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Hungary Looks to Revise Its Research, Development and Innovation Strategy

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Hungary is reviewing its national research, development and innovation (RDI) strategy, which it launched in 2013. It aims to carry out structural changes by 2030 that will significantly increase the Hungarian economy's competitiveness. To this end, the research and development (R&D) sector is being reformed and expenditures on it gradually increased. However, the level of spending combined with the structural weaknesses of the Hungarian economy might hinder its catching up with the European leaders of innovation in such a short time.

The Hungarian government has amended the national RDI strategy adopted for 2013–2020. The new document, submitted in January 2018 for public consultations, reflects both the new national institutional framework for funding R&D projects and the European Commission's (EC) recommendations for Hungary.

EC Recommendations. According to a peer review of the Hungarian RDI system prepared at the country's request by the EC in 2016, the 2013 strategy assumptions were correct. However, to exploit more effectively the country's vast scientific and innovation potential, it found it is necessary to implement specific reforms and to constantly and significantly increase funding for public R&D performers. Among the most important tasks the EC pointed to was to integrate R&D programming into the country's economic development strategy, as well as to increase the number of innovation companies by supporting public-private cooperation in research and innovation (R&I).

Goals. The main goal of the new strategy has not changed: To include Hungarian entities as equal participants in the global innovation process. To do this, the document is equally focused on academic excellence, supporting startups, increasing investments in innovation by small and medium-sized enterprises and attracting R&D centres of global corporations. It formulates recommendations for the period to 2030. The strategy identifies what it calls emerging technologies—ICT, biotechnology, cognitive technologies and nanotechnology—as priority industries. It also distinguishes high quality scientific research as an area of special interest for Hungary. However, the strategy does not provide details on the implementation of the innovation policy. Those elements can be found in other strategic documents, including the National Industrial Development Strategy (the so-called Irinyi Plan) from 2016. Also, a specific action plan will be set up this year.

Institutional Changes. In 2015, all public competences related to innovation were centralised in Hungary. The institution now responsible for the design, implementation and funding of the state's scientific and innovation policy is the National Research, Development and Innovation Office. It is only accountable to the prime minister. It distributes EU structural funds for R&D and national innovation funds. It also supports entities applying for direct funds from the EU and is the main national contact point for delegates and members of advisory groups in the EU's Horizon 2020 strategy. Therefore, it is unique in comparison with its counterparts in other EU countries.

Finances. The new strategy maintains the target value of gross domestic expenditure on R&D (GERD) at 1.8% of GDP by 2020 (in Poland, the target is 1.7%) and to 3% by 2030. However, in 2016, the total expenditure in Hungary on R&D as a share of GDP was much less, at 1.22% (in Poland, 0.97%), and since 2010 it has increased by only 0.07 pp. Total public expenditures on R&D have not changed much over the last 10 years, but expenditures to the business sector have been increasing substantially since 2005. In 2016, Hungary spent 0.19% of its GDP on direct R&D support to the private sector, which is the highest share in the EU after Slovenia. The beneficiaries were mainly large enterprises. The entire innovation potential of the Hungarian economy is concentrated in a few enterprises in the pharmaceutical industry (including Gedeon Richter, 25% of which is state owned) and the automotive and IT industry, mainly representing German capital.

In turn, public R&D funding for the government sector, including for universities and the Hungarian Academy of Sciences, has been decreasing since 2008. In this respect, Hungary ranked in the last five among EU countries in 2016 at just 0.38% of GDP (only Romania, Bulgaria, Cyprus, and Malta spent less on R&D in the public sector, while Poland spends around 0.5% of its GDP). Nevertheless, in some narrow areas (e.g., neurology, biotechnology, mathematics), Hungary's scientists have the potential to help the country match the level of the world's leaders. As a result, between 2007–2017, Hungarian research centres obtained more funds in grants for exploratory research from the European Research Council (ERC) than would be proportional to the R&D budget expenditure. They amounted to €82 million, which is 40% of all funds granted by the ERC during this period for the 13 Member States that joined the EU in and after 2004.

Challenges. The barriers to a significant increase in innovation in the Hungarian economy are, on one hand, the shortcomings in the strategy's implementation and, on the other, the structural weaknesses of the Hungarian economy. The Hungarian Association for Innovation mentions the lack of market-oriented thinking as among the defects of the new document. The strategy focuses on supporting highly valued research while the competitiveness of the product on the market is not a key requirement. This might discourage enterprises from public-private R&D partnerships, which are considered only as easy access to public subsidies. The association also notes that another weakness of the Hungarian system remains the lack of incubators and funding in academic centres.

Some of the specifics of the Hungarian economy and some elements of the government's economic policy are also a challenge for increasing innovation. The greatest difficulty for companies is the lack of human resources. Wages have gone up (by 11% in 2017), meaning employment costs have risen, but there have been no tax reductions for enterprises. In these circumstances, companies can maintain profits at the current level only by dynamically increasing their productivity or limiting employment. Some economists point out that mainly large foreign enterprises, constituting by number only a few percent of Hungary's companies, can increase their productivity (also through innovation). Although few, they produce half of Hungary's GDP. In terms of productivity, there is a serious gap between them and the small and medium-sized enterprises sector, which allocate on average 10% of the investment expenditures of large companies. This results in an overall low level of innovation in the economy. Also, the government grants non-returnable support to foreign companies for investments generating low added-value, which is ineffective from the point of view of increasing the level of innovation.

Perspectives. Centralising all R&D instruments in one institution might contribute to increasing the efficiency of the use of funds for innovation. However, in the longer term it will be necessary to increase public spending on R&D and to create a business climate of innovation to match the more developed EU economies, and then to maintain the level of competitiveness. To reach these objectives, these expenditures already today would have to significantly and consistently exceed the level of expenditure in the most innovative EU countries. This also applies to other countries of the Visegrad Group, including Poland, which spends less on R&D than Hungary. Meanwhile, substantially increasing spending on R&I, announced by successive V4 presidencies, has so far remained only declarative.

The lack of a wide base of small and medium-sized, innovative companies attracting foreign venture capital remains a problem in Hungary. The low level of investment and productivity constitutes another challenge. An additional difficulty is the lack of workforce. Moreover, polls show that about a third of Hungarians with a higher degree or vocational education are considering emigration. For these reasons, it is unlikely that the government's objectives will be fulfilled with the proposed instruments by 2030.