

# Innovation policies and entrepreneurship in the Baltic States - key to European Economic success

SIRBU Olese<sup>1</sup>, IGNATOV Augustin<sup>2</sup>, CRUDU Rodica<sup>3</sup>

## Abstract

*Entrepreneurship is by far the most important force stimulating economic growth and social progress. In case of the Baltic States pro-market regulation allowed passing over the transition period in a relatively short period of time and, therefore, be sufficiently competitive as to integrate into the European Union. Thus, presently, the Baltic States came to be the most economically developed countries among the former USSR states. Consequently, the present research addresses three key questions, first, which is the role of entrepreneurship in determining the Baltic States' economic development, second, what is the influence of R&D investments of the society in general and of business in particular in boosting economic development, and third, will the present fiscal policies in the Baltic States motivate further economic growth by stimulating entrepreneurial and innovation? The methodology involved in this paper includes both quantitative and qualitative indicators which combined will offer a deeper insight upon the matter of the present research. The results received allowed reaching the conclusion that entrepreneurship has enhanced all the Baltic States' economic competitiveness yet the extent differ, with Estonia leading followed by Lithuania and Latvia.*

*Keywords: the Baltic States, economic development, reforms, entrepreneurship, innovation*

*JEL Code: E22, F15, E62, H61*

## 1. Introduction

After the collapse of Soviet Union in 1991, the Baltic States, Estonia, Lithuania and Latvia regained the independence. Building capitalism on the remnants of communist economy demanded huge human effort and financial resources. Nevertheless, the Baltic States proved to be the most successful among former soviet republics since they managed to overcome in a relative short period of time the transition period joining NATO, the European Union and the Eurozone. Presently, the Baltic States are among most dynamic

---

<sup>1</sup> Olese SIRBU is the Director of the Centre for Studies in European Integration, Academy of Economic Studies of Moldova

<sup>2</sup> IGNATOV Augustin is the Head of the Research and Promotion Department, Centre for European Integration Studies, Academy of Economic Studies of Moldova, Chisinau, the Republic of Moldova

<sup>3</sup> Rodica CRUDU is Associate Professor, Jean Monnet Professor, Department of International Economic Relations, Academy of Economic Studies of Moldova. E-mail: rodikakrudu@gmail.com

economies in the Eastern Europe. The development path of Estonia, Lithuania, and Latvia from obsolete and rigid to prosperous and innovative economies was powered by entrepreneurship and it was boosted by the economic reforms, widely implemented in the transition period.

The present research addresses three key questions, first, which is the role of entrepreneurship in determining the Baltic States' economic development, second, what is the influence of R&D investments of the society in general and of business in particular in boosting economic development, and third, will the present fiscal policies in the Baltic States motivate further economic growth by stimulating entrepreneurial and innovation? Answering to this questions will require realising the following objectives including determining relevant literature review outlining the opinions of various authors upon the researched matter. Moreover, it is to be drawn an entrepreneurial profile of each Baltic State consisting of various indicators important to assess business performance. Then, it should be assessed the socio-economic performance and its inter-relation with the countries' business success. Finally, it has been established as an objective to evaluate the favourability of the present fiscal environment to maintain high levels of business activity and its development. Of particular importance is the necessity to determine the correlation coefficients between: first, indicators of economic development (expressed through GDP per capita current international \$ PPP adjusted) & those of entrepreneurial and innovation performance (including Research and development expenditure (% of GDP) and Business enterprise sector R&D expenditure EUR per inhabitant). Second, correlation will be determined for the relations between the indicators of economic development, entrepreneurial and innovation performances and several taxes of relevance describing the favourability of doing business.

Thus, the present paper comes to provide new insight upon the researched matter identifying key aspects of the Baltic States' entrepreneurship and its future development perspective in the conditions of growing global competition.

## **2. Literature review**

Erixon (2010) underlined that the Baltic countries were badly hit by the global financial crisis. Gross domestic product has significantly decreased, yet the growth potential is high. Since the independence, the Baltic countries have chosen the right institutional structures. A good economic strategy was selected and namely to accelerate reforms. Unlike many other countries in transition Europe, the Baltic countries were part of the Soviet Union, thus, had to go through a much more rigorous stage of reform. They had to quickly leave the ruble zone and the economic planning structure of the Soviet Union. In other countries with economies in transition, such as Poland, the task in this regard was much easier. The Baltic countries developed and joined the European Union, their propensity for further economic reforms has slowed noticeably. Accession to the European Union was the culmination of the past period of reforms. Some thought that this was the reforms. With economic maturity, some macroeconomic measures should ideally move to support the cooler economies not to overheat and create bubbles. In the end, the correct strategy of economic policy for the Baltic countries is to consolidate their economic integration with Europe.

According to Pekarskiene & Susniene (2011) the level of globalization in the three Baltic States is relatively high. The analysis of the globalization indicators of Lithuania, Latvia and Estonia confirms the findings of scientists that small countries are more globalized. Estonia is the most globalized country in the Baltics. The particularly high level of globalization of the country is linked to the rapid process of economic globalization in Estonia. Lithuania dominates the field of political globalization among the Baltic countries. Latvia is the least globalized of the three Baltic States and the indicators of globalization in the political field are extremely low. At the same time, Vojtovic & Krajnakova (2013) consider that the Baltics' economic development is a result of international partnerships and structural reforms. The Baltic States would not have done a difference if economic and social integration in the process of European Union integration were not combined. Thus, the rates of economic development in these countries differ insignificantly from each other. In addition to the revolutionary economic changes pursued during the transition, the Baltic States followed an evolutionary path through the participation in international capital and investment flows, as well as by wise implementation of the economic policies promoted by governments.

Cornia (2011) stated that Estonia, Lithuania, Latvia have promoted efficient economic policies helping them to develop countries' investment attractiveness, both for foreign and national entrepreneurs. The countries de-regulated their control over the capital inflows including sectorial distribution allowing the free market to decide what, when and how to be produced. The stable monetary policies and appropriate exchange rates offered higher motivation for the business environment to undertake higher risks. Proper fiscal policies improved countries' economic competitiveness providing increased initiatives for businesses to enlarge their operational capacities. Nevertheless, inside the Baltics the economic success and performance is uneven since there is specific economic conjuncture leading to a different level of growth. Moreover, Bakshi et al (2011) mentioned that the Baltic States have successfully integrated in the global capital flows. They have a leading position in the Eastern Europe being the nations which open this macro-region for major investors. The development of the financial markets in these states allows for increased liquidity of the financial resources the fact motivating higher economic activity.

Deroose et al (2010) said that despite the fact that three Baltic States developed in similar circumstances, due to similar stages of recovery and financial convergence, the development prospects are significantly different due to various policy frameworks. While Latvia needed the official help of EU and IMF financing program, the other two states did not. The main task of these countries is to regain their growth potential, to completely rebalance their economies. It could be also highlighted a number of lessons from the experience of the Baltic States on the role of financial and macroeconomic policy in the management of overheating economy and growing economic imbalances.

Kuokštis & Vilpišauskas (2010) as well as Burghelea (2011) mention that the Baltic countries, as it is generally believed, are similar in several aspects yet not the same at all. Some economic structural aspects and policy reasons contribute to this answer. However, economic reasoning is not enough to explain internal differences. It could be necessary to underline that there are two major factors influencing the differentiation among the three

Baltic States including: consensus of political power and commitment to economic priorities, as well as public reaction to changes, which allows or not the implementation of major measures to strengthen economic potential. Kalvet et al (2012) believes that the Cohesion Policy resources can be found in all Baltic countries, although the management and implementation mechanisms are different. Data from the Baltic countries indicates that the European Commission encouraged the use of financial instruments with improper administrative work and inadequate understanding of the underlying economic problems, which means minimal tools and reasons for the best solution. One of the Cohesion funding's drawbacks is expressed in terms of lack of financing for SMEs and start-ups, two basic pillars of entrepreneurship. Sirbu et al (2017) and Crudu & Ignatov (2016) comes to offer a counter argument mentioning that the European Union's support was determinative in the sustainable development of Eastern EU countries, especially the development of new member states' energy sector contributing to the complexity of their economic competitiveness. Kuokstis (2011) considers that the specific mode of production in the Baltic region has a relatively low need for social and industrial protection and private or public investment in education. Instead, greater flexibility in the labor market and overall macroeconomic stability are required, ensuring a low public deficit and changing predictability. Concrete "Baltic capitalism" can also help explain the successful Baltic strategy during the last crisis (from the point of view of protecting currency correction).

Vosylius et al (2013) highlight that the effect of economic growth in the Baltic States should be viewed in the short and long-term perspective. An important aspect in this regard is played by the energy sector. In some other way, by which it is measured the energy security and, secondly, how the countries approach through policies the sustainable development. Economic growth and energy security are elements belonging to the results of correlated energy and economic policies. Aiginger (2011) underlined that in the pre-crisis conditions in the Baltic States including the fiscal regulation, commercial competitiveness, productivity and credit growth, the structural features of the economy have been favourable due to the global economic ascension. Presently, the size of the countries, their trade and investment openness, share of individual sectors and per capita income are among their competitive economic advantages. Nevertheless, the Baltic States in terms of economic conditions are unevenly favourable. Thus, the three indicators which make the difference between countries are the current economic priorities, credit and GDP structures. Trade competitiveness is also an indicator of improved economic efficiency.

Kang & Shambaugh (2013) stated that the explanation of the current account deficit in the euro area and the Baltic States is based on two main factors: the deterioration of export performance and change in demand structure. It could also be added that there have been significant changes in net transfers and net surpluses. Although export performance in most countries remains relatively stable, households and companies are protecting the same level of spending when supplies to some countries are shrinking. This was part of the constant opening of trade, which, together with large net payments, increased the current account deficit. All these factors have played a different role in the development of the current account deficit in these countries.

Concluding this section it could be underlined that the articles mentioned offer a

general insight upon the role of entrepreneurship in the economic development of the Baltic States (Estonia, Latvia and Lithuania). It is either examined particular aspects of entrepreneurial activity i.e. the role of pro-market regulation or the issue is slightly overviewed in the macroeconomic context. Further research is need to determine specifically the capacity of Baltic States' entrepreneurial environment to go beyond the expected framework of activities the leading to overall and comprehensive economic development of the region as a whole.

### **3. Data and Methodology**

The present paper is based both on qualitative and quantitative data. Qualitative analysis is performed to identify the countries' entrepreneurial profiles through the assessment of the following indicators: economic freedom, corruption perception, stability of macroeconomic environment, market efficiency, level of business sophistication, and the ease of doing business. The goal of this evaluation is to determine the perceived efficiency of the Baltics' business environment taking into account the opinions of experts, business representatives, policy makers, anti-corruption activists.

Quantitative analysis is completed with the purpose of offering the qualitative assessment a numerical insight. It includes the analysis of the indicators. Firstly, GDP per capita informs about the general evolution of the level of welfare of the countries offering a general insight upon the capacity of business environment to produce a sufficient level of wealth to assure high standards of living for the population. Secondly, Research and development expenditure (% of GDP) highlights in general terms the preparedness of the society to invest in new technologies and innovation, considering that the higher is the R&D spending the higher is the probability to have a technological breakthrough. At the same time is analyzed the Business enterprise R&D expenditure to identify which is the contribution of business sector to innovation related activities. A high indicator informs about an advanced development stage of the business environment considering the fact that only prosperous enterprises can finance risky projects related to R&D. Fourthly, the Baltic States' propensity to entrepreneurship is examined through the prism of several taxes affecting entrepreneurial activities which either motivate or not to do business to develop. Lastly, correlation coefficient is calculated between relevant indicators of entrepreneurial competitiveness allowing identifying the existence of linkages among the variables the fact providing the opportunity to pinpoint proper conclusions.

In this way it is proposed to identify the role of entrepreneurship in the economic development of the Baltics and the business' contribution to higher countries' economic performance.

### **4. Research results**

Innovation and entrepreneurship has been supported in the Baltic States through national, regional and European level policies. Thus, at the national level, Estonia, Lithuania and Latvia included innovation and stimulation as core to economic development and growth. Policy measures which were firstly re-enforced regarded increased of intellectual property rights protection which had to guarantee to entrepreneurs

a transparent environment and enhanced stability. Secondly, favourable business climate has been developed. This meant wide measures in simplifying bureaucracy and at the same time eradicate corruption. These actions have been widely undertaken during the transition period aimed at consolidate the mechanism of the Baltic free market. Thirdly, it was looked for to increase the propensity of the entrepreneurs to patent in order to provide favourable conditions for dispute solving. At the same time, the governments implemented measures of industrial restructuring aimed at increase country's manufacturing performance. Finally, the Baltic States have implemented reforms and policies in the area of boosting countries' capacities in attracting investments. Also, several initiatives look for determining favourable spill-overs of FDI in the whole economy (Krammer, 2009).

At the regional level, it can be highlighted that of particular importance for the development of entrepreneurship and innovation in the Baltic States was the EU Strategy for the Baltic Sea Region (Bengtsson, 2009). Thus it aimed to implement the Small Business Act: to boost entrepreneurial activity within the regional level, particularly SMEs. It also regarded to improve the access to, and efficiency of the Baltic States energy. Moreover, this strategy consolidated the efforts of the participating countries in strengthening common infrastructure. In the area of innovation, the document aimed at to exploit the full potential of the region in research and innovation and increase the efficient use of human resources (European Commission, 2009).

At the level of European Union, wider and more comprehensive initiatives have been undertaken to boost member countries', including the Baltic States', innovation and entrepreneurial performance. In this regard, it could be mentioned the following initiatives including the EU 2020 strategy. Through this strategy, the European Union aimed at enhancing its entrepreneurship and technological leadership to boost the competitiveness of the member states' economy. Some of the key flagship initiatives of this strategy were directed towards fostering resource use and industry. Another EU programme which regards promoting innovation and entrepreneurial performance is the Horizon 2020 initiative. The Horizon 2020 programme comprises 10 sections including a wide range of areas starting with innovation in ecologic related issues, industrial processes and SMEs. There are also other initiatives of the European Union having a narrower focus either on SMEs stimulation, COSME- Europe's programme for small and medium-sized enterprises, or Creative Europe directed towards stimulation of creative areas of economy in the European Union.

Further, it will be assessed the general effect of all policies either national, regional or European level upon the innovation and entrepreneurial performance of the Baltic States, highlighting which country succeeded in benefiting the most from exploiting the offered opportunities in the area of business activity and research and development.

On the base of the information provided in table 1 is created the entrepreneurial profiles of the Baltic States. Thus, It can be observed that during the researched period of 2008-2016, Estonia has considerably improved its ranking according to the analysed indicators. Consequently, it is placed within the first 10 most economically free countries in the world. Estonia has climbed 5 positions considering the Corruption Perception index being 22<sup>nd</sup> in 2016. At the same time it has considerably increased its macroeconomic

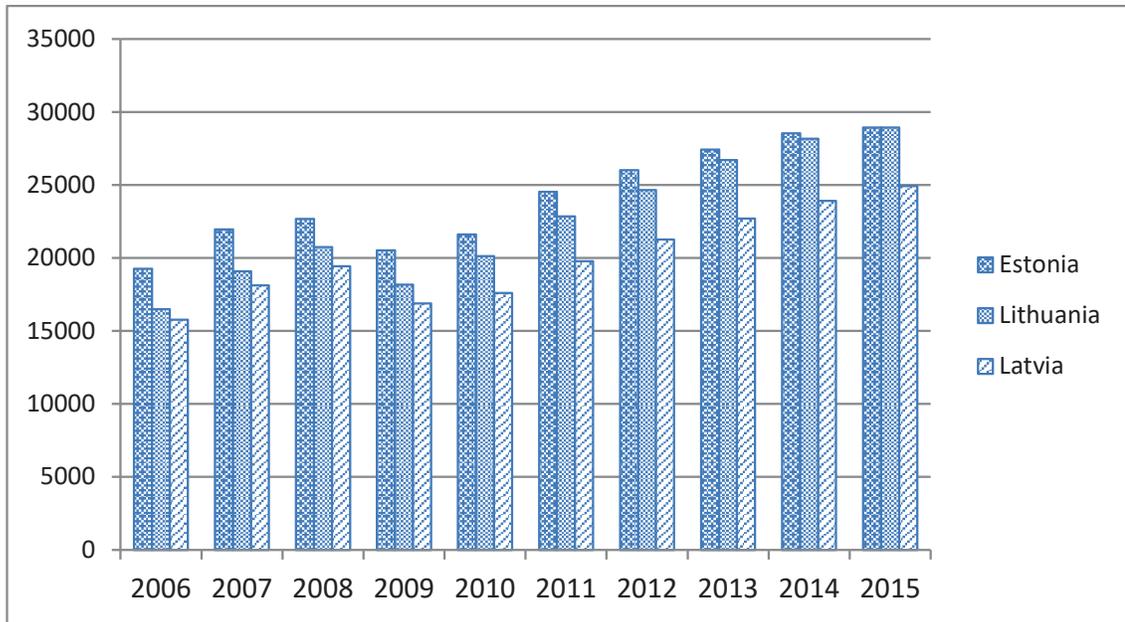
competitiveness (+11 positions), market efficiency (+4), business sophistication (+6) and Ease of doing business (+2). Lithuania has also reported favourable growth of its business competitiveness within the same period climbing 13 positions in terms of economic freedom, 20 positions considering Corruption Perception index, 18 in terms of macroeconomic efficiency, 9 positions in terms of market efficiency, 7 and 2 taking into account business sophistication and respectively Ease of Doing Business. Latvia reported also impressive enhancement of its entrepreneurial environment, economic freedom (+2), Corruption Perception index (+8), macroeconomic environment (+47), market efficiency (+3), business sophistication (+25) and Ease of Doing Business (+4). As it can be observed all of the three states have improved their entrepreneurial competitiveness, Estonia being the most efficient in these terms being followed by Lithuania and Latvia.

**Table 1. Entrepreneurial profiles of Estonia, Lithuania, and Latvia**

		Economic freedom Index (A)	Corruption Perception Index (B)	Macroeconomic Environment (C)	Market efficiency (D)	Business sophistication Index (E)	Ease of Doing Business Index (F)
Estonia	2008	12	27	23	24	50	18
	2016	9	22	12	20	44	16
Lithuania	2008	26	58	52	48	49	22
	2016	13	38	34	39	42	20
Latvia	2008	38	52	71	52	83	26
	2016	36	44	24	49	58	22

*Source:* (A) The Heritage Foundation, [www.heritage.org](http://www.heritage.org). (B) Transparency International, [www.transparency.org](http://www.transparency.org). (C, D, E) World Economic Forum, [www.weforum.org](http://www.weforum.org). (F) World Bank, [www.doingbusiness.org](http://www.doingbusiness.org).

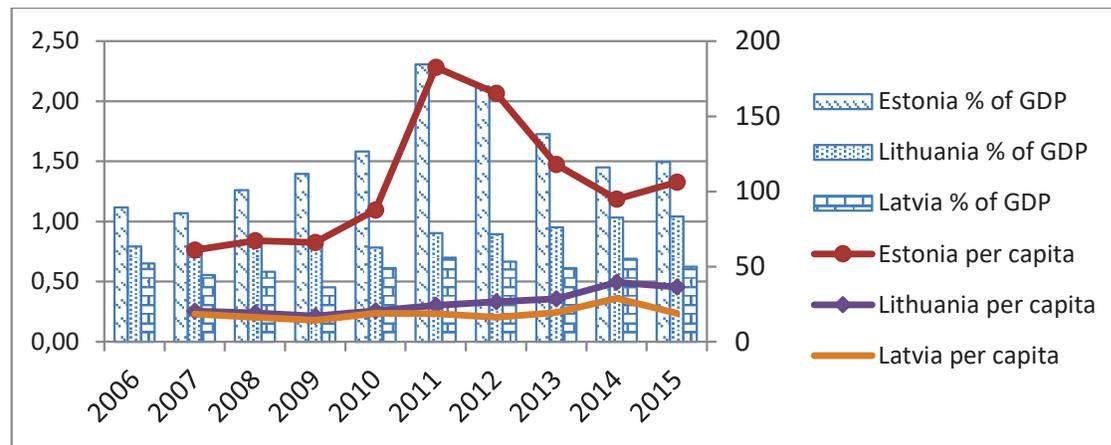
By examining figure 1, it can be observed that the general level of wellbeing in the Baltic States has increased in the period of 2006-2015. At the beginning of the period Estonia was the leader in terms of GDP per capita, yet in 2015 it was matched by Lithuanian one. By analysing the evolution of GDP per capita it can be underlined that it almost corresponds with the entrepreneurial profiles drawn above with Estonia being the most business oriented, followed by Lithuania. Latvia registered lower business competitiveness as compared to Estonia and Lithuania; this fact can be reflected also in GDP per capita graph. Since the business are offered lower freedom and opportunities it is less active and prepared to undertake riskier projects. The impressive ascension of Latvia in terms of business competitiveness demonstrates the fact that government is directing more efforts towards enhancing entrepreneurship to close the development gap as compared to Estonia and Lithuania.

**Figure 1. GDP per capita of Baltic States, current international \$ PPP adjusted**

*Source:* Designed based on data provided by the World Bank, available at [data.worldbank.org](http://data.worldbank.org) [visited on 07.12.17]

It can be observed that the leadership of Estonia in terms of entrepreneurial development is reflected in higher overall expenditure on R&D compared to Lithuania and Latvia (Figure 2). Thus, within the period of 2006-2015, the Research and development expenditure (% of GDP) has grown from 1.12% at the beginning of the period to 1.5% at the end with the maximal level of 2.31% in 2011, compared to Lithuania, 0.79% and respectively 1.04%. Latvia has decreased its R&D expenditure from 0.65% from GDP in 2006 to 0.63% in 2015. Another important indicator in this direction is Business enterprise sector R&D expenditure EUR per inhabitant. It is considered an indicator of business prosperity and strength since only competitive and wealthy businesses can finance activities related to R&D. The difference among the Baltic States according to this indicator is huge, Estonia being the dominant leader and more modest results shown by Lithuania and Latvia. Thus, the Business enterprise sector R&D expenditure EUR per inhabitant of Estonia has grown from 61 EUR in 2007 to 106 EUR in 2015. In 2011 and 2012 were reached the highest values of this indicator for Estonia, 183 and 165 EUR respectively. Combined, the per capita expenditure in Lithuania and Latvia does not match even close the amount of Estonia, making up only 62% in 2007 and 53% in 2015. Therefore, it can be concluded that Estonia has considerable advantage in terms of entrepreneurship as compared to the other two Baltic countries. In these terms, Estonia is rather closer to the Czech Republic (168 EUR in 2015), Spain (148 EUR in 2015) and Hungary (99 EUR in 2015). Consequently, it can be underlined that entrepreneurial clusters and structures in Estonia are more advanced capable of bearing higher expenses allocated towards innovative activities while Lithuania and Latvia do lack them.

**Figure 2. Research and development expenditure (% of GDP) & Business enterprise sector R&D expenditure EUR per inhabitant**



*Source:* Designed based on data provided by the World Bank and European Commission, available at [data.worldbank.org](http://data.worldbank.org), [ec.europa.eu](http://ec.europa.eu) [visited on 07.12.2017]

Thus, it can be generally observed on the base of the information examined above that Estonia is by far the leading Baltic economy in terms of entrepreneurship and innovation. This fact is a direct result of the reforms which have been widely implemented starting with the transition period and finishing with present days stressing the importance of business processes and development. The advantage of this country over Lithuania and Latvia is its favourable entrepreneurial climate and higher propensity for entrepreneurship of fiscal conditions (Annex 1).

In table 2 there are presented several correlations to help reaching relevant conclusions. Thus, the first correlation coefficient is calculated for Research and development expenditure (% of GDP) & GDP per capita current international \$ PPP adjusted, the results received underline the existence of relatively strong relation between economic development and R&D for all of the research countries. The second correlation is calculated for GDP per capita current international \$ PPP adjusted & Business enterprise sector R&D expenditure EUR per inhabitant, the coefficient reached highlights the presence of relatively strong relation between business expenditure on innovation related processed and economic development for all of the Baltic States. These two correlations underline the existence of linkages between economic growth and the expenditure on innovation, research and development. The third coefficient is calculated for Research and development expenditure (% of GDP) and Business enterprise sector R&D expenditure EUR per inhabitant, the results obtained demonstrates that business sector expenditure on R&D and the overall society's investments in this area are highly interrelated. For all of the Baltic States have been received highly strong correlations which allows inferring that business R&D is determinant in boosting national investments in this area.

The next calculated correlations are supposed to inform regarding the existence of any relations between business and overall society investment in R&D related activities and the level of several selected taxes. Thus, it has been examined the correlation coefficient between Business enterprise sector R&D expenditure EUR per inhabitant &

Taxes on income, profits and capital gains (% of revenue). For all of the countries it has been reached negative results, strong for Estonia and Lithuania and weaker for Latvia (table 2). Almost the same results have been reached for the correlation between Research and development expenditure (% of GDP) & Taxes on income, profits and capital gains (% of revenue). Thus, it can be underlined that there is a reverse relation between the indicators meaning that the higher the respective taxes the lower will be the predisposition of business sector to invest in R&D with negative results on overall country's performance on innovation investments.

The next assessed correlations are between Taxes on goods and services (% of revenue) & Business enterprise sector R&D expenditure EUR per inhabitant, and respectively, Research and development expenditure (% of GDP). The results reached, except for Latvia, demonstrates that there is almost no inter relation between the indicators, the fact exemplified by the low degree of influence of internal market demand in this countries on technological development investments. The positive results of Latvia are speaking about high influence of governmental support directed towards stimulating R&D investments at the level of business sector as well as at the level of national economy. The higher are the respective tax rates the higher is the governmental funding and therefore the investments of business in research activity (table 2). The same conclusion for Latvia can be reached for the next correlation assessed. In case of Lithuania, the negative correlation between Taxes on goods and services (% value added of industry and services) & Business enterprise sector R&D expenditure EUR per inhabitant, and respectively Research and development expenditure (% of GDP) demonstrates that the business sector is quite sensitive to the change of the respective tax, thus decreasing its rate will boost the amount of investments of business allocated towards innovation. Almost no correlation in the case of Estonia is described by low interconnection of the country's IT sector with internal industry, or by the small size of internal market demand for technological products.

**Table 2. Correlation coefficient between indicators of entrepreneurial competitiveness**

Correlations	1&2	2&3	1&3	3&4	1&4	3&5	1&5	3&6	1&6
Estonia	0,42	0,44	0,97	-0,49	-0,64	0,38	0,03	0,11	0,14
Lithuania	0,93	0,95	0,95	-0,41	-0,56	0,07	0,07	-0,37	-0,38
Latvia	0,44	0,57	0,58	-0,19	-0,22	0,56	0,42	0,64	0,65
1) Research and development expenditure (% of GDP)									
2) GDP per capita current international \$ PPP adjusted									
3) Business enterprise sector R&D expenditure EUR per inhabitant									
4) Taxes on income, profits and capital gains (% of revenue)									
5) Taxes on goods and services (% of revenue)									
6) Taxes on goods and services (% value added of industry and services)									

*Source:* Own processing based on data provided by World Bank and European Commission.

## 5. Conclusions

Entrepreneurship has played a determinant role in supporting economic development of the Baltic States since the fall of Soviet Union. Pro market reforms implemented during the transition period consolidated the economic potential of Estonia, Lithuania and Latvia. Estonia succeeded in developing higher economic competitiveness by promoting at a greater extent economic liberalism which motivated growth of the complexity of entrepreneurial activities. This country is by far the leading Baltic economy providing more opportunities for businesses all around the world the fact determined by high positions in different rankings. Lithuania and Latvia have recorded impressive improvement of their entrepreneurial climate in the last period, yet they lack investment in the area of research and development. This fact is characterised by lower complexity of the existing business activities which cannot bear high costs related to financing innovation. Estonia has opened its economy in the right period and in the right circumstances the situation which enabled absorption of new competences which in a short period of time were transformed in financial resources.

It was demonstrated that there is a strong relation between economic development and the amount of financial resources allocated to R&D in each of the Baltic State, including the business sector spending on innovation. Generally, lower tax burden provides more business opportunities and therefore entrepreneurs are more predisposed to investing in risky projects. Higher tax rates increase the cost of innovation the fact demotivating businesses to grow and expand. These general inferences are valid for the Baltic States, nevertheless, due to certain circumstances there are some exceptions. Some of them are, first, small domestic market which does not provide enough motivation to undertake riskier projects and therefore higher openness to the world is required. Estonia has succeeded in benefiting from this circumstance while the other two countries did not, or did but at lower extent. In case of Latvia, due to weak business sector as compared to Estonia or Lithuania, the governmental support is required to support R&D investments, yet the reasonability of this involvement is under question since public support often prove to be inefficient.

The present research comes to underline the importance of liberalised business environment for economic, technological and innovation development. The Baltic States are relevant examples which show how entrepreneurship can boost countries economic competitiveness. Future undertakings on this issue are welcome since there are important aspects to be covered including the role of EU funding in boosting entrepreneurship and innovation, degree to which an economy should be liberalised and which conditions should be followed. At the same time, it could be analysed the structural economic aspects to identify which sectors invest more in research and development activities, which are less competitive in this area. Moreover, the research could be extended to comprise a European Union perspective the fact providing the possibility to identify which countries succeed in balancing entrepreneurial policies. One limitation of the research is the fact that some data is either not available or not recent. This fact could affect the accuracy of economic forecasting.

## Acknowledgement

The contribution of authors to this paper was supported by the Jean Monnet Centre of Excellence in European Economic Integration Studies/INTEGRA project, nr. ref. 565156-EPP-1-2015-1-MD-EPPJMO-CoE, co-financed by Erasmus+ program of the European Union

## References

- Cornia, G. A. (2011). Economic integration, inequality and growth: Latin America versus the European economies in transition. *Review of Economics and Institutions*, 2(2).
- Bakshi, Gurdip and Panayotov, George and Skoulakis, Georgios, The Baltic Dry Index as a Predictor of Global Stock Returns, Commodity Returns, and Global Economic Activity (January 26, 2011). AFA 2012 Chicago Meetings Paper. Available at SSRN: <https://ssrn.com/abstract=1787757> or <http://dx.doi.org/10.2139/ssrn.1787757>
- Deroose, S., Flores, E., Giudice, G., & Turrini, A. (2010). The tale of the Baltics: experiences, challenges ahead and main lessons. *ECFIN Economic Brief*, 10(2).
- Kang, Joong Shik and Shambaugh, Jay, The Evolution of Current Account Deficits in the Euro Area Periphery and the Baltics: Many Paths to the Same Endpoint (July 2013). IMF Working Paper No. 13/169. Available at SSRN: <https://ssrn.com/abstract=2307412>
- Tanning, L., & Tanning, T. (2013). The Baltic States companies working efficiency before and after the economic crisis. *International Journal of Social Sciences and Entrepreneurship*, 1(2), 484-495.
- Aiginger, K. (2011). Why growth performance differed across countries in the recent crisis: the impact of pre-crisis conditions. *Review of Economics and Finance*, 1(4), 35-52.
- Kuokštis, V., & Vilpišauskas, R. (2010). Economic adjustment to the crisis in the Baltic States in comparative perspective. *Institute of International Relations and Political Science, Vilnius University. Prepared for*, 7.
- Burghelea, C. (2011). Economic Crisis Perspective between Current and Forecast. *Theoretical & Applied Economics*, 18(8).
- Vosylius, E., Rakutis, V., & Tvaronavičienė, M. (2013). ECONOMIC GROWTH, SUSTAINABLE DEVELOPMENT AND ENERGY SECURITY INTERRELATIONS. *Journal of Security & Sustainability Issues*, 2(3).
- Vojtovic, S., & Krajnakova, E. (2013, August). Trends in Economic growth and Unemployment in Slovakia. In *Proceedings of the 2013 International conference on education, management and social science (ICEMSS-13) Book Series: Advances in Intelligent Systems Research* (Vol. 44, pp. 188-191).
- Erixon, F. (2010). Baltic economic reforms: a crisis review of Baltic economic policy. *European Centre for International Political Economy. Working Paper*, 4.
- Pekarskiene, I., & Susniene, R. (2011). An assessment of the level of globalization in the Baltic States. *Engineering Economics*, 22(1), 58-68.
- Kalvet, T., Vanags, A., & Maniokas, K. (2012). Financial engineering instruments: the

way forward for cohesion policy support? Recent experience from the Baltic states. *Baltic Journal of Economics*, 12(1), 5-22.

Kuokstis, V. (2011). What type of capitalism do the Baltic countries belong to?. ISO 690. Available online at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2083832](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2083832)

Sirbu, O., Crudu, R. & Ignatov, A. (2017). The Role of EU Innovation Policies in the Sustainable Development of the Energy Sector. *Studia Universitatis Babeş-Bolyai Oeconomica*, 62(2), pp. 3-19. Retrieved 8 Dec. 2017, from doi:10.1515/subboec-2017-0006

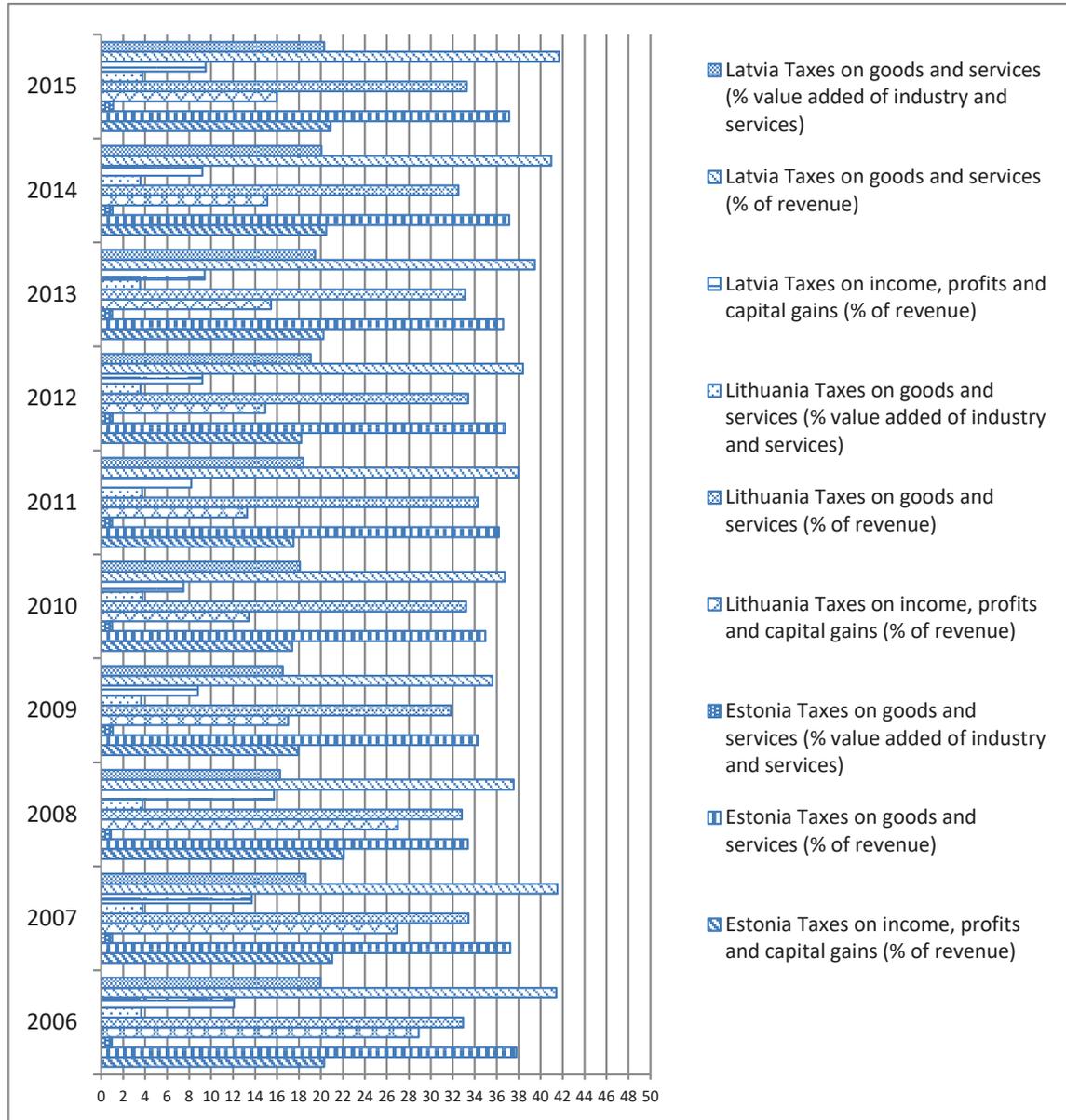
Crudu, R., & Ignatov, A. (2016). The Role of Innovation Policies in Economic Sustainable Development of the EU. *Economica*, 4(98), 71-87.

Krammer, S. M. (2009). Drivers of national innovation in transition: Evidence from a panel of Eastern European countries. *Research Policy*, 38(5), 845-860.

Bengtsson, R. (2009). An EU Strategy for the Baltic Sea region: good intentions meet complex challenges. *European Policy Analysis*, 9, 1-12.

European Commission (2009) “European Union Strategy for the Baltic Sea Region”, Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions, Brussels, 10 June 2009, COM(2009) 248 final, [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/baltic/com\\_baltic\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/com_baltic_en.pdf)

**Annex 1. Baltic States' propensity to entrepreneurship**



Source: Designed based on data provided by the World Bank, available at [data.worldbank.org](http://data.worldbank.org) [visited on 9.12.17]