The Latvian Economy

Weak business innovation activity needs a boost

- Business spending on R&D has been unsettlingly weak
- Innovation activity hampered by high costs and lack of funds
- Policy action needed or Latvia is likely to continue lagging

Business spending on R&D has been unsettlingly weak
Latvia lags in innovation performance. In 2012, Latvia’s expenditure on research and development (R&D) amounted to roughly 0.7% of GDP— one of the smallest shares in the EU. Especially worrying is the low level of business investment in R&D – a mere 0.16% of GDP. Business innovations are crucial as they are more likely than those of the public sector to increase commercialised products/services, and hence raise revenues and value added and drive growth. However, in 2010 approximately 70% of companies were noninnovators, and most of the R&D activity in Latvia in recent years has been in the hands of the public sector.

Innovation activity hampered by high costs and lack of funds
Companies cite the high innovation costs and the lack of funds as the main obstacles to innovation activity; the lack of cooperation amongst companies, the government, and academia is also an issue. The government has taken some steps to address the issue, such as establishing Competence Centres and a cluster programme and introducing a tax allowance for R&D expenditures in mid-2014.

Policy action needed or Latvia is likely to continue lagging
Latvia has set a wide array of national targets in regards to innovations, such as to bring R&D expenditures to 1.5% of GDP by 2020; in comparison, the EU has set a target of 3%. However, as of yet there is no concrete activity plan in Latvia for achieving these goals. Longer-term plans specifying what public support measures companies could rely on would promote company investment in R&D. If government measures remain short-term oriented with a heavy administrative burden, companies are unlikely to see this as an inviting strategy for R&D investments, which, by definition, are associated with uncertainty and risk.

R&D expenditures in 2011 by source of funds, % of GDP

Source: Eurostat
Weak business innovation activity needs a boost

Latvia lags in innovation performance and spends on R&D a mere 0.7% of GDP – one of the smallest shares in the EU. Company R&D activity has been particularly weak. While the government has taken some steps to support R&D activity, a concrete action plan that would promote innovations and help achieve the national target for R&D expenditures of 1.5% of GDP in 2020 still seems to be lacking.

Business spending on R&D has been unsettlingly weak

Latvia has been catching up to the EU average by increasing productivity and by gradually climbing up the value-added ladder. As Latvia draws closer to the EU average, an increasingly important question is how to raise value added, and this means how to boost innovations – a question many developed countries are trying to address. But the question of boosting innovations is not on the top of the policy agenda today. Therefore, in this newsletter we will take an overview of Latvia’s innovation performance and identify which blind spots, if left unaddressed, could put Latvia at a disadvantage in the years to come. We shall mostly focus on Eurostat data on R&D and on the Community Innovation Survey; data are, of course, prone to imprecision and real numbers could be higher than reported, but these are likely to reflect the general trend and Latvia’s position against other countries.

Innovation is most commonly understood as delivering something either new or significantly improved, and it can refer to products, processes, and marketing and organisational methods. One of the most-used measures of innovation is spending on R&D, the main input to innovation. Latvia spends very little on R&D, and this has not improved in recent years. In 2012, Latvia spent roughly 0.7% of GDP on R&D –one of the smallest shares in the EU- below that of Lithuania and miles away from Estonia’s. While the 0.7% R&D expenditure is, indeed, progress compared with 2004, when Latvia spent only 0.4%, since 2006 R&D expenditures have stagnated at around 0.6-0.7% of GDP. Estonia, on the other hand, has gradually increased its R&D expenditures as a share of GDP over the years.

R&D expenditure in 2004 and 2012*, % of GDP

Not only does the total spending on R&D matter, but also who is paying for it and who actually carries out the lab work and research. An innovation is more likely to become commercialised when it is handled by the business sector; once such an innovation is commercialised, it can bring higher revenues and higher value added and boost growth. If Latvia has been one of the smallest spenders on R&D in the wider European context, then the subsector of the Latvian business sector has not performed any better.

In 2011, Latvian companies spent on R&D only 0.17% of GDP, six times below the EU average of 1.1%; in 2012, these expenditures declined to 0.16%. Latvian companies are not paying for R&D and they are also not the ones carrying it out. Instead, the R&D funding and activity are predominantly in the hands of the public sector. While government expenditures on R&D are the lowest in the EU, with an average of 0.16% of GDP in 2010-2012, most of the funding comes from abroad, most of which is EU structural funds, administered by the

1 http://www.oecd.org/site/innovationstrategy/defininginnovation.htm
2 With the exception of 2009, when it fell below 0.5%.
government. Most of this funding is then directed to be carried out by the government and higher-education institutions; in 2012, they carried out three-fourths of all R&D spending. In the “old” Europe, we see a very different picture – companies are the main drivers of R&D activity, as they are the main source of funding and they themselves carry out the largest share of R&D.

There is no doubt that public investment in R&D can be important, as it can provide a base upon which further research can be built; however, companies are the ones that traditionally focus on experimental development, i.e., creating new products/services and commercialising them, which raises the value added and boosts growth. Therefore, while the overall level of R&D spending in Latvia is rather low, even more worrisome is the small and stagnating share of business investment on R&D as a percent of GDP.

There are, of course, expenditures related to innovation that differ from formal R&D spending, such as purchases of machinery and equipment for manufacturing products, purchases of patents, etc. As the borderline between R&D and non-R&D expenditures can often be quite thin, it would be more useful to look at the general picture of innovating companies. In general, the share of noninnovating companies in Latvia is still very large. In 2010, when the latest EU-wide Community Innovation Survey was conducted, roughly 70% of the companies were noninnovators in Latvia, down from 76% in 2008, but still the largest share amongst Baltic countries. Interestingly, the share of innovating companies has increased because the number of noninnovating companies shrank by one-third from 2008 to 2010, while the number of innovating companies declined much slower, at a rate of 12%. This suggests that innovating companies have weathered the crisis better or, alternatively, that previously noninnovating companies may have started to innovate.

\[1\] Part of the reason for the weak government investment was the ongoing budget consolidation; also, the government may have tried to substitute its previous investments in R&D with funding from the EU structural funds.

\[2\] Experimental development is systematic work, drawing on existing knowledge gained from research and practical experience; this is directed to producing new goods, products, and devices; to installing new processes, systems, and services; or to improving substantially those already produced or installed.
Latvia has been more efficient in applying for patents than the other Baltic countries

Another measure of innovation is the number of patents that a country produces; these traditionally being the output of R&D; however, it should be taken into consideration that not all R&D results in patents, as acquiring them can be quite expensive. The number of new patents has been slow to improve in Latvia, not least due to weak R&D expenditure. In 2005-2009, Latvia averaged roughly 19 new patent applications per year at the European Patent Office (EPO). Estonia has seen a strong growth in the number of patents in recent years, and in 2009 it applied for more than 40 patents. Lithuania seems to be lagging in total numbers of patent applications: in 2005-2009, Lithuania applied for an average of only 10 patents per year.

The silver lining of the low R&D expenditure is that Latvia has been rather efficient in producing patents. As a measure of total R&D expenditure per patent application, it has cost approximately EUR 5 million for Latvia to apply for one patent at the EPO on average from 2004 to 2009, compared with a more expensive EUR 7 million in Estonia; meanwhile in Lithuania it costs more than EUR 18 million to produce one patent application – the most expensive in the EU.

Total R&D expenditure per patent application at EPO (average 2004-2009)

Innovation activity hampered by high costs and lack of funds

Why are companies investing so little in R&D and other innovation activities? And what can be done about it? The main obstacles to company innovation activity are very similar across the Baltics: high costs and lack of funds, according to the Community Innovation Survey in 2010. R&D expenditures are associated with large uncertainty and risk, as it is unknown whether the R&D will indeed succeed in producing new products/services, and a large share of spending goes to human capital (such as scientists and engineers). Therefore, it is difficult to get a bank loan without physical collateral. Also, bank funding is targeted more to already-established businesses rather than start-ups. Hence, alternative sources of funding and developed financial markets are crucial to support innovation.

While Latvia still lags other EU countries in nonbank financial market development, it has fared relatively well in acquiring venture capital investments. Throughout 2010-2012, it surpassed such countries as Italy, Poland, Greece, and the Czech Republic with an average investment of 0.01% of GDP per year. Nevertheless, anecdotal evidence suggests that while there are available funds, there are few suitable projects submitted for venture capital investments, and that not all venture capital actually goes to innovating and high-tech companies. Part of the reason could be the social norms and the level of trust in a society, as local entrepreneurs would wish to maintain control over their own companies.
Latvia especially struggles with weak cooperation amongst companies, academia, and the government.

Another factor that hampers innovation activity in Latvia is the weak cooperation amongst academia, the government, and companies. This issue is partly evidenced also in the Community Innovation Survey – the difficulty of finding cooperation partners (e.g., also within a business sector, for instance, suppliers) is more acute for Latvian companies than it is for their Lithuanian and Estonian counterparts. Every fifth innovating company and every sixth noninnovating company in Latvia stated in 2010 that this was a limiting factor. To address the issue, policymakers using EU structural funds have created Competence Centres and a cluster programme to boost cooperation amongst the different sectors.5

The government plans to bring R&D spending to 1.5% of GDP by 2020.

There does not seem to be a panacea that could significantly boost innovation activity in Latvia. This requires a wide array of factors, and, unfortunately, for new innovation seems to be in the far corner of the policy agenda. Latvia’s National Development Plan 2020 envisages that Latvia will be spending roughly 1.5% of GDP in 2020. While the target is twice as low as the EU 2020 target of 3%, it is still quite ambitious, as Latvia will have to almost quadruple its spending on R&D from 2012 to 2020, with annual growth at approximately 18%.6 While R&D spending grew on average two times faster than nominal GDP from 2005 to 2012, excluding economic contraction years, from 2013 to 2020 the tempo will have to accelerate to almost three times faster than nominal GDP growth. On the positive side, some funding boost is expected from the EU structural funds’ new planning period 2014-2020, when more funding than in the previous planning period is expected to be assigned to innovation. Also, the government will introduce a tax allowance for R&D expenditures, starting in mid-2014.7

5 The cluster programme covers 11 clusters, ranging from tourism to space technologies and pharmacy. There are currently 6 competence centres in the fields of the pharmacy and chemical industry, information and communication technologies, the forest industry, electrical and optical instruments, the transit and transport industry, and the environment, bio-energy, and biotechnology industry.

6 Assuming nominal GDP growth in 2013, Swedbank April 2014 forecasts for nominal GDP growth in 2014-2015, and 2.5% inflation and 4% real GDP growth afterwards.

7 This replaces a previous tax allowance for expenditures that resulted in a patent after 2009, this allowance reduced the Corporate income tax taxable income by these expenditures with a coefficient 1.5. Starting mid-2014 this coefficient will be raised to 3 and can be applied to R&D expenditures.
For R&D activity to pick up according to plan, the research staff has to expand as well. However, the aging of the highly qualified workforce might hamper innovation activities going forward. While a large share of Latvia’s population has a higher education, the number of doctorate holders is relatively low, and more than half of them are older than 55 – the largest share in the EU in 2009. Also, in Latvia the share of new graduates in the fields of mathematics, science, and technology, who are a crucial part of the R&D staff, has been one of the smallest in the EU: it was roughly 14% of all new graduates from 2004 to 2012, compared with 22% in the EU on average.¹

Policy action needed or Latvia is likely to continue lagging
A boost in innovation requires a wide array of factors, such as making structural reforms in higher education and science, and continuing the strengthening of the cooperation amongst companies, academia, and the public sector. A 2013 study and survey funded by the European Social Fund found that another factor hampering innovation and R&D activity in Latvia was the short-term planning of government support measures, which does not allow companies to plan their investment projects over a longer term, also bureaucracy and administrative burden hinders companies to apply for public support programs.² Similarly, repeatedly changing the tax policy in Latvia hinders the smooth planning and operation of businesses.

While the Latvian government has set several national targets in regards to innovation (e.g., raising R&D expenditures to 1.5% of GDP), a concrete activity plan has not been set for achieving them. The government has just recently set up a strategic council on research and innovation to try to address the issue, but it remains to be seen whether and what specific actions will follow.³ If government measures remain short-term oriented with a heavy administrative burden, companies are unlikely to see this as an inviting strategy for R&D investments, which, by definition, are associated with uncertainty and risk.

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¹ On the positive side, we have seen that the share of graduates in the aforementioned field is gradually picking up – in 2013, the share reached almost 19%.
² [set footnote on same line].nodevums.docx&sa=U&ei=5RdNU_KIDcWoyQPlioDABQ&ved=0CBsQFjAA&usg=AFQjCN
³ EKHPE4wptGu59ug44vlptujejrg (in Latvian)
⁴ http://likumi.lv/doc.php?id=265184 (in Latvian)
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