Hungary’s National Innovation Policy: What Hungary Does the Best and How Can It Improve

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Over the past decade, Hungary has made a significant effort to establish itself as a competitive player in the 21st century. This briefing highlights the country’s best practices and explores potential areas for further development to help Hungary become an innovative economy.

OVERVIEW

Over the last decade, Hungary has established itself as a serious player in the global economy, coming to play an important role in global supply chains and becoming a regional power within the EU. Despite its success, Hungary faces various challenges that could affect its ability to maintain its competitive edge and continue to innovate and grow. By understanding these challenges, Hungary can address them and improve its competitiveness, ensuring continued economic growth and prosperity for its citizens. This briefing summarizes what Hungary is doing best and where it has the greatest room for improvement in its innovation policy.

Table 1: Summary of strengths and weaknesses in Hungarian innovation policy

<table>
<thead>
<tr>
<th>Comparative Strengths</th>
<th>Comparative Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Medium- to High-tech Exports Account for a High Share of Manufactured Exports</td>
<td>▪ Low Levels of R&amp;D Investment</td>
</tr>
<tr>
<td>▪ Government Support of Business R&amp;D Activities</td>
<td>▪ Decreased Budget and Declining Quality of Education</td>
</tr>
<tr>
<td>▪ Broadband Internet Availability</td>
<td>▪ Weakly Performing Start-up Ecosystem</td>
</tr>
</tbody>
</table>
COMPARATIVE STRENGTHS

Medium- to High-tech Exports Account for a High Share of Manufactures Exports

The composition of a country's exports provides a crucial indicator of its areas of competitive advantage and its role in global supply chains. Per World Bank data, Hungary had the highest proportion of medium- and high-tech exports in manufactured goods among European Union (EU) countries in 2020. Specifically, medium- and high-tech manufactured goods accounted for 78 percent of Hungary's exports. The Hungarian average rate of medium- and high-tech manufactured goods in exports between 2019 and 2021 was 125.7 percent of the EU average, which was second only to Slovakia (129.4 percent).

The manufacture of medium- and high-tech goods can act as a catalyst for innovation and the adoption of new technologies in a country. Indeed, Hungary has become an increasingly attractive investment destination for multinational companies thanks to its advantages as a producer of medium- and high-tech goods. This, in turn, can lead to a steady increase in research and development (R&D) investment in Hungary and help it catch up with more advanced and innovative countries in the coming years.

Government Support of Business R&D Activities

Government support for business R&D activities is essential for promoting innovation and driving economic growth. Without government support, many businesses may be unable or unwilling to invest in R&D activities, which can slow the pace of innovation and economic growth. Business R&D activities are a key driver of innovation, economic growth, and job creation, making them essential for maintaining a competitive and dynamic economy in the long term.

According to the 2021 OECD study “Mapping Business Innovation Support,” Hungary ranked fourth among EU countries in terms of direct government funding and government tax support for business R&D as a share of the country's GDP in 2019. This finding is further supported by the 2022 European Innovation Scoreboard report, which indicated that Hungary's government support for business R&D was 135.7 percent of the EU average between 2019 and 2021. These figures suggest that companies operating in Hungary receive strong incentives from the government to establish R&D processes within the country.

Broadband Internet Availability

Broadband connectivity is crucial for enabling the efficient and effective transfer of information, ideas, and resources between individuals and businesses. It provides access to a wealth of information, including market data and news, which enables businesses to make informed decisions and stay competitive. Additionally, it allows people to work from anywhere, reducing the need for physical office space and creating new opportunities for businesses to hire talent from around the world. Countries with strong broadband connectivity tend to experience faster economic growth than those without it, as it facilitates innovation, entrepreneurship, and business expansion.

Per the Digital Economy and Society Index (DESI) 2022, 97 percent of households in Hungary have access to broadband, significantly higher than the EU average of percent. Additionally, almost 22 percent of households in Hungary use systems with speeds of 1 Gbps or more, compared to an
EU average of just 7.5 percent.\textsuperscript{5} Hungary’s broadband connectivity therefore provides a solid foundation for the country’s future economic growth and innovation.

\textbf{COMPARATIVE WEAKNESSES}

\textbf{Low Levels of R&D Investment}

Hungary’s performance in the future innovation race will largely depend on its R&D investment. Despite Hungary’s strong government support for business R&D activities, the country’s overall national R&D spending as a percentage of GDP is only 1.64 percent, which is average for Eastern Europe but well below the EU average of 2.26 percent in 2021 or the average of 2.67 percent among OECD countries in 2020.\textsuperscript{6} This poor performance is driven by lower investment in higher education and government R&D, which are both significantly below the EU average. While business R&D spending in Hungary is more in line with the EU average (1.24 percent vs 1.49), its higher education sector invests only half as much in R&D as the EU average (0.23 percent versus 0.49), and its government R&D investment is also much lower than the EU average (0.17 percent versus 0.27).\textsuperscript{7} To improve its overall R&D performance, Hungary may need to focus more on increasing investment in higher education and government R&D, in addition to continuing to support business R&D. If Hungary reaches its 3 percent R&D target for 2030, it could take a major step toward becoming one of the innovative economies of the future.\textsuperscript{8}

\textbf{Decreased Budget and Declining Quality of Education}

Education plays a crucial role in fostering innovation and growth in modern economies, as it equips populations with the necessary knowledge and skills to contribute to and take advantage of innovation. However, measuring the quality of education is a complex task, and different indicators can yield different results. In Hungary, government spending on education has not kept up with the growth of the country’s economy in recent years. Data from the Hungarian Central Statistical Office shows that public education funding in Hungary as a share of GDP has declined every year since 2016 and stood at 3.5 percent in 2021, down from 4.4 percent in 2016 and 5.7 percent in 2003.\textsuperscript{9} This figure was 3.9 percent in 2019, the last year when Eurostat published education expenditure data. This amount represented only four-fifths of the EU average of 4.7 percent.\textsuperscript{10}

In addition to government spending on education, Programme for International Student Assessment (PISA) results from recent years are also relevant when assessing education in Hungary. In the most recent PISA test, conducted in 2018, Hungary scored around the OECD average in math, reading, and science. However, the country’s scores have been on a downward trend in recent years. For example, in reading, the median score was 476 in 2018, compared to 480 in 2000. In mathematics, the median score was only 481 in 2018, compared to 490 in 2003, and in science, the median score was 481 in 2018, compared to 504 in 2006.\textsuperscript{11}

PISA’s analysis of the results specifically points out that reducing regional differences could increase the median score. These trends, along with the decline in funding relative to GDP, suggest that Hungary has considerable room for improvement in education, especially in human resources education. Given the right financial resources, Hungary could make substantial progress in building innovative capacity for future generations.

In the context of education and innovation, the quality of higher education and the number of graduates in a country are important factors to consider. According to Eurostat data, 32.9 percent
of Hungarians aged 25-34 have a higher education degree, which is lower than the EU average of 41.2 percent. However, Hungary has a slightly higher percentage of people with STEM (science, technology, engineering, and mathematics) degrees (2.35 percent) among the total population compared to the EU average (2.1 percent).

Hungary has a huge potential for growth in education. Hungary has a good chance of capitalizing on the country’s legacy of many of the world’s most prominent 20th-century scientists and scholars in the coming decades if it can reverse the negative trends in education.

**Weakly Performing Start-up Ecosystem**

In Hungary, developing a strong start-up ecosystem is crucial for ensuring that the economy can remain innovative and competitive in the future. Although the start-up ecosystem in the Eastern European region has grown rapidly over the past decade, it has not developed as quickly in Hungary. The Start-up Genome survey shows that Hungary’s start-up ecosystem, valued at $1.57 billion, lags behind both the Czech Republic and Romania’s ecosystems, valued at $4.74 billion and an impressive $36.9 billion, respectively. This is especially surprising given that both the Czech and Romanian economies are only 55 percent larger than Hungary’s. Germany has 616 start-ups per thousand people while Hungary only has 305, and the Czech Republic has four unicorn start-ups compared to Hungary’s one. Therefore, there is significant room for growth in Hungary’s start-up ecosystem, and developing it further will be essential for the country’s future economic success.

McKinsey’s comprehensive study highlights updating Hungarian corporate law as one of the key growth areas for Hungarian start-ups. In the World Bank’s “Starting a Business” survey, Hungary ranks 87th, indicating that the unwieldy legal obstacles are a significant administrative burden for start-ups. As a result, 25 percent of Hungarian start-ups have moved their headquarters abroad to operate more efficiently in a more transparent and manageable legal environment in their target countries. These issues also contribute to the low share of foreign investment in the Hungarian start-up ecosystem, with only 16 percent of investment in Hungarian start-ups coming from foreign investors, compared to 40 percent as the European average and 70 percent in leading ecosystems such as Germany or Israel.

These figures clearly demonstrate that Hungary’s start-up ecosystem has plenty of room for growth. However, despite several national programs aimed at improving the start-up ecosystem, the results have been limited. One of the most obvious solutions to this problem is to reduce the administrative burden, which would assist new start-ups and attract venture capital.

**CONCLUSION**

Hungary has taken significant steps toward building an innovative economy in recent decades. That a significant portion of its economic activity occurs in medium- to high-tech manufacturing indicates the country’s strong ability to become a knowledge economy. This is further strengthened by the government’s active support for R&D investment. However, in order for Hungary to become a successful innovator country in the future, it is very important to increase government education expenditures, further increase the scale of R&D investment, and catch up with the development of the start-up ecosystem.
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ENDNOTES


https://startupgenome.com/ecosystems


17. Ibid.

18. Ibid.

19. Ibid.