, 2007.
  - Business Innovation and Technology Strategy, Republic of Albania, Ministry of Economy, Trade and Energy, supported by the EU SME Project Albania, Tirana, 2011.
  - Strategic Programme for the Development of Innovation and Technology of SMEs for the period 2011 – 2016, Republic of Albania, Ministry of Economy, Trade and Energy, Tirana, 2011.
  - National Strategy on Science, Technology and Innovation 2009-2015, Republic of Albania, Council of Ministers, Tirana, 2009.
  - National Strategy of Higher Education 2008 - 2013, Republic of Albania, Council of Ministers, Ministry of Education and Sciences, Tirana, 2008.
  - Regional Development Cross-Cutting Strategy, 2007-2013, Republic of Albania, Council of Ministers, Ministry of Economy, Trade and Energy, Tirana, 2007.

Secondary data from the periodic reports of the related institutions:

- Ministry of Economy, Trade and Energy;
- Ministry for Innovation, Information Technology and Communication;
- Ministry of Education and Sciences;
- Albanian Investment Development Agency;
- Agency for Research, Technology and Innovation;
- National Agency on Information Society;
- Business Relay and Innovation Centre;
- Pro-TIK Innovation Center;
- Chamber of Commerce;
- Albanian Academy of Science;
- HEIs;
- INSTAT – Institute of Statistics;
- Department of Strategy and Donor Coordination at the Council of Ministers.



Secondary data from the reports published by international organisations such as:  
ERAWATCH, European Commission, Platform on Research and Innovation policies and systems;  
TEMPUS, European Commission;  
UNESCO data on education;  
USAID reports on investment, development and innovation;  
Data on regional and local development from the United Nations Development Programme;  
Swiss Agency for Development and Cooperation – Regional Development Programme  
Reports;  
World Bank in Albania Statistics on knowledge-driven economy;  
OECD Data on research and development in Albania;

Secondary data from other publications:

Background Report on Social Sciences and Humanities Albania', 2011, prepared for the project WBC-INCO.NET.  
'Research in the social sciences and social policy in Albania', 2011, edited by T. Dobi and F. Tarifa, supported by RRPP.  
'Social Sciences and Humanities in Albania', 2011, Report prepared by DG-Research, European Commission.  
'The Assessment of Research Capacities in Social Sciences in Albania', March 2010, prepared by the Gender Alliance for Development Centre, supported by RRPP.

Bino, B., (2013) "Presentation of key findings of the Policy Dialogue Initiative", presented at the National Conference 'Bridging the gap between social sciences research and policy making in Albania", organised by the Regional Research Promotion Programme with the support of the Swiss Agency for Development and Cooperation, 14<sup>th</sup> May 2013, available online <http://www.rrpp-westernbalkans.net/en/News/130213-Policy-Dialogue-Albania-Progress>