

Changes in the understanding of competitiveness and the conditions for improving Hungarian competitiveness in the light of these changes

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ABSTRACT The aim of this article is to present the changes in the literature and practice of competitiveness, pointing out that a distinction must be made between competitiveness at the firm level and competitiveness at the national level, both in terms of objectives and methods. On the other hand, it highlights the new elements that have been introduced into the understanding of competitiveness due to geopolitical, social and environmental changes, and which are becoming more prominent in our time due to technological change. The article quotes, without claiming to be exhaustive, the main findings of recent studies by the best-known competitiveness research organisations, illustrating the differences in interpretation between them. Occasionally, findings on domestic performance are also discussed. The article did not aim to provide a comprehensive analysis of Hungarian competitiveness based on proprietary research, as it considers the presented MNB Competitiveness Report as a good research basis for describing the competitiveness situation and for developing a national competitiveness strategy. However, it does point out some additional indicators that should definitely be included in a national competitiveness strategy. It argues that the aim of improving national competitiveness should not be merely to improve economic outcomes, such as GDP. The central issue of improving competitiveness can only be the harmonious expansion of all elements of national wealth together. Therefore, the Hungarian National Competitiveness Strategy should set development targets for those elements of wealth where Hungarian competitiveness performance is weak. The article lists these in the summary.

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"It is not the strongest of the species that survives, nor the most intelligent. It is the one that is most adaptable to change"

(Charles Darwin, 1809-1882)

Introduction

Competitiveness has long been a topic of research. Its content is usually described in terms of the unit whose competitiveness is being examined. Initially, the focus was mainly on analysing the competitiveness of enterprises. The assessment of business competitiveness is the subject of a large number of textbooks and is also taught as a core subject in universities. Authors often link competitiveness and corporate strategy in search for successful ways of building and gaining competitive advantage. Initially, these were more so-called "hard methods", such as investment size, cost optimisation or successful marketing. Later, this shifted towards so-called 'soft methods'. These include organisational culture, organisational development, motivation or building partnerships. Over time, with economic globalisation, local competitiveness analysis has moved out into the global space, and one after another textbooks have been published offering competitiveness solutions that can be built on the global market. According to business competitiveness analysis, a firm is generally considered competitive if it can produce high-quality products and services at a competitive price with a satisfactory return. Porter's book (Porter 1985) is usually regarded as the basic literature on business competitiveness analysis.

In his analysis, Porter stressed that to succeed in the market, firms need to develop strong competitive advantages in some area, which cannot be cost cutting alone, because it is easy to imitate. Academic research workshops have been set up around the world to study corporate competitiveness. In Hungary, the Competitiveness Research Centre was established in 1999 at the Budapest University of Economics and Business Administration under the leadership of Attila Chikán, which in 2004 launched its competitiveness studies based on questionnaire surveys and interviews, the first results of which were presented in a final study in 2006, at the Corvinus University of Budapest (Chikan, Czakó, Kazainé, 2006). Based on corporate surveys the study already draw conclusions related to national level competitiveness, as well. Economic competitiveness at national level was defined in terms of achievements, performance, and adaptability of corporations operating in the economy.

Subsequently, competitiveness analyses at company and economy-wide level have become increasingly interlinked. This can be seen in the analyses of the two

best-known competitiveness research institutes, IMD² and WEF³. Their studies focus on the ability of a country to create an environment that helps firms to strengthen their competitiveness. However, they do not provide analytical criteria for national competitiveness. This is illustrated by the approach of Arturo Bris, Director of the IMD Competitiveness Centre. In his book (Bris 2021), he stresses that national competitiveness should be assessed according to how it affects the competitiveness of firms. He argues that the prevailing economic policies, monetary and fiscal policies, the efficiency of governance and the functioning of the public sector in general have a significant impact on the competitiveness of firms operating in a given country. According to Bris, the competitiveness of countries should therefore also be measured by the business environment they create for companies. This approach can be seen, for example, in the IMD's annual competitiveness study, where the IMD considers the environmental measures in a country that restrict firms' operations to be a factor that undermines competitiveness. But it should obviously be considered important for national competitiveness that companies that pollute the environment and endanger the health of the population should not be allowed to operate in the country. The IMD first published a competitiveness analysis in 1989 and has since published an annual study ranking the competitiveness of 64 countries in four competitiveness areas, in recent years, rising to 67 in 2024, using 256 indicators, 164 of which are based on statistical data and 92 on questionnaire surveys. The World Economic Forum published its annual Competitiveness Study between 2004 and 2020, which assessed countries' competitiveness on the basis of a composite indicator, the Global Competitiveness Index. The latest comprehensive analysis was published in 2020 and focused on the effectiveness of recovery from the pandemic and its relationship with competitiveness, using statistical data and a questionnaire survey for 126 countries (Schwab, Zahidi, 2020)

In particular, the study warns of the importance of developing human capital and innovation ecosystems to improve competitiveness. It also stresses that future readiness, sustainability and resilience are essential for competitiveness.

It should be mentioned that the data for most of the indicators examined were provided by a questionnaire survey. However, the surveys were carried out on a very small sample. For example, the Hungarian sample, which took place in 2019 and 2020, included a total of 85 and 86 online surveys respectively. WEF analyses also assess national competitiveness mainly based on companies' perception of the business environment. The WEF also suggests a different competitiveness strategy for developed and less developed countries. The suggestion to developed countries to compete on innovation and knowledge. For less developed countries, it advises them to compete by cutting costs, such as competing on low wages. It then analyses how countries perform in terms of these proposed competitiveness strategies. In relation to this approach, other authors warn that competitiveness based on cost-

2 IMD International Institute for Management Development, Lausanne, Switzerland

3 WEF: World Economic Forum

cutting, cutting social benefits, could lead to a development trap in the longer term. In their research, Milberg and Houston (1999) find that while competing on low wages may be beneficial to firms in the short run, it inhibits innovation and productivity improvements, which in turn undermine national competitiveness. This is supported by Eurostat analysis. According to the latest data for 2021, for example, productivity in the manufacturing sector in Hungary, which is a major contributor to the economy, measured in terms of value added per employee, was €39.8 thousand in 2021, the second lowest in the V4 after Poland and only 40 percent of the Austrian figure. However, if this indicator is adjusted for labour costs, i.e. the percentage of total labour costs per employee that is added value per employee⁴, this value is 201%, the second highest in the V4 after Slovakia and 38% higher than in Austria. So, although productivity measured by value added is low, it is associated with very low labour costs (Eurostat 22 March 2024).

In this context, Malecki argues that competing on low costs is the wrong development path as it diverts resources away from structural modernisation in the longer term and thus slows down development (Malecki, 2007). The conflation, sometimes confusion of firm and national competitiveness in competitiveness analyses makes it difficult to see clearly, as it does not make obvious what the fundamental difference between firm and national competitiveness really is. It is therefore necessary to make clear that the competitiveness objectives and instruments are different for different organisations, although it is also evident that they are not entirely independent of each other. The specificities of national competitiveness in Hungary were among the first to be analysed by Tamás Szentes' research group (Szentes 2005, 2006), a two-volume study linking competitiveness to the choice of development paths and placing it in the international context influenced by globalisation processes. The authors raise the question: how, in what areas and aspects are countries competing with each other? The answer is: they basically compete on the development path and the comparative pace of development. It is worth noting that it also raises the importance of sustainability and examines the issue of regional competitiveness. Textbooks analysing national competitiveness have also appeared in the international literature. One of the most influential is the book by Acemoglu and Robinson, published in 2012, which draws on 15 years of research to find the reasons for the success and failure of nations. (Acemoglu, Robinson 2012) The authors place considerable emphasis on the quality of political leadership and the institutions they create in shaping national competitiveness. Strong national competitiveness is measured, among other indicators, by the standard of living. They argue that a country that cannot provide its citizens with an internationally competitive standard of living cannot be competitive. This requires a leadership and institutions that do not extract value from the country's performance, but create value locally.

In a similar way, Vietor argues that the real meaning of national competitiveness is national development (Vietor, 2007). In this context, the author considers

4 wage adjusted labour productivity

it particularly important to shape the economic structure in such a way that the country is on a dynamic development path in the longer term. He points out that this requires a well-defined competitiveness strategy, in which the efficient use of resources, especially human capital, plays a central role, as well as the continuous strengthening of the country's competitive advantages and the elimination of its weaknesses. But a strategy is not enough: there must also be an institutional framework to manage its implementation effectively. Finally, it points out that success also requires public participation. Finally, we cite a publication by the MNB which analyses the link between competitiveness and growth and the opportunities for Hungary to catch up with developed countries in terms of competitiveness (Palotai, Virág 2016). The study demonstrates those areas which are crucial for a successful catching up. It identifies human capital as one of the most important, and secondly, the institutional system, as emphasised by Acemoglu and Robinson. The publication proposes the creation of a Competitiveness Council to coordinate public, business and social efforts to improve competitiveness. This council, called the National Competitiveness Council, was established in October 2016 and was dissolved in early 2022 when the government was restructured.⁵ Its work was primarily focused on shaping the business environment in the interests of firms. A detailed description of its results can be found in the publication *Mosaic of Competitiveness* (Csath, 2021). Further authors could be quoted. However, the aim was to highlight the fact that there is no one-size-fits-all approach to competitiveness for all organisations. A firm and a nation must choose a competitiveness strategy with different objectives. We could also have looked at the competitiveness of cities and regions, but this article, apart from a brief description of the enrichment of the content of competitiveness, is intended to focus on the characteristics of national competitiveness and its new features, which are becoming particularly important in our time.

New ways of defining and measuring national competitiveness

New aspects of understanding and measuring competitiveness at national level have become more pronounced in the context of environmental change. The pandemic, soaring inflation and the economic crisis have awakened countries to the importance of socio-economic resilience in particular. Signs of global warming, energy problems, sustainability and the transition to a circular economy have put the focus of thinking on the issue. Uncertainty caused by geopolitical realignment has focused attention on the importance of preparing for the future. And rapid technological change has made analysts aware that digitalisation, as well as offering a solution to labour shortages, can help to boost productivity and, through innovation, increase

5 The author of this article was a member of the National Competitiveness Council from its inception until its dissolution.

the value-added capacity of the economy, thus strengthening future readiness. The availability, accessibility and retention of quality human capital remains the key to successful change. In investment terms, this means increasing the share of investment in knowledge. The most recent literature already draws attention to these new conditions. The importance of resilience is stressed by Berkes (2023), who argues that unpredictable and mutually reinforcing social, economic and environmental changes, unforeseen disruptions and shocks, require rapid responses, which only organisations with strong resilience can provide. The author defines a nation's resilience as the ability to deal with unforeseen situations, to make sense of intricate and complex systems, and to adapt quickly and successfully to change. To develop these capabilities, constant and critical analysis and continuous learning are important. The importance of sustainability in maintaining competitiveness is analysed in detail in a MNB (National Bank of Hungary) publication (MNB, 2019), which examines the conditions for a green economy, green finance and green growth in general, but also the importance of the adoption of digitalisation.

The importance of the so-called „intangible”⁶, mentioned in the Hungarian literature as „smart investment”, is demonstrated by a book that has become world famous. Haskel and Westlake argue that it is not investment in buildings and machinery but innovation, creativity, entrepreneurship and knowledge that can drive the economy, and that these characteristics are needed to successfully adapt to change (Haskel, Westlake 2018).

The authors define intangible investment as investment in training, innovation, digitalisation and national leadership. They argue that the condition for success, for improving competitiveness, will increasingly depend on the level of spending in these areas. The new elements of competitiveness were also explored in a 2017-2018 research⁷ at the National University of Public Service. The research assessed the impact of economic restructuring, innovation, green competitiveness, digitalisation and robotisation, and the role of knowledge on competitiveness in an international comparison, and also presented the characteristics of new measurement systems. The conclusions were supported by company interviews and questionnaire surveys (Csath 2019, 2020a, 2020b).

In summary, the new focuses of improving competitiveness are sustainability, resilience, knowledge investment, digitalisation, innovation and knowledge. We will see later that these will also be the building blocks for future preparedness. In the next section, we present some analyses in which these elements of national competitiveness play a prominent role.

6 knowledge and skills-related

7 The research is entitled: Public instruments for improving competitiveness, with a special focus on the impact of government capabilities on the soft determinants of competitiveness.

The emergence of new trends in recent international competitiveness analyses

In the following, we briefly outline the new elements of competitiveness that some recent competitiveness analyses focus on and present the results of a few selected countries.

The EU Competitiveness Study

The 27-page EU Competitiveness 2024 Study (EC 2024), published in February, presents the European Sustainable Competitiveness Scoreboard along nine key elements. These are: a functioning single market, access to private capital, public infrastructure development, R&D and innovation, efficient use of energy, digitalisation, education and skills development, circularity and trade freedom. Progress in these areas is measured by 19 key performance indicators. For example, for R&D and innovation it looks at R&D expenditure as a share of total GDP - public and private - and the number of patent applications per million inhabitants, for energy efficiency it measures the share of energy produced from renewable energy sources, and for circularity it measures a single indicator, the share of recycled materials. The importance of education and training is reflected in the fact that four indicators also assess progress in this area. These include, for example, the share of adult learners in the working population and the share of ICT employment in total employment. The study concludes that the ability to retain and attract skilled professionals and good ones is the most important determinant of competitiveness.

An interesting indicator is the share of EU exports in world trade. This is methodologically odd because this indicator is not a competitiveness criterion, but rather an indicator of competitiveness outcomes. Moreover, the EU has a deteriorating performance on this indicator. In 2022, the EU economy accounted for 18.9 percent of total world exports, a figure that fell to 15.6 percent in 2015 and further shrank to 14.8 percent in 2023 (Statista 2024). The EU study does not provide a summary assessment, nor does it use a composite indicator to rank member countries on the basis of their performance in the 9 areas examined. Rather, it presents the competitiveness position of the EU as a whole in the areas covered and compares it with the US and China. It also gives country rankings only for one indicator of the circular economy, "circular material use", i.e. the percentage of total material use that is recycled. Hungary ranks 13th in this respect in 2022. We are overtaken by the Czech Republic (9th), Slovakia (11th) and Poland (12th). Austria is in seventh place. The annex to this study, the so-called working document, already contains more details (EC 2024a). But this 81-page working document also only gives country rankings for a few key performance indicators, and the data used are sometimes very old. The study can be seen more as a Commission situation analysis and target-setting paper than as a detailed competitiveness analysis. However, it does highlight the key headline targets of concern to EU leaders, notably those related

to the green transition and digitalisation, arguing that progress in these areas will make the greatest contribution to improving EU competitiveness. The importance of sustainability and circularity is also reflected in the EBRD's values.⁸

EBRD Sustainability Study 2023

The 57-page study, published in May 2024, highlights the need to increase the role of the green economy, improve energy and resource efficiency in general, and shift to a circular economy and related innovations to improve resilience and thus competitiveness in emerging countries of EBRD investment interest. This is also taken into account in lending practices. As the study puts it, the EBRD's role is to support partner countries on the path towards a sustainable market economy, with particular emphasis on resilience, good governance, green transition and competitiveness (not a verbatim quote) (EBRD 2024).

The World Economic Forum has stopped publishing detailed competitiveness analyses after 2020. However, its latest research study focuses specifically on sustainability and resilience. It also analyses absorptive capacity and innovativeness.

World Economic Forum Growth Study 2024

According to the 291-page study (WEF 2024), growth depends on improving competitiveness, which is best supported by innovation, sustainability, resilience and inclusiveness. The study analyses 107 countries, using a total of 84 indicators in 4 main areas. No weighting is applied to the indicators. It does not produce an overall ranking, but uses scores to show the position in each area. The best score is 100. It should be noted that this study also relies mainly on questionnaire surveys. But it also takes into account the results of other research. For example, corruption scores are based on Transparency International calculations. Let's look at some data. Let's compare the scores in 4 areas for the three V4 countries under study⁹, Austria and Denmark. Denmark's inclusion is justified by the fact that its excellent competitiveness position is due precisely to its strong national position in innovation and its good sustainability record.

8 EBRD: European Bank for Reconstruction and Development. The EBRD's shareholders currently include 69 countries, the EU and the European Investment Bank.

9 Slovakia is not included in the survey

1. table: WEF competitiveness scores

Area / Country	Innovation	Sustainability	Resilience	Absorptive capacity
Hungary	49,44	51,62	57,96	66,10
Czech Republic	56,98	49,46	57,97	71,82
Poland	49,15	50,66	56,96	64,70
Austria	66,27	51,88	68,79	73,70
Denmark	73,40	54,72	68,51	77,64

Source: WEF 2024

In the table, the main differences are in the area of innovativeness. The almost equal Polish and Hungarian scores are the lowest, the Danish the highest. Denmark leads in sustainability and absorptive capacity, while Austria leads in resilience, with a score not much higher than that of Denmark.

For example, Hungary scores very poorly on indicators such as human capital, availability of talent, digitalisation, the share of renewable energy consumption, investment in renewable energy, the number of green patents, the environmental sensitivity of society, and the share of adult education participants. It is therefore appropriate to look for improvement solutions in these areas to improve competitiveness. It should be mentioned that the WEF uses too many indicators, the importance of which for competitiveness varies widely. However, no weighting is applied to eliminate this. Therefore, instead of a composite score for the 4 areas, it is preferable to base the development of competitiveness improvement strategies on the position achieved for each indicator. The European Investment Bank (EIB) emphasises aspects of competitiveness that are partly similar to those used in previous analyses, but also mentions productivity and the presence of entrepreneurial small firms in the economy as new aspects.

EIB Investment Study, 2023/2024

A recent analysis by the European Investment Bank (EIB 2024) identifies the most important areas for improving competitiveness as boosting productivity, encouraging innovation, education and training, enabling new, dynamic small firms, and digital and green transformation. The 246-page study analyses progress in these areas, supported by a questionnaire survey of 12 030 firms, available in a separate volume (EIB 2023):

- ▶ EU firms lag behind US firms in innovation,
- ▶ EU firms are lagging behind the US in the use of artificial intelligence,
- ▶ more expensive for EU firms to finance investments.

Some important comparative data:

- ▶ In 2023, Hungarian firms spent most of all investments on buildings, machinery and equipment, and their future priorities are the same,
- ▶ Hungarian firms spent one of the lowest shares of total investment expenditure on knowledge investment (R&D, employee training, software and organisational/business process improvement),
- ▶ Hungarian firms are the least aware of the opportunities offered by green transition,
- ▶ In Hungary, more than 60% of the firms surveyed did not carry out any innovation in the year under review. This is the 8th highest rate in the EU.
- ▶ the share of firms using advanced digital technologies in Hungary is the lowest in the EU,
- ▶ Hungary is in the lead (second after Croatia) in terms of the share of state aid in total business investment.

In this context, the Investment Study (EIB 2024) warns that high state aid rates can discourage firms from investing from their own capital and reduce the efficiency of investments.

The analysis also makes the following important observations about the data:

- ▶ high levels of investment in buildings and machinery are not enough to improve competitiveness. Investments that stimulate the creation of new products/new services, i.e. innovation, are needed. But innovation also requires more investment in knowledge.
- ▶ innovation opportunities are supported by digitalisation. A low level of digitalisation is generally associated with lower innovation drive.
- ▶ a stronger level of digitalisation helps to achieve higher productivity levels.
- ▶ firms that are more active in the green economy are more innovative,
- ▶ public support for business investment should be subject to strict efficiency requirements.

The EIB Investment Study focuses on the potential for improving national competitiveness through public and business investment and the structural change outcomes they bring. Other studies, however, place a stronger emphasis on the importance of knowledge.

Human capital¹⁰ as a factor of competitiveness: a study by INSEAD and IMD

There is also a general view that in the future, competitiveness divergences will be determined by the quantity and quality of human capital. This means that countries wishing to increase their competitiveness will have to invest in raising knowledge levels, preserving existing human wealth and attracting new, fresh talent. Related studies are carried out by INSEAD¹¹ and IMD. INSEAD's latest report was published in 2023.

Global talent competitiveness index. INSEAD 2023

The 314-page study (Lanvin, Monteiro, 2023) analyses 134 countries that produce 97% of the world's GDP and account for 94% of the world's population. The study looks at 14 "input" and 6 "output" areas, i.e. it separates out the inputs, environmental factors and outcomes in terms of competitiveness enhancement. It assesses progress in 20 areas using 69 indicators. The study classifies countries into 4 groups based on their competitiveness performance over the last 10 years. These are the „champions“, the „movers“, the „laggards“ and the „limpers“. Hungary is in the „limpers“ country group. The ranking is 38th. The leaders are Switzerland, Singapore, the USA and Denmark. The Czech Republic is 23rd, Slovakia 36th and Poland 37th. Of the 20 areas surveyed, Hungary is the worst performer in the areas of knowledge investment and knowledge levels (51st). Analysts measure this area, for example, by education spending, the share of tertiary education participants, the effectiveness of vocational education and training, the share of population in adult education and the prevalence of on-the-job training. And when they look at all 69 indicators, among these 134 countries, Hungary ranks very poorly on the following:

- ▶ workplace culture, cooperation between managers, employees 90.
- ▶ social mobility 105.
- ▶ Training and retraining of employees 70.
- ▶ brain drain strength (knowledge retention) 110.
- ▶ availability of highly qualified professionals 129.

Even if not with equal emphasis, it is clear that a low ranking on these indicators undermines the chances of improving competitiveness. There is likely to be a link between low investment in knowledge, brain drain and a shortage of locally available high-skilled labour, which hinders the innovation needed to improve competitiveness

¹⁰ The most important element of national wealth is human wealth. However, economic analysis tends to use the term „human capital“.

¹¹ INSEAD: French teaching and research centre. It has operations in France, Singapore, and in the United Arab Emirates. Founded in 1957.

and the creation of local high added value. The authors of the study warn that in a fast-changing environment, in the midst of major technological change, knowledge is increasingly becoming the most important asset. Competition for highly skilled professionals will therefore increase. And countries that fail to retain skilled workers will be less prepared for the future and therefore at a competitive disadvantage.

IMD World Talent Ranking 2023

The IMD Talent Ranking 2023 study highlights the importance of retaining and acquiring talent for competitiveness (IMD 2023)

The 112-page study analyses 64 countries' talent competitiveness data across three areas using 31 indicators. The three areas examined are investment in human capital (investment and development), the country's ability to attract and retain talent, and its preparedness for the future. Table 2 shows the 2023 positions of the V4 countries and Austria in each area.

2. table: IMD talent rankings

Area / Country	General position	Investment and development	Appeal	Readiness for the future	The general position change from 2019 to 2023
Hungary	48	37	56	60	-3
Czech Republic	21	26	15	21	+18
Poland	44	35	47	47	-7
Slovakia	57	44	49	54	+6
Austria	9	5	12	18	-5

Source: IMD 2023

The table shows that Slovakia and the Czech Republic improved their overall talent competitiveness position, while the other countries worsened it. Hungary is close to the bottom of the list in two areas, the country's appeal/talent attractiveness and its readiness for the future. It is worth noting that Hungary has worsened its performance in all areas from 2022 to 2023, but has slipped most in the area of future readiness, from 51st to 60th place. Overall, among the 64 countries, Hungary ranks worst in the following areas:

- ▶ adult education 59
- ▶ health infrastructure 59
- ▶ brain drain 60
- ▶ availability of skilled labour 61
- ▶ competent senior management 63
- ▶ language skills 59

It should be noted, however, that although most of the values of the IMD indicators are statistical data, there are also values from questionnaire surveys that can be influenced by subjective opinions. The six positions listed are based on surveys. However, the surveys were conducted in a companies. Finally, let's look at a survey that assesses preparedness for the future!

Future Readiness Economic Index 2023

The 324-page study (Lanvin, 2023) looks at the skills, retention and accessibility of human capital, the quality of available physical infrastructure and the penetration of digital technologies as the key conditions for future readiness and competitiveness. The study looks at 124 countries using 72 indicators. Table 3 shows the rankings of the V4 countries and Austria in each of the areas covered.

3. table: Future Readiness Index and rankings by sub-domain

Area / Country	Overall scores	Overall ranking	Infrastructure (physical capital)	Human capital	Digitalisation (technological capital)
			Position		
Hungary	51,39	39	40	39	35
Czech Republic	55,75	31	39	30	28
Poland	52,74	37	42	37	31
Slovakia	50,91	41	43	40	39
Austria	63,59	18	19	18	17

Source: Future Readiness Economic Index 2023

Hungary is ahead of only Slovakia in overall score and ranking among the V4 countries. In terms of infrastructure, it is in second place after the Czech Republic, and in human capital and digitalisation it is in penultimate position. Austria, on the other hand, is far ahead of all four V4 countries. In the case of Hungary, the study highlights low investment in human capital and the resulting low level of skills as the biggest problem. In the case of digitalisation, it warns of low digitalisation of industry and, in the area of infrastructure, of quality problems in the transport network. From the studies reviewed, it can be concluded that the most important new conditions for competitiveness are human capital (knowledge and skills), innovation, future readiness, resilience, sustainability (green transition, circular economy) and digitalisation. The full scope of the analyses and rankings has not been reviewed. However, in the priority areas, Hungary's performance is not good. The most recent comprehensive analysis of Hungarian competitiveness, covering many areas, including those analysed by international studies, as well, has been prepared by the MNB.

A comprehensive approach to research: the MNB's Competitiveness Report 2023

The MNB assesses competitiveness in the longer term and from many perspectives. These include the assessment of human capital, technological progress, the regulatory environment and socio-environmental sustainability (MNB 2023). According to its approach, an economy is competitive if it makes optimal use of its resources to achieve the highest possible level of prosperity, while still being sustainable. It also stresses that there is no single recipe, and that the competitiveness of a country should only be assessed on the basis of local conditions. The 144-page study, published in 2024, is the MNB's fifth competitiveness report and examines some 160 indicators, most of which are based on statistical data. It concludes that the MNB's 2023 competitiveness index puts Hungary in 19th place among EU countries, two places down on the previous year. Overall, Hungary's score in the competitiveness index fell by 1.3 points in 2023 compared to 2022, the 3rd biggest drop in the EU. Hungary's competitiveness position has fallen below the average of the Visegrad countries. Hungary's performance deteriorated in 9 out of the 14 competitiveness areas analysed in the report. Among them, the weak position of Hungary in human capital and digitalisation is the most striking from a future perspective. But the competitiveness position is also weak in the areas of economic structure, foreign trade, the green economy and competitive use of energy. There have been improvements in 5 areas, with the most significant results in the productivity of small and medium-sized enterprises (SMEs) and infrastructure. To make progress on competitiveness, the report says, a complete turnaround is needed, with the Hungarian economy shifting from a quantity to a quality approach, which requires comprehensive structural changes.

The 14 competitiveness areas examined by the MNB and the assessment of some findings

The MNB report analyses the following 14 competitiveness areas:

- ▶ household savings
- ▶ SME strategy
- ▶ foreign trade and economic structure
- ▶ labour market
- ▶ territorial and social cohesion
- ▶ family-friendly programme
- ▶ healthy society
- ▶ knowledge-based society
- ▶ research, development and innovation
- ▶ governance efficiency
- ▶ modern infrastructure
- ▶ competitive energy use

- ▶ green economy
- ▶ new financial model

The 14 selected areas are related to the MNB's previous competitiveness programme published in 2019 (MNB 2019a), which included 12 key areas. The two new competitiveness areas included in the 2023 report are the green economy and competitive energy use. The 2019 programme analysed in detail, in 226 pages, the areas in which socio-economic performance should be improved in order to avoid Hungary falling into a development trap, i.e. to avoid its overall level of development stagnating and its catching-up with the EU average slowing down or stalling. It also set targets for the results to be achieved in each area. These included, for example, a 7 per cent annual increase in productivity in the SME sector, a Hungarian university among the world's top 200 universities, 110,000 new births per year, and a 5 per cent net increase in real wages per year. The 2023 report, which provides a detailed analysis of the data over a longer time horizon and from an international perspective, does not set any targets. However, the analysis could be used as a basis for target setting, as targets for improvement should obviously be set in areas where Hungary is particularly lagging behind. These areas are:

- ▶ economic structure
- ▶ human wealth
- ▶ digitisation
- ▶ green economy

Let us highlight some of the typical indicators in these areas that have a particularly strong impact on competitiveness.

Economic structure

The structure of the economy is characterised by the extent to which new value added is produced locally. The MNB measures this value by the ratio of value added produced to output. This has fallen from 43.7 percent in 2020 to 39.7 percent in 2022. This may be because new entrants are also bringing assembly activities to Hungary. Exports are important for Hungary, but the low share of new value added locally in Hungarian exports is disadvantageous. The MNB calculates that in 2020 it will be 52%, which puts us 23rd in the EU. The Polish value, for example, is 70 percent. Another important feature of the economy is the structure of investment. Investment can be tangible or intangible, the latter being referred to as knowledge investment, as opposed to mechanical and physical investment. The Hungarian investment rate has been very high for some time, and in 2022 it was the highest in the EU. But the structure of investment is of great importance for competitiveness. International analyses (e.g. Haskel, Westlake 2018, mentioned earlier) show that intangible investments have an increasing impact on competitiveness. The report points out that the share of these investments in the investment rate was only 2.6

percent in 2022, which is lower than not only the EU average but also that of the Visegrad countries. For the most competitive Nordic countries, the rate was high, above 5 percent in 2022. Labour productivity is also an indicator of economic structure, where, as the report warns, Hungary lags significantly behind the EU average. This is obviously linked to low value added production.

Human wealth

Both the quantity and quality of human capital are important competitiveness factors. Two important characteristics of human capital are knowledge levels and health, the latter being related to life expectancy. In terms of knowledge levels, the MNB analyses the level of progress towards a knowledge-based society by looking at a combination of data. It finds that, compared to the maximum score of 100 points, the Hungarian score in 2023 is 31.5 points, which puts Hungary in 25th place. It has a low share of people with tertiary education and a high share of early school leavers in the 18–24 age group. Within the 25–64 age group, the share of those in adult education is low. This was 8 per cent in 2022, which puts Hungary 22nd in the EU. On health, the report points out that health is part of the national wealth and is therefore not only a private matter but a public one that affects competitiveness. According to the MNB's calculations, Hungary scored 39.3 out of a possible 100 points on the Healthy Society Indicator in 2023, ranking second to last in the EU. Health status has an impact on life expectancy. Related to this, avoidable mortality is also an important indicator. By this we mean deaths that could have been prevented given the current possibilities of medicine. According to MNB data, Hungary had the 3rd highest number of avoidable deaths per 100,000 inhabitants in 2020. In terms of life expectancy, the report warns that life expectancy at birth for Hungarian women was the 3rd lowest in the EU in 2022, and the 5th lowest for men. On average, women will live 3.9 years less than the average European and men 5.3 years less.

Digitisation

The report cites the IMD Digital Competitiveness Study (2023), which found that Hungary ranked 47th out of 64 countries in terms of digital readiness in 2023. If we look only at EU countries, this is equivalent to the 23rd place. The report also looks at the share of digitally enabled companies and points out that Hungary has a particularly low level of digitalisation among SMEs. Furthermore, only 49% of the total Hungarian population has adequate digital skills, which is lower than not only the EU average but also the average of the Visegrad countries (2021 data).

Green Economy

The report also analyses a range of indicators in this area. According to the summary assessment, in 2023 Hungary was ranked 16th in the EU with a score of 43.8, better than the Visegrad Group but worse than the EU average. However, the study points to an important fact that has a major impact on health: air pollution level is the 9th highest in Hungary. Furthermore, Hungary has the 6th lowest proportion of wooded and forested areas. However, the report does not examine two important green economy indicators: the share of value added of the green economy in total value added and the share of green economy activities in the export. For these indicators, Hungary's position is particularly poor.

Some comments

It was not the purpose of this article to present the full report. It was only intended to draw attention to the areas where Hungary is performing poorly, while they are among the most important areas in terms of improving competitiveness. The report is a high quality professional work that could form the basis for a longer-term competitiveness strategy, in line with the 2019 programme. This should obviously assign weights to the 14 areas and the indicators describing them, depending on their potential impact on competitiveness. The relationship between flow and stock indicators and the shifts between them over time should also be taken into account. For example, the relationship between educational inputs and educational outcomes, i.e. the time lags between input to outcomes. It would be important to look at the link between the green economy and competitiveness in more details, as Eurostat data show that countries where the green economy accounts for an increasing share of value added and exports are more crisis-resilient. The report stresses the importance of labour productivity and governance efficiency for competitiveness. However, it would also be important to include an indicator of capital efficiency, which reflects the efficiency of financial inputs. This relationship is also relevant for the government deficit, since public investment and non-repayable subsidies to firms are a burden on the expenditure side of the budget, and it is important to know when and how much revenue can be expected as a result. Overall, however, the MNB's Competitiveness Report could be an excellent starting point for a comprehensive national competitiveness strategy. This is justified by the fact that, on the one hand, the MNB report highlights weaknesses in precisely those areas that, without improvement, could indeed lead to a development trap. On the other hand, an important feature of the report is that it not only assesses the narrow economic areas, but also evaluates socio-environmental characteristics. This means that improving competitiveness is seen not only as an economic issue, but also as a matter for the whole nation, which is in line with recent trends that suggest that improvements in national competitiveness should be assessed in terms of the development of overall national wealth. In other words, it cannot be considered as an

improvement in competitiveness if, for example, economic growth is accompanied by environmental damage or a deterioration in the health of the population.

Summary and conclusions

Based on the various studies and literatures, the new elements of understanding competitiveness that have emerged in general and the specific Hungarian features of the MNB Competitiveness Report are summarised in Table 4. We also present some of the less emphasised features that are of particular importance for Hungary. The table includes both broad and specific areas. For the broader areas, a professional consensus is needed on the appropriate indicators to describe them.

4. table: Areas of international competitiveness and areas of particular importance for Hungary

Newly emphasised competitiveness areas and indicators	According to the MNB Competitiveness Report, the following competitiveness areas are particularly important in Hungary	Other characteristics contributing to weak Hungarian competitiveness to be analysed
Sustainability: green economy, circularity, energy and material efficiency	Areas of particular focus: Human capital: knowledge, health, life expectancy	Share of green economy in value added, exports and knowledge creation (green patents)
Resilience: dynamism, flexibility, new firms, effective institutional system, social participation	Economic structure: value adding capacity, local value added content of exports, high investment rate but low knowledge investment rate	The structure of the economy by ownership and firm size, and its impact on locally created and locally retained value added.
Future readiness: knowledge, learning, innovation, knowledge retention and attractiveness	Digitalisation: digitalisation of SMEs, digital skills of society Green economy: energy efficiency, air pollution, proportion of forested and wooded areas	Impact of organisational, leadership cultures and cooperation capabilities on competitiveness Transparency, level of corruption, level of trust (social cohesion), impact of business ethics on competitiveness
Digitalisation, the spread of new technologies (artificial intelligence, data analysis, etc.)	Other important areas: R&D&I Territorial disparities Public efficiency	

Source: own editing

The characteristics in the table also show that the way to improve Hungarian competitiveness can only be by starting from Hungarian specificities and weaknesses. The indicators need to distinguish between cause and effect indicators, input (flow) and outcome (wealth, asset) indicators, and examine their relationship, which highlights the efficiency of inputs. The MNB Competitiveness Report's statement that in order to improve competitiveness in Hungary, it is necessary to shift from a quantitative to a qualitative approach, and to choose a development path that focuses not only on economic growth but also on increasing total national wealth, should be taken seriously. This would mean reconsidering the present „competing on the cheap” policy, promoting foreign investment without efficiency requirements and rethinking the economic philosophy of the world's lowest corporate tax. It requires an objective and critical analysis of the situation and based on this developing a competitiveness strategy including the setting of objectives to strengthen underperforming areas, the development of strategic actions to achieve these objectives, the setting of a timeframe for achieving them and the provision of the necessary resources. Real results can only be expected if we do not select too many targets and indicators, but choose those which have a high impact on competitiveness, where our performance is currently weak, and therefore we can expect greater improvements in competitiveness from progress in these areas. Improving domestic competitiveness can only be achieved through such a comprehensive approach and by thinking in the longer term. The first steps have already been taken in the MNB's Competitiveness Report. Much more professional work is needed to move forward, but economic policy determination would also be crucial. ■

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