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Directorate A - Policy Development and Coordination
A.4 - Analysis and monitoring of national research and innovation policies

References to

Research and Innovation

in the European Semester Country Report 2017

Hungary

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Introduction

This document is a compilation of the Research and Innovation (R&I) references extracted from the European Semester Country Report 2017. It offers a quick overview of the analysis done by the European Commission on the reforms undertaken by the country in research and innovation and the progress made towards the Europe 2020 target on R&D.

Executive summary

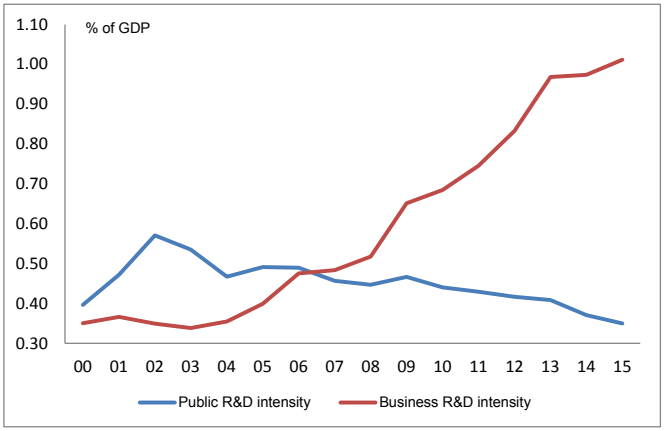
Low corporate investment is however holding back productivity growth and thereby competitiveness and potential growth. Productivity is comparatively low. Without productivity gains, there is a risk of Hungary becoming less competitive in the medium term. The recent increases in minimum wages are intended to trigger a shift towards higher productivity jobs. Innovation is not yet embedded in the economy reflected in wide productivity gaps between foreign-owned and domestic companies. Regulatory barriers in services, including retail, tend to limit market dynamics and hamper investment.

References to research and innovation

1.1 Research and Innovation

Total spending on R&D increased in recent years, but public R&D intensity is falling. Although R&D spending in the business sector is still below the EU average, it has doubled as a percentage of GDP over the past ten years (*Graph 3.5.1*). However, business innovation is highly concentrated in a handful of large foreign-owned companies. At the same time, public R&D has been decreasing, leaving Hungary in the bottom group of EU Member States on this account. This weakens the science base which provides the knowledge and human resources for business development. The low quality of the public research and innovation system contributes to insufficient cooperation between higher education institutions, public research organisations and businesses.

Graph 3.5.1: **The evolution of R&D intensity by sectors**

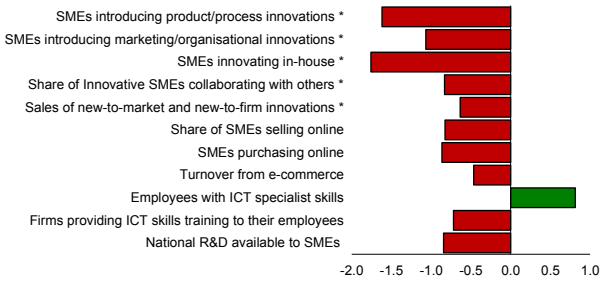


Source: Eurostat

Overall, innovation is not sufficiently embedded in the Hungarian economy. Hungary has been a major beneficiary of foreign direct investments over the past 25 years. This brought in high-technology production, which represents a significant proportion of manufacturing. However, domestically-owned firms have not been able to benefit from technological spill-overs from foreign owned enterprises, and their productivity has remained weaker. The limited knowledge transfer can be partly linked to the orientation of foreign companies

towards their global production networks, while relying on low labour costs locally. The very low innovation propensity of small- and medium-size enterprises (SMEs) in terms of adopting new technologies and processes also reduces the scope for technological spill-overs. Similarly, only a small fraction of Hungarian SMEs are involved in in-house innovation activities (*Graph 3.5.2*). Human resource constraints, including weak entrepreneurship, play a major role in hampering innovation. The lack of highly-skilled professionals is a major obstacle that puts at risk investments in knowledge-intensive activities. ([1]) Based on the European Innovation Scoreboard, which reflects the above factors, Hungary ranks 21st of the 28 EU countries in innovation performance (*European Commission, 2016d*).

Graph 3.5.2: **Performance of Hungarian SMEs in selected innovation indicators – measured in standard deviations (EU average=0)**



(*) Data bars pointing left show weaker performance than the EU average. Data refer to 2015 or 2012.

Source: European Commission

The government's economic strategy puts emphasis on promoting innovation, but weaknesses in policy coordination tend to limit results.([2])The National Research and Development and Innovation Strategy (2013-2020) laid down policies explicitly targeting innovation in SMEs. However, there are mismatches between the planned measures and the actual situation of SMEs. Hungarian R&D, especially in the small busines sector, is heavily dependent on EU Structural Funds and other external sources. Yet, R&D grants do not appear to have the desired broad effect in stimulating innovation across the economy. Considerable funds are available to support business R&D during the 2014-2020 programming period. Yet, appropriate evaluation and monitoring mechanisms to safeguard the effective utilisation of these resources are missing. There is only limited policy coordination to ensure the complementarity and continuity of different programmes.

1.2 Additional references to R&I

[3.2 Education and skills, p.25]

The growing demand for highly-skilled workforce is not matched by a sufficiently large pool of applicants to tertiary education and adequate completion rates. Hungary's tertiary educational attainment rate for 30 to 34 year-olds stood at 34.3% in 2015. The rate was thus in line with the EU2020 national target of 34%, but below the EU average (38.7%). There has

([1]) The number of new graduates in science and engineering per thousand of population aged 25-34 was at 10.8 % in 2014, 7 pps. below the EU average – placing Hungary 25th in the EU.

([2]) At the request of the Hungarian authorities, a peer review was conducted on the country's research and innovation system under the Horizon 2020 Policy Support Facility, which concluded in drawing up several recommendations (*European Commission, 2016e*).

been a decline in applications and enrolment rates for tertiary programmes since 2011 but the drop-out rate from higher education is higher ([3]). This may negatively affect tertiary attainment rates in Hungary over the next decade. The low relative number of researchers and tertiary graduates is considered to be one of the main challenges of the Hungarian research and innovation system (*European Commission, 2016d*).

[3.3 Investment, Investment trends, p.27]

Low investment has a dampening impact on Hungary's potential growth (*Graph 1.10*). The low rate of potential growth was discussed in Section 1. It mainly reflects low total factor productivity growth, which in turn is linked to the low level of innovation in the economy. Without sustained growth in market-driven private sector investment, the contribution of capital accumulation to potential growth and productivity growth will remain moderate. Private investment is particularly important as EU-funded investment gradually subsides.

[Box 3.4.1 Hungary's weak post-crisis productivity growth hinders competitiveness, p.27]

Existing structural problems in the innovation system, the labour market, education and health care also weigh on productivity growth.

[3.5 Sectoral policies, Regulation in the service sector, p. 32]

Although product market regulation is not particularly strict in general, access to several service sectors continues to be constrained. Over the past years, several segments of the service sector saw the introduction of new regulatory barriers in previously open markets. The affected areas include retail outlets, tobacco retail, pharmacies, waste management public service, textbook publishing and distribution or mobile payment systems. During 2016, no substantial steps were taken to ease the recently erected entry barriers in service sectors. On the contrary, the government adopted new, tighter requirements for passenger transport services operated by independent dispatching centres. Increasing restrictions to entry in certain service sectors hinder the efficient allocation of resources and innovation-enhancing business dynamics, while also generating uncertainty for investors.

([3]) National data from 2015 indicates drop-out rates of 36.4 % in the first cycle, 17.8 % in the second cycle and 38.7 % in undivided programmes.