

LATVIAN INNOVATION ACTIVITY AND PERSPECTIVES IN THE EU CONTEXT

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The new Europe 2020 Strategy for smart, sustainable and inclusive growth has identified innovation as one of the core drivers that can get European countries out of the current economic crisis. The Europe 2020 Strategy sets a 3% of the EU's GDP to be invested in R&D to reach smart growth of the European countries. Most Member States have adopted its own target according to its self-estimated capacity in order to reach this goal for the EU. The Europe 2020 Strategy announced the development of an innovation indicator to measure Europe's progress towards a more innovative economy. The indicator will measure the strategy's progress and aims to capture overall research and innovation performance and reasons why it differs between Member States. An important aspect of the indicator is that it should allow comparability on the global level. The new innovation indicator should estimate the share of high-growth innovative enterprises in the economy and stimulate Member States to adopt the necessary measures to progress in the area of high-growth innovative enterprises in their National Reform Plans.

The paper aims to show innovation performance of Latvia within the EU context and discuss the usability of the new concept of high-growth innovative enterprises.

Authors have no fundamental objection to the new approach of calculating high-growth enterprises for innovation indicator, but in author's view some more analysis should be made to define the criteria of high-growth enterprises and some tests should be made with employment in 10 and more employees and 10% threshold for annual average growth.

The results of the authors' research show that in Latvia, high-growth enterprises represent a small percentage of the overall number of enterprises. As a result, Latvia should adjust the new principles of sampling methodology to assess the possibility of including the largest number of high-growth enterprises in the innovation survey sample.

The theoretical and methodological evidence is based on the analysis of the economic literature, scientific works, the legal documents of European Commission; the statistics database of the Central Statistical Bureau of Latvia; Eurostat and other international statistical and methodological materials.

Bibliography review, as well as methods of statistical analysis such as grouping, processing and comparative analysis has mainly been used in the paper.

Keywords: *innovation, Europe 2020 Strategy, innovation co-operation, R&D intensity, high-growth enterprises.*

Introduction

Innovation is the main driving force to economic growth; each EU Member State has a long tradition of good performance in R&D and innovations. According to statistical data, Latvia has the lowest R&D intensity in the EU (in 2011 R&D intensity in Latvia is 0.7 % of GDP, 2.38 % of GDP in Estonia, 0.92 % in Lithuania, 2.03% EU average). The financial crisis of 2008 had a significant impact on the R&D expenditure in Latvia, in order to achieve its R&D growth target at 1.5 % of GDP for 2020 (in Estonia 3.00% and in Lithuania 1.90%) Latvia has to increase the R&D intensity both in the public and the business sectors (Europe 2020 targets: Research and Development).

Unfortunately in terms of innovations and labour productivity Latvia is way behind the "old" EU Member States. The support and development of innovation performance is one of the priority tasks for the government of Latvia. Latvia 2030 report states that 'in most of the cases creation and distribution of innovations is not the result of one particularly talented individual – more and more people get involved in the process, thus a crucial precondition of success is the ability to co-operate, openness, knowledge and creative

activity' (Sustainable development of Latvia until 2030). So in Latvia co-operation of enterprises with other countries in the creation and introduction of novelties should be promoted.

In order to measure the progress of Europe towards a more innovative economy, the concept of high-growth innovative enterprises has been developed. Authors have no fundamental objection to the new approach of calculating high-growth enterprises for innovation indicator, but in author's view some more analysis should be made to define the criteria of high-growth enterprises and some tests should be made with employment in 10 and more employees and 10% threshold for annual average growth.

The *purpose* of the paper is to show innovation performance of Latvia within the EU context and to discuss the usability of the new concept of high-growth innovative enterprises.

To achieve the purpose, the following main *research tasks* were set: to characterize the existing situation of innovation activity and innovative co-operation of Latvia and EU countries; to show the situation of Latvia and other countries with regard to their existing R&D intensity and R&D target;

to discuss the concept of high-growth innovative enterprises in the context of Latvia.

Bibliography review, as well as methods of statistical analysis such as grouping, processing and comparative analysis has mainly been used in the paper.

This paper first analyses the methodological approach of calculation of high-growth innovative enterprises in the context of Latvia that is based on authors' mathematical calculations.

The *results of the research* show that in Latvia, high-growth enterprises represent a small percentage of the overall number of enterprises. Latvia should adjust the new principles of sampling methodology to assess the possibility of including the largest number of high-growth enterprises in the innovation survey sample.

Innovative co-operation in figures

According to the Community Innovation Survey 2010 results, in the EU27, 53% of enterprises from industry and services performed innovation activity in 2008-2010. Among the EU27 Member States, the highest proportions of enterprises with innovation activity were recorded in Germany (79% of enterprises), Luxembourg (68%), Belgium (61%) and the lowest in Bulgaria (27%), Poland (28%) and Latvia (30%). Among enterprises with product and process innovations in the EU27, 27% co-operated with other enterprises, universities or public research institutes in 2008-2010, while the remaining 73% innovated using only internal resources. About 11% of innovative enterprises had innovation co-operation with a partner in another EU27 Member State, EFTA, acceding or candidate country, 3% with a partner in the United States and 2% with a partner in India or China. Innovation co-operation with a European partner was highest in Cyprus (38% of all product and process innovative enterprises), Slovenia (35%), Austria, Estonia and Slovakia (all 30%) and lowest in Italy (4%), Finland (12%), Sweden (11%) and Slovenia (8%) had the largest shares of innovation co-operation with partners in the United States, and Finland (9%), Sweden (7%), Luxembourg and Slovenia (both 6%) with partners in India or China. (Seventh Community Innovation Survey results, Eurostat)

According to Table 1 data, innovation co-operation in Latvia during 2008-2010 was one of the lowest (29.1% of all product and process innovative enterprises) among Baltic

States, mainly Latvia co-operated with a European partner (20.6%), and very low were co-operation levels with the United States (5.1%) and China or India (4.4%). To compare, Estonian innovation co-operation (56.8%) is the highest among Baltic States but also exceeds the average EU27 level (52.9%).

Close collaboration between research, education and innovation is vital for the realization of the European Research Area and for maintaining Europe's competitiveness vis-a-vis its main economic competitors (US, Japan and China).

Innovation co-operation and globalization of innovation

New technologies are vital to making globalization possible – without planes, telephones, computers it would not be possible to transfer information from one place to another, thereby allowing for the speed and the intensity which characterize the modern world (Archibugi, D., Iammarino, S., 2002).

Europe has a large number of talented and skilled researchers. However, the researchers' share of the active labour force is well below in comparison with the United States, China and Japan. Moreover, the share of researchers employed in the business sector is not sufficient to ensure Europe's position as a global economic leader. Recent estimates suggest that one more million researchers may be needed in Europe by 2020 to meet an R&D intensity target of 3% of GDP (Monitor human resources policies and practices in research, 2012). R&D Intensity in South Korea, Japan and United States is higher than the average EU level (see Table 2), even if EU Member States reach their target of 3% of GDP by 2020, they will be behind the current level of R&D Intensity of South Korea (3.74% of GDP) and Japan (3.26% of GDP).

Practically, innovations are not based on activities of a single enterprise only, but mostly involve multiple actors. The Oslo Manual states that: 'Innovation co-operation involves active participation in joint innovation projects with other organizations. Innovation co-operation allows enterprises to access knowledge and technology that they would be unable to utilize on their own. There is also great potential for synergies in co-operation as partners learn from each other. Innovation co-operation can take place along supply chains and involve customers and suppliers in the joint development of new products, processes or other innovations' (Oslo

Table 1. Innovation activity and co-operation during 2008–2010

	Enterprises with innovation activity, % of all enterprises	All types of innovation cooperation with other enterprises or institutions	Co-operation partners		
			From another EU27 Member State, EFTA or Acceding /Candidate country	From the United States	From China or India
% of all product and process innovative enterprises					
EU27	52.9	26.5	11.4	3.1	2.0
Estonia	56.8	42.1	30.0	3.0	1.8
Latvia	29.9	29.1	20.6	5.1	4.4
Lithuania	34.5	43.3	25.6	3.9	3.9

Source: Seventh Community Innovation Survey results, Eurostat

Manual, 2005).

There is a number of definitions of international cooperation on R&D and innovation, which are considered to be ‘the relation between different organizations based on innovation with certain content of R&D’ (Hagedoorn et al., 2000). Generally, international cooperation on R&D and innovation is considered to be a strategic decision that means the transfer of knowledge between partners in different countries (Barajas and Huergo, 2006).

The decision to cooperate involves the company becoming familiarized with an environment that is different from its habitual one, which has an effect on the management of innovation resources and activities (Edwards-Schachter, M. et al., 2011).

The development of new or improved products or processes requires an active research process involving a number of enterprises and institutions to identify new sources of knowledge and technology (De Bresson, 1996; Nooteboom, 1999). Enterprises are involved in the process of information exchange with different partners in the innovation process and become more and more dependent on the know-how of other companies and institutions. Recent studies suggest that innovation cooperation is now a core component of corporate strategy (Powell and Grodal, 2005).

In authors opinion, capabilities and co-operation between enterprises and institutions is a broad concept, here we can mention quality of relationship between customers and suppliers, degree of competitive or co-operative behaviour among institutions, enterprises’ willingness to co-operate with research institutions and universities, closeness of relationship between enterprises and technology policy. Enterprises play a crucial role in the development of innovations, but the process of development and dissemination of technological improvements includes a complex interaction among enterprises, universities, research centres, government bodies and other organizations.

The importance of cooperation on R&D has risen steadily as a consequence of growing complexity, risks and costs of innovation (Coombs et al., 1996; Dogson, 1993). As a result co-operating on innovative activities with various partners has become a profitable business activity, which is shown by an impressive growth in strategic alliances with R&D partners (Hagedoorn, 2002). These benefits are vary widely and can consist of access to new markets and technologies, combining complementary resources, reduce time speed to develop or

commercialize new products, maintaining property rights (Tidd et.al, 2005). At the same time, many R&D alliances show high failure rates, which means that co-operation also comes at a cost, such as leakage of sensitive information, loss of control or ownership, conflict of different aims and objectives, and so on (Ireland et.al, 2002). Some additional investigation in the contribution of different R&D partners to the innovative performance of the enterprise is required.

The literature on the relationship between cooperation behavior and innovation activities suggests that cooperation should be conducive to innovation processes for at least three reasons (Fritsch and Lukas, 1999). First, any division of innovative labor involves incompletely specified contracts. Second, as far as co-operation is characterized by relatively ‘open’ exchange of information, such information flows may stimulate innovation activities. Thirdly, cooperative relationships may work as an important medium for knowledge spillover, particularly for information that is “tacit” and cannot be completely codified. Such knowledge spillovers constitute a fundamental element in recent approaches to growth theory (Romer, 1994), and in the concept of national or regional innovation systems (Lundvall, 1992; Nelson, 1993; Edquist, 1997; Cooke et al., 1997).

Thus the new technologies and innovation co-operation allowed the emergence of the ‘global village’. The globalization of innovation is the zip between two fundamental phenomena of modern economies: the raising international integration of economic activities and the increased importance of knowledge — based economy (Archibugi, D., Iammarino, S., 2002).

Knowledge creation and networking are growing at the international level and are accompanying the emergence of global patterns of R&D and innovation (Archibugi and Iammarino, 2002; Narula and Duysters, 2004; Edler, 2008).

The term “globalization” has different definitions. Historically, globalization is not a new phenomenon but its changes can be investigated in terms of scale, speed and cognition (Kinnvall, 2004). The globalization accelerates the dynamics of innovative development. Under these conditions, product innovation is not the most powerful form of innovation. In the globalized world, product life cycles are compressing. Innovation in management practices becomes more powerful as it gives the key to accelerating and maintaining the product innovation (Held, D., MacGrew, A., 2007, pp. 51-58). The globalization also gives new significant

Table 2. Situation of countries with regard to its R&D intensity target

	R&D Intensity		Value Added
	2011	Target 2020	R&D intensive sectors as % of all sectors 2008
Estonia	2.38	3.00	9.2
Latvia	0.70	1.50	5.4
Lithuania	0.92	1.90	7.9
EU	2.03	3.00	12.1
South Korea	3.74	5.00	20.2
Japan	3.26	4.00	14.8
United States	2.87	3.00	9.9
China	1.77	2.50	not available

Source: Europe 2020 targets: Research and Development, European Commission

opportunities for enterprises and countries to innovate and build the strategic advantage. For this purpose they should develop competitive strategies aimed at adopting the national economies to the changes in the global economy.

While many enterprises admit that innovation is important to their growth and success, the term “innovation” is still without a coherent, agreed-on definition in the business world. Growth is often measured in terms of turnover and profit, but can also occur in knowledge, in human experience, and in efficiency and quality.

Under conditions of globalization some countries are deeply integrated in the new type of international economic relations while others remain relatively isolated. In such a way, pros and cons of the globalization are distributed unevenly.

High-growth enterprises and innovation indicator

The “Innovation Union” is one of the seven flagships announced in the Europe 2020 Strategy. It aims to improve conditions and access to finance for research and innovation, to ensure that innovative ideas can be turned into products and services that create growth and jobs. In 2010, the Europe 2020 Strategy announced the development of an innovation indicator to complement the R&D intensity indicator. An important aspect of the indicator is that it should be comparable on the global level. The indicator is supported by a marker of innovativeness dynamism. The marker counts only employment in *high-growth enterprises* in each economic sector, instead of total employment in each economic sector as it is the case for the innovation indicator (Summary of the Workshop).

Nowadays, enterprises are classified simply as either “innovators” or “non-innovators”. A few scientists argue that there needs to be at least three categories: those that have attempted to innovate and been unsuccessful in their innovation efforts; those that have tried and succeeded; and those that have not tried to innovate (Freel and Robson, 2004). In author’s opinion such information is valuable for innovation supporting policy design.

High-growth enterprises, considered promising for the creation of more jobs and innovation, so interest in high-growth enterprises is high among policy makers. This high growth can take place in two different circumstances. First, it can be a new enterprise – so the company is in a process of looking for a minimum size that favours its survival (Barkham et al., 1996). What is especially relevant is the case of small and medium innovative enterprises created to exploit a new technological/marketing opportunity that is not detected or met by other firms. Secondly, the growth of existing enterprises (enterprises with a history) is derived from a change in their strategies, actions, behavior, etc. These radical changes make the high growth of the existing enterprise possible.

One more significant aspect is that high-growth enterprises are known to have a disproportionately high positive impact on job creation and economic growth. In order to develop policies particularly aimed to increase the number of high-growth enterprises, it is important to understand how these companies differ from other companies.

From the outset, the concept of a high-growth enterprise seems to be simple as it is an enterprise, which grows at a higher rate in comparison to the majority of enterprises. In

real life, there are a number of practical issues when forming a definition of high-growth enterprise. In order to distinguish high-growth enterprises from others, two basic attributes are usually agreed upon: there should be a strong growth in size (usually measured by numbers of employees within the enterprise), and this growth should be over an intensive period, so that “high-growth” results in an observable and pivotal transition within the enterprise (High Growth Enterprises. What Governments can do to make a difference?).

Studies of innovation’s effects on enterprises growth typically measure relative growth rates in enterprises that are classified as either “high growth” or “no growth” rather than in absolute terms. Often they focus on the attributes of the high-growth enterprise rather than on the specific acts that may lead to high growth. Finally, the link between high growth and innovation is not explored. While it might be argued that the link is inevitable, research has rarely been able to identify it. While previous empirical studies done by the OECD (OECD, 2002) found a positive relationship between innovation and high growth in small enterprises in a group of member countries, there is a lack of empirical data that would support this decisively.

It is difficult to compare the several studies that exist concerning high-growth enterprises because they are based on definitions that are not harmonized and/or non-comparable data. Moreover, the effects of innovation at enterprise level may have both positive and negative consequences. For example, higher levels of innovation (a positive consequence) may lead to fewer people being employed in a firm (a negative one).

The above listed findings are an important basis for future work on the defining and calculating high-growth innovative enterprises.

High-growth enterprises and innovative Latvia

In any country, high-growth enterprises represent a small share of the overall number of enterprises. A Eurobarometer survey in 2009 found that 12% of the companies had grown by over 20% on average per year in the previous three years, in terms of full-time employment or full-time equivalents. The largest share of high-growth companies was found in Norway (27%), followed by Romania (23%), Sweden (22%), Greece (21%) and France (20%). (Lilischkis, S., 2011)

Considering the large differences in the economic conditions in these countries, the nature of high growth can be assumed to be very different. The lowest shares of high-growth companies were found in Latvia (3%), Belgium (4%) and Germany (5%). (Lilischkis, S., 2011) The EU data show that in Latvia there is one of the smallest numbers of high-growth companies and gazelles among small and medium – sized enterprises with 10 to 249 employees (see Fig. 1 – Gazelles and high-growth enterprises are calculated according to OECD definition). According to “Europe INNOVA Sectoral Innovation Watch 2011” report, most of the gazelles in Latvia generate growth in knowledge intensive services amounting to 30% of all gazelles in the country (Montalvo, C., van der Giessen, A., 2012).

Innovative SMEs can be defined as small and medium enterprises which create value through ‘innovation’, they have potential to drive economic growth and create quality jobs through continuous innovation activities.

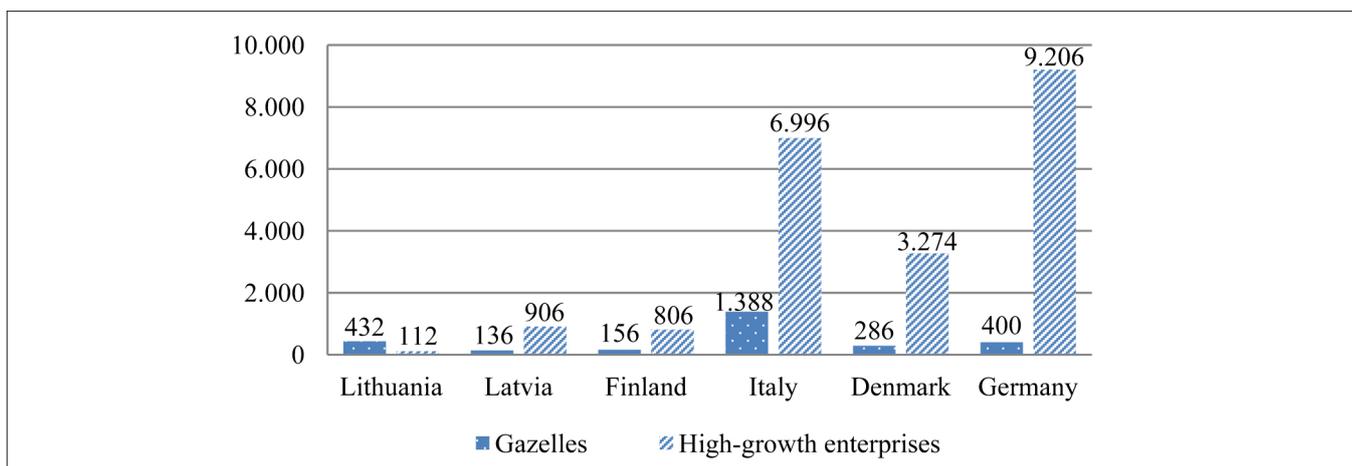


Figure 1. Number of high-growth enterprises and gazelles, 2010

Source: Author’s construction based on Statistics Explained data, Eurostat.

Latvian companies are generally more likely than their EU counterparts to belong to the larger size classes: not only are there proportionally more large companies; even within the SME sector the medium sized and small segments make up a higher percentage of the total than in the average EU country (see Table 3).

Table 3. Share of enterprises in Latvia for 2011

	Share of enterprises		Share of employment	
	Latvia	EU27	Latvia	EU27
Micro	88.7%	92,2%	27,1%	29,6%
Small	9.3%	6,5%	26,4%	20,6%
Medium-sized	1.8%	1,1%	24,0%	17,2%
SMEs	99.8%	99.8%	77.4%	67.4%
Large	0.2%	0,2%	22,6%	32,6%
Total	100.0%	100,0%	100,0%	100,0%

Source: Enterprise and Industry, The Small Business Act for Europe (SBA) Fact Sheet 2012, Latvia, European Commission

Authors calculated number of high-growth enterprises according to the parameters of new criteria for innovation indicator (minimum size of employees 10 employees, growth rate minimum threshold 10%). The results are presented in Fig. 2. Out of 1542 high-growth enterprises 214 enterprises were included in the survey sample for the survey ‘2-Research and Innovation’ in 2010 that is only 13.9% of high-growth enterprises. In 2010 only 190 out of 214 high-growth enterprises submitted survey questionnaire ‘2-Research and Innovation’. Out of 190 enterprises responded to the survey, only 68 have introduced process or/and product or/and organisational or/and marketing innovations during the time period 2008-2010. We can conclude that Latvia should adjust the new principles of sampling methodology to assess the possibility of including the largest number of high-growth enterprises in the innovation survey sample.

According to the ECORYS annual report “EU SMEs in 2012: at the crossroads” results, the performance of Member States in terms of SME value added and employment growth varies considerably. Estonia, Latvia, Lithuania all performed below the EU27 average for the two indicators (EU SMEs in 2012: at the crossroads).

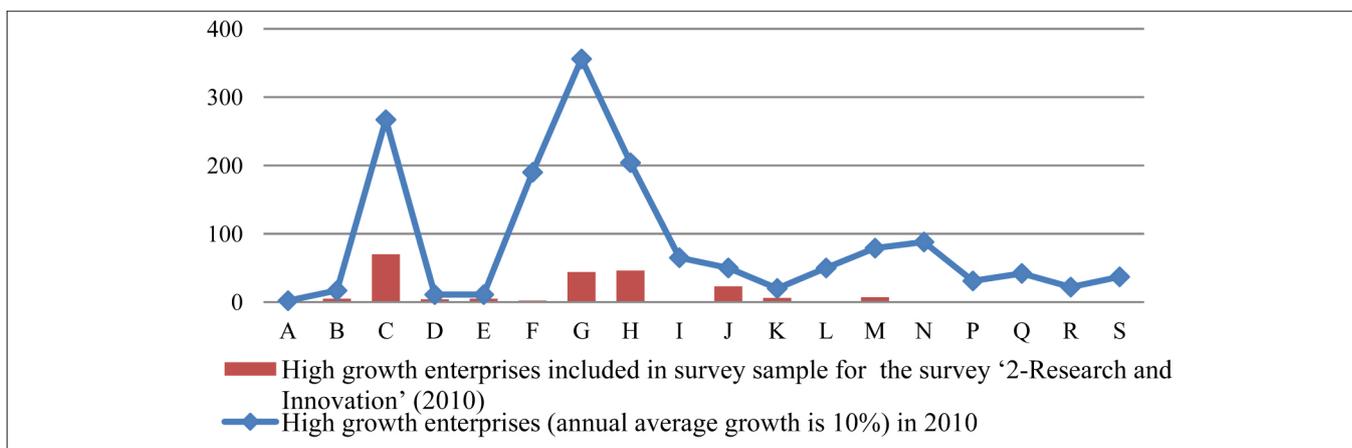


Figure 2. Number of high-growth enterprises in Latvia with annual average growth at least 10% and number of high-growth enterprises filled in the survey questionnaire ‘2-Research and Innovation’ by main kind of economic activity (NACE Rev.2), 2010

Source: Authors calculations based on unpublished CSB data.

Table 4. Number and share of enterprises by technology and knowledge category, 2011 (estimates)

	All SMEs, number	Hi-tech, share	High+medium-tech, share	Medium-low-tech, share	Low-tech, share	Knowledge-intensive services, share	Knowledge-intensive market services (excluding high-tech and financial services), share	High-tech knowledge-intensive services, share	Other knowledge-intensive services, share	Less knowledge-intensive services (LKIS), share
EU27	20 703 172	0.2	1.2	3.3	5.1	20.9	16.5	3.6	0.7	53.6
Estonia	53 594	0.3	1.1	4.3	5.3	22.1	17.9	3.7	0.6	53.3
Latvia	78 736	0.2	0.8	2.5	7.0	20.5	16.0	3.4	1.1	58.9
Lithuania	104 626	0.2	0.5	2.9	8.6	15.1	11.8	2.0	1.3	63.3

Source: EU SMEs in 2012: at the crossroads, Annual report on small and medium-sized enterprises in the EU, 2011, ECORYS.

Table 4 provides an overview of numbers and shares of enterprises by technology and knowledge category in 2011. According to Table 4, share of Latvian SMEs involved in High and medium-tech, medium-low-tech, knowledge-intensive services, knowledge-intensive market services, high-tech knowledge-intensive services is below EU27 level. The only share of SMEs involved in low-tech and less knowledge-intensive services exceeds EU27 level. It appears that shares of enterprises in countries for the knowledge-intensive services and less knowledge-intensive services are higher than that for the high-tech and medium-high-tech manufacturing sectors.

In theory, countries with positive growth in both GVA and employment generally have the highest SME employment shares in high-tech and medium high-tech manufacturing and knowledge-intensive services. In practice, if we compare the data between Latvia, Lithuania and Estonia (see Table 5), not always the higher growth in both GVA and employment means the highest SME employment shares in knowledge-intensive services.

Productivity improvements through innovation in Latvia

Sustainable economic growth can be based on productivity improvements achieved by improving quantitative output; by moving to the higher added value activities thus improving qualitative output or increasing working week. One of the

most important measures – Unit Labor Costs according to European Central Bank. Unit Labor Costs in 2011 in Latvia is 137% (to compare in Estonia-115% and Germany 107%). It means that economic development of Latvia is based on more costly workforce than on more productive one (Recommendations for strategy of “Gazelle” type companies, SIB NET). Latvia’s working hours exceeds the working hours of similarly positioned workforce in EU15 countries. That limits choices for further improvement of productivity by mechanical increase of working week. Further improvements per capita should be found hourly productivity and in innovation (Organization for Economic Co-operation and Development, 2012).

While R&D intensity recovered somewhat in 2011, reaching 0.7 % of GDP, in part due to the poor innovation performance of SMEs. R&D intensity in Latvia remains one of the lowest in the EU, which makes the national target of 1.5 % by 2020 rather ambitious (Europe 2020 targets: Research and Development). No doubt that R&D spending is good proxy for measuring of innovation, however big issue is whether increase in R&D spending is most effective way to increase innovation.

In Latvia share of innovative enterprises receiving public funding is less than 15% only above Bulgaria and Romania; however Latvia is the only country in report which uses only EU funds for public funding for innovative enterprises (European Commission, 2011, p. 87).

Table 5. Share of knowledge-intensive services (KIS) SMEs and growth of real gross value added (GVA) and employment of SMEs, 2011 (estimates)

	% share of KIS SME employment in total SME employment				% growth of real value added of all SMEs	% growth of employment of all SMEs
	2009	2010	2011	average		
EU27	16.4	16.6	16.7	16.5	2.2	0.0
Estonia	13.9	14.4	14.5	14.3	5.9	5.0
Latvia	13.0	12.9	13.5	13.1	0.5	2.7
Lithuania	11.0	11.4	11.8	11.4	3.5	2.3

Source: EU SMEs in 2012: at the crossroads, Annual report on small and medium-sized enterprises in the EU, 2011, ECORYS.

Most of the support programs for innovative companies are financed from EU structural funding, with state co-financing. In order to help enterprises develop new products or more efficient production processes, the following support programs have been designed: ‘Development of New Products and Technologies’, ‘Introducing New Products and Technologies in Production’, ‘support for protection of industrial property rights’, ‘support to Science and Research’ and ‘High Value Added Investment’ programme”. Two new programmes are in the initial phase: the ‘Development Programme of New Products and Technologies by Micro-, Small and Medium-Sized Enterprises, and a programme for the development of innovative green products (supported by a Norwegian financial instrument). Under the ‘EUREKA programme”, businesses may submit projects to apply for assistance. In addition, a ‘Market oriented research programme’ is in place to support cooperation between scientists and entrepreneurs. The achievements of all these programs should be closely evaluated against their goals (European Commission, 2012, pp. 134-135).

Separate research have to be considered in order to identify possible “agency problem” in relation to R&D spending. Such research has to focus on several areas of possible intervention in R&D spending, such as: utilization of existing R&D capacity; possible path to move to higher added value research and expected increase in input by doing so; monitoring system to follow up move up for added value. Only after such research, based on its results, further increase in R&D spending should be considered. Moreover, Latvia as all other European Union member states has to come up with the regional innovation strategy for Smart Specialization.

While the promotion of SMEs in general is explicitly defined as a policy goal in Latvia, with several measures in place, there are no specific policies and targeted instruments aimed at providing aid for high-growth companies. While a list of the top 250 national gazettes that is compiled annually the major national business newspaper “Dienas Bizness”, with an award presented in 2012 is the only initiative of this kind and does not form part of the public policy. Apart from this activity, there are no major public debates on the need for a special policy focus on this kind of company.

The Latvian Competitiveness Report 2011 highlights its poor innovation performance as one of the main weaknesses. Latvia’s innovation policy has so far been characterised by rather disparate measures, over-dependent on structural funding, and whose effectiveness has not been thoroughly evaluated. Latvia needs a comprehensive industrial policy to provide support for the development of an entire infrastructure for innovation. The work that has started on the elaboration of a modern industrial policy is only a first step in this direction. One of the key multipliers of innovation is co-operation that can be supported by the competency centers (Latvian Competitiveness Report 2011).

In order to improve its competitiveness and move further towards a knowledge-based economy, Latvia could benefit from a further strengthening of the growth potential of its economy through a range of structural reforms. Particular attention could be paid to the following: promote a coherent industrial policy, further improve public procurement and the performance of public administration, continue to reduce the administrative burden, and improve the absorption of EU funds.

Conclusions

- According to statistical data, Latvia has the lowest R&D intensity in the EU (0.6% of GDP in 2010). For Latvia R&D growth is targeted at 1.5% of GDP for 2020; this is significantly lower than in Estonia (3%). Even if Latvia will be able to achieve its goal in 1.5%, performance of Latvia will be far below not only the EU average but even below the rate of Lithuania and Estonia.
- In authors opinion, capabilities and co-operation between enterprises and institutions is a broad concept, here we can mention quality of relationship between customers and suppliers, degree of competitive or co-operative behaviour among institutions, enterprises’ willingness to co-operate with research institutions and universities, closeness of relationship between enterprises and technology policy. Enterprises play a crucial role in the development of innovations, but the process of development and dissemination of technological improvements includes a complex interaction among enterprises, universities, research centres, government bodies and other organizations.
- In Latvia, high-growth enterprises represent a small percentage of the overall number of enterprises. The EU data show that in Latvia there is one of the smallest numbers of high-growth companies among the newly-established enterprises.
- Authors have no fundamental objection to the new approach of calculating high-growth enterprises for Innovation Indicator, but in authors view some more analysis should be made to define the criteria of high-growth enterprises and some tests should be made with employment in 10 and more employees and 10% threshold for annual average growth.

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