

The Appearance of Economic, Social, Financial and Environmental Sustainability Aspects in the Practices of the National Bank of Hungary

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SUMMARY

Sustainability is at the heart of the challenges in the 21st century. Economic, social, financial and environmental sustainability also fundamentally determine the functioning of the economic system, which means that the convergence process, guided by new visions, can only be organised around the idea of sustainability. The revolution in thinking on sustainability has also reached the community of central banks, and the National Bank of Hungary was one of the first central banks to take meaningful steps to integrate environmental sustainability considerations into the regulatory framework of the banking system, reserve management, monetary policy, collateral management and data disclosure. In its strategy documents, the Bank has defined its mission to be an active participant in the transition to a low-carbon economy.

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Sustainability is now an unavoidable concept that touches on virtually every aspect of life, and therefore needs to be mainstreamed into economic thinking and decision-making. We have entered an age of uncertainty, and thus we need to relate differently to each other and to the world around us. Our future will be based on knowledge, value and culture, and the convergence processes driven by new visions can only be organised around the idea of sustainability (Matolcsy, 2022).

The current challenges and megatrends of the 21st century – such as global warming, the depletion of environmental resources, digitalisation, geopolitical tensions and slowing economic growth – cannot be addressed with the ideas and tools of the 20th century: new foundations and approaches are needed. A country's socio-economic system is considered sustainable if its environmental, social, financial and real economy resources are used in a sustainable manner to achieve and maintain long-term prosperity. According to the 1987 report of the UN World Commission on Environment and Development, it is necessary to use the resources of the present without compromising the ability of future generations to meet their needs, thereby ensuring the long-term well-being of a country's citizens (Brundtland, 1987).

In line with the above basic principles, the four aspects of sustainability – economic, social, financial and environmental sustainability – are presented in this paper, highlighting the impact of each on economic growth and the functioning of the economic system as a whole. I then describe how environmental sustainability aspects are reflected in the practices of the National Bank of Hungary (NBH), including supervisory, reserve management, monetary policy, collateral management and data-related measures. The paper closes with some concluding thoughts.

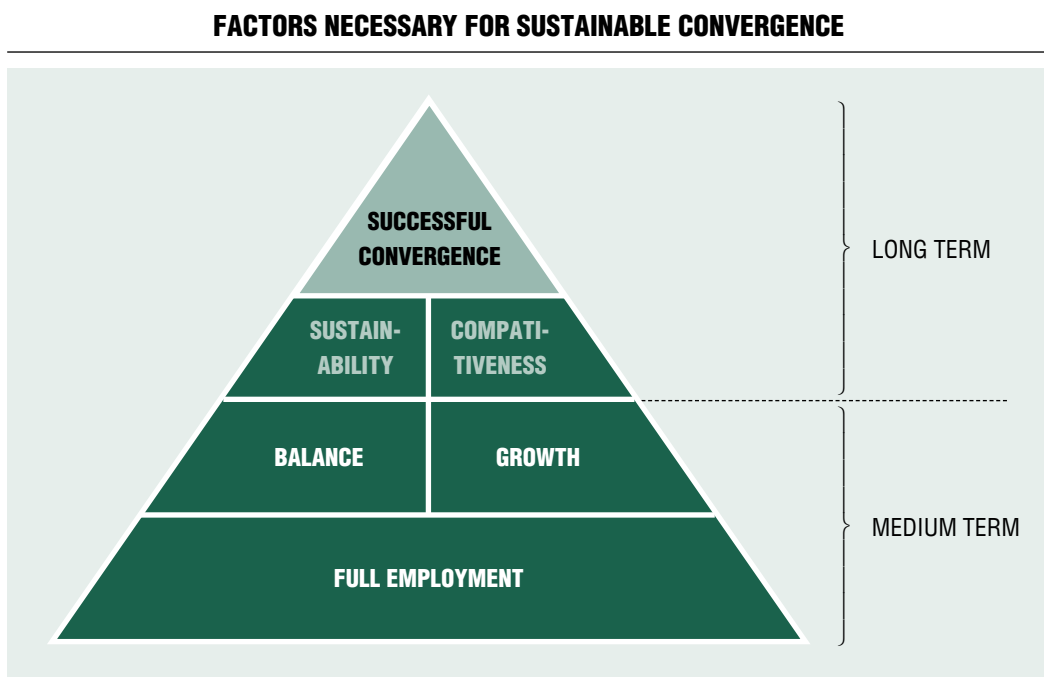
ASPECTS OF SUSTAINABILITY AND THEIR IMPORTANCE FOR THE FUNCTIONING OF THE ECONOMY

In order for Hungary to achieve sustainable convergence, we must transpose the medium-term recipe of *economic balance and growth* into a long-term recipe for *sustainability and competitiveness* based on the same principles (Figure 1). This requires a shift from the previous quantitative (extensive) growth model, which also has qualitative features, to a fundamentally qualitative (intensive) model, while preserving the results achieved so far. Hungary's sustainable catching-up is also promoted by the NBH's publication *Sustainable Balance and Convergence*, which contains 144 proposals in 12 key areas (NBH, 2022a).

Between 2010 and 2019, three quarters of Hungary's GDP growth came from the increase in workforce and investment (41 and 31%, respectively), while the impact of improvements in technology and efficiency amounted to only 28%. However, the quantitative conditions for growth are limited, as employment can hardly be increased further and investment rates are among the highest in the EU. Therefore, labour and capital efficiency, i.e. productivity and technological development, must be increased in the coming years. Boosting productivity is key to achieving higher levels of development (Eichengreen et al., 2011), which is facilitated by, among other things, a quality education system, support for innovation, advanced infrastructure and an appropriate institutional environment (Agénor & Canuto, 2012; Agénor, 2017).

In order for Hungary's convergence to continue and the country's economic development to reach the EU average by 2030, it is necessary to achieve an average annual growth surplus of around 3.5% compared to the EU. Hungary's economic development

Figure 1



Source: Báger (2021)

relative to the EU average should increase by 2.7 percentage points per year from 75.9% in 2021 (NBH, 2022a). To this end, strengthening sustainability and competitiveness is essential in the economic, social, financial and environmental dimensions. In its discussion paper, *A New Sustainable Economics*, published in spring 2022, the NBH analyses in detail the dimensions of sustainability and draws attention to the fundamental transformation of economic thinking that is needed to achieve the sustainability turnaround (NBH, 2022b).

Economic sustainability

One of the key factors of sustainability in economic terms is efficiency or productivity, i.e. how much value can be produced using one unit of resource. Technological progress, and through it productivity growth, plays

an important role in sustainable growth. However, in advanced economies, it can be observed that the slowdown in economic growth is mainly driven by a slowdown in productivity growth (Bergeaud et al., 2016). Looking ahead, the question is whether slowing productivity expansion and economic growth will dominate, or whether technological waves could open a new chapter for the global economy. The two scenarios can occur simultaneously: firms in the “traditional” economy face diminishing returns, while firms that adapt innovations are able to exploit the potential of increasing returns by continuously channelling technology and knowledge (NBH, 2022b).

To ensure sustainable growth, it is essential to increase the productivity of domestic firms and, along with that, reduce the productivity gap between large firms and SMEs. Corporate duality has declined significantly in recent

years, with the relative productivity of Hungarian SMEs approaching that of large domestic firms, but their productivity is still below 60% of that of large firms. Moreover, there are still only a few SMEs that export (6%) and the sector’s innovation performance lags behind the EU average. On the positive side, the domestic business investment rate has exceeded the EU average in recent years, but there is still room for growth in smart investment (NBH, 2021a).

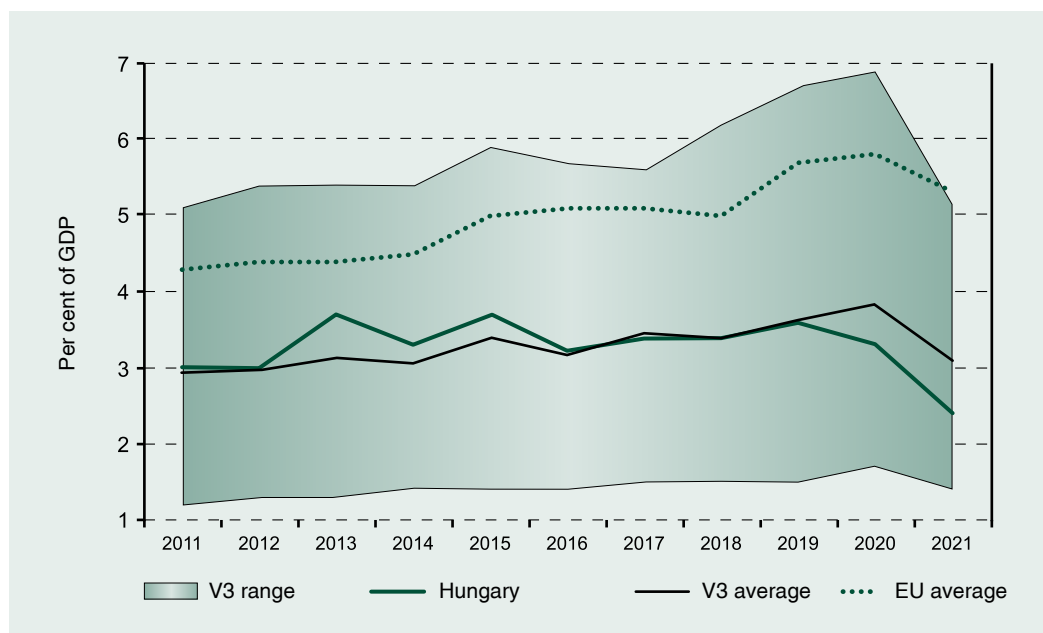
Permanent and sustainably high investment rates are an important pillar of sustainable convergence (Palotai & Virág, 2016). Historical experience shows that countries with consistently high investment rates (at least 25%) have achieved higher levels of development, but it is not only the volume of

investment that matters, but also its structure. The Hungarian investment rate rose to a historic high of 27% in 2021, the second highest among EU Member States, but Hungary’s share of smart investment (investment in the ICT sector and intangible assets) is at the bottom of the EU ranking, at around 3% in recent years (Figure 2). Smart investments increase both GDP and productivity in an energy- and environmentally-friendly way, making their importance for sustainability paramount. According to Szabó and Várnai (2021), rapid growth has typically occurred in countries where the growth of ICT capital played a larger role in the increase in capital stock.

Strengthening R&D&I activities can also contribute to productivity growth, which

Figure 2

SMART INVESTMENTS AS A SHARE OF GDP



Note: Smart investments are investments in the ICT sector and in intellectual assets. Data on the share of ICT investment in Poland is not available.

Source: Eurostat

can facilitate the transition to an advanced knowledge- and innovation-driven growth model. Hungary's innovation performance currently lags behind the EU average, so there is room for improvement. This will require further increases in R&D&I spending and staff numbers, as well as widespread digitalisation and automation. Appropriate digital infrastructure is available in Hungary, but there is still considerable room for improvement in its use by the state, businesses and citizens (NBH, 2021a). Digitalisation of the state and the banking system is particularly important for the digital switchover. Both the state and the financial sector have made significant progress in recent years, but further improvements are needed.

From the business sector side, sustainable convergence can be supported by increasing export activity and capital investment. Besides increasing the share of exporting firms, one of the main structural factors for competitiveness and sustainable convergence is to increase the domestic value added of exports; the most important way to do this is to increase the use of knowledge-intensive services and to encourage the creation of knowledge-intensive jobs. Hungary ranks 4th lowest in the EU in terms of the domestic value added of exports, and accordingly there is room for growth. Increasing capital export would not only improve Hungary's competitiveness, but also bolster its external balance, which is one of the pillars of preserving financial sovereignty.

Social sustainability

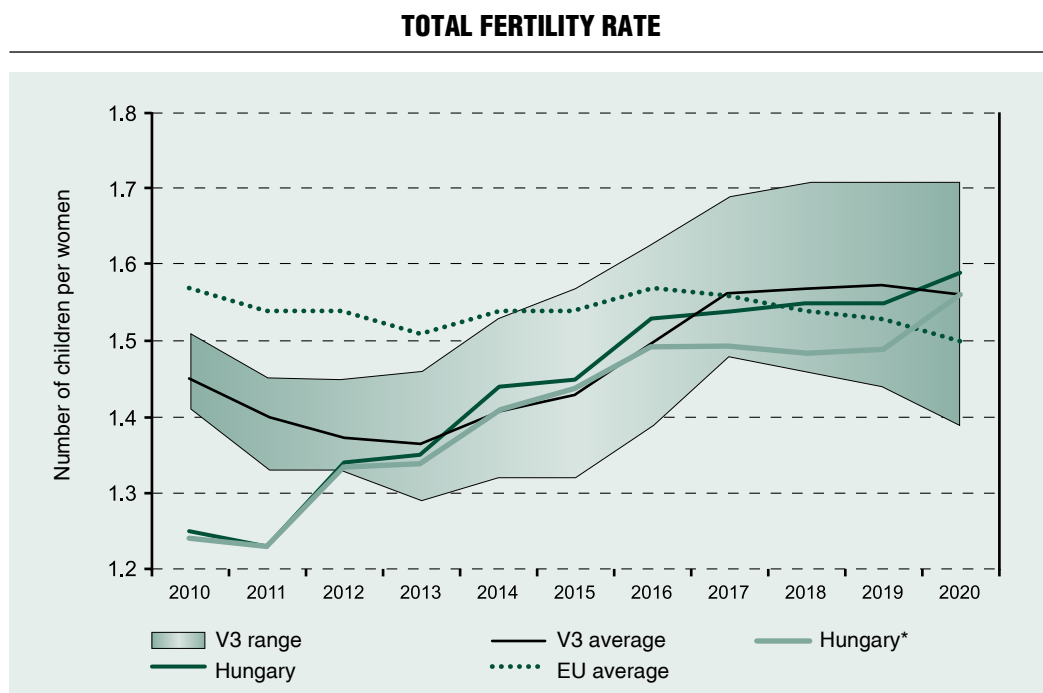
Sustainability must also be mainstreamed in social processes and indicators as well. Unfavourable demographic trends, high inequalities, geopolitical conflicts, epidemics and the constant adaptation to new

technologies are also challenges for societies at the global level.

In Hungary – as in all EU economies – one of the most significant socio-economic challenges is a shrinking and ageing population. Demographic constraints are projected to become increasingly effective in the near future: the working-age population has fallen by nearly 540,000 since 2010 and could fall by another 360,000 by 2030 (NBH, 2022a). Successful economic convergence is difficult to achieve with a shrinking and ageing population, which makes the sustainability of economic growth and the social support systems more difficult, due to labour market developments. Demographic trends in Hungary have improved over the past decade, and the country has seen the strongest increase in fertility rates in the EU. However, it is also important to underline that the rate is currently only around 1.6, which remains below the 2.1 needed to ensure a stable population (*Figure 3*). Rising fertility rates are a prerequisite for reversing the unfavourable demographic trend and a key determinant of the amount of human capital active in the labour market.

Hungary has achieved full employment in recent years, but this extensive source of growth is becoming limited. For sustainable convergence, the previous extensive, high employment growth performance needs to be maintained, but intensive growth, i.e. labour productivity, needs to be strengthened. Hungarian labour productivity is one of the lowest in the EU, and increasing it would support the transition to a knowledge and innovation-driven economic model. Labour productivity is fundamentally determined by the health and skills of the population, so improving these areas is essential for sustainable growth. Despite an increase in recent years, the number of years of healthy life expectancy (women: 63.5; men: 61.6), which is a key

Figure 3



Note: *HCSO data.

Source: Eurostat, HCSO

indicator of health status, remains below the EU average (women: 64.5; men: 63.5) for both sexes. In terms of the effectiveness of the education system, international tests show that Hungarian students are learning the material as expected, but are less able to apply what they have learnt in the working world. Among the key factors for knowledge-led growth, participation in lifelong learning (6%) and the share of people with tertiary education (33%) are among the lowest in the EU.

The degree of income and wealth inequality is an important factor for sustainability. Indeed, one of the keys to sustainable growth is to ensure that the benefits of economic growth are shared by broad classes of the society. Inequality can be considered a natural feature of a market economy, but excessive levels of inequality can undermine social cohesion, mobility and productivity, and

can have a negative impact on technological development, thereby jeopardising the sustainability and inclusiveness of economic growth and convergence. By contrast, relatively moderate inequalities are less likely to generate social conflict and help to increase social mobility and labour productivity, which are essential pillars of long-term economic and social development (NBH, 2021a). In terms of income and wealth inequalities, Hungary has traditionally been among the countries with lower inequality, both in a global and an EU comparison.

Financial sustainability

Hungary cannot catch up successfully without financial sustainability. It is also important for governments, companies and citizens to

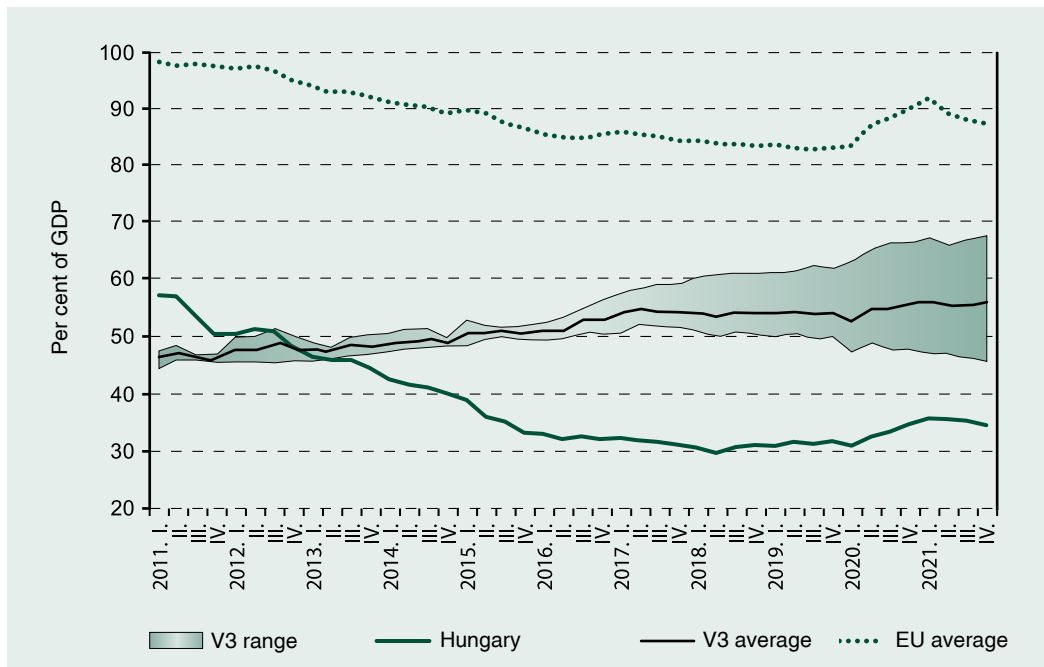
establish and maintain financial balances. One of the pillars of Hungary’s financial sustainability is the banking system, which is crucial to balanced growth as a provider of financial resources and assets. In addition to a competitive, efficient banking system, the role of the capital market, FinTech financing and institutional investors is vital for stable financing and growth over sustainable economic cycles.

Long-term prosperity requires financial stability, easily accessible and diversified resources, and financial solutions that keep pace with technology. In recent years, the stability of the domestic financial system has been strengthening and digitalisation has begun, but there is still room for growth in the sector. On a positive note, the dynamic

and healthy credit expansion of recent years has broken the decline in the credit-to-GDP ratio, but the current ratio of around 35% is still well below the average for both the region and European countries, which represents a significant buffer for further prudent credit expansion (Figure 4). The sustainability of financing has been supported by several measures in recent years: corporate lending has benefited from central bank programmes (low interest rate environment, FGS), while household lending has benefited from the introduction of family support programmes (e.g. family housing allowance, prenatal loans) and the rise of consumer-friendly products. One challenge for the banking system is that its costs and margins are higher than average by international standards, even after

Figure 4

VOLUME OF PRIVATE SECTOR LENDING AS A SHARE GDP



Source: ECB

a positive shift in recent years, which may be due to the low level of digital development in the sector. There have been recent advances in digitalisation, accelerated by the recent coronavirus crisis, but further efforts are needed to strengthen innovative solutions and the FinTech ecosystem (NBH, 2021a). To ensure sustainable financing, the capital markets also need to be further developed and the importance of green finance must be enhanced.

Macro-financial balances are essential for sustainable growth. In addition to the positive developments seen in the financial sector, Hungary's macro-financial vulnerability has also decreased significantly in recent years, as a result of the deliberate strengthening of the domestic funding base after 2010. In addition to the reduction in public debt until 2019, the significant decline in the share of foreign ownership and the foreign exchange ratio within the debt was a positive development, supported by a significant rise in the stock of government securities held by the population. With budget deficits and public debt soaring internationally as well in the wake of the coronavirus epidemic, and the external environment becoming more uncertain in the shadow of the Russian–Ukrainian war, high household savings and the financing of public debt from domestic sources are particularly important.

Environmental sustainability

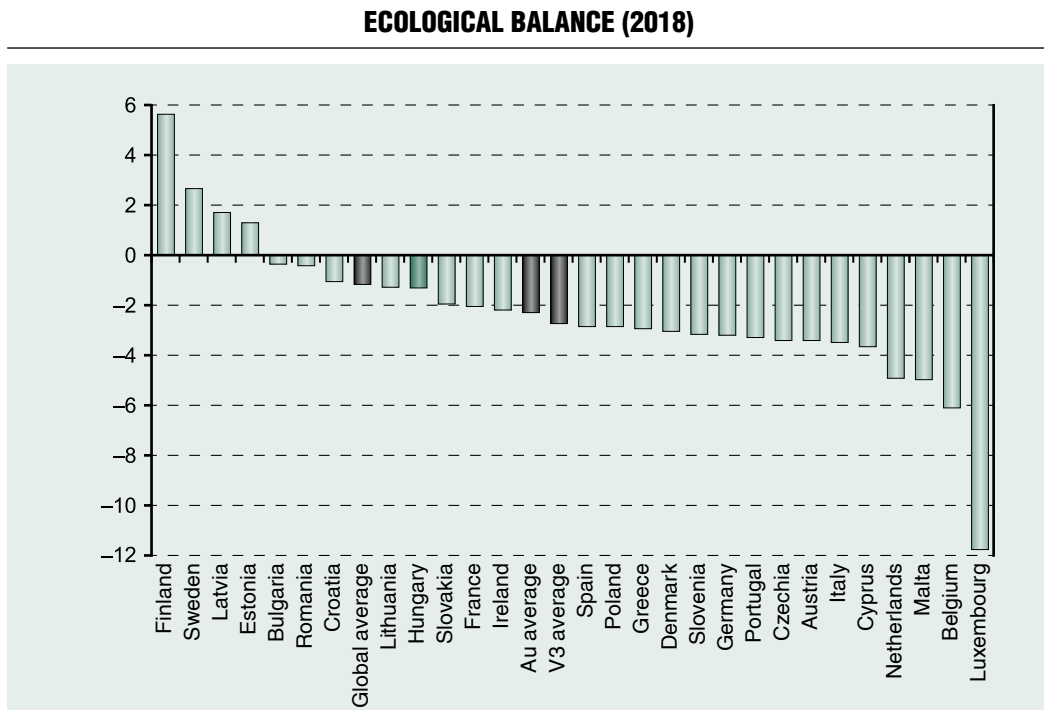
Without a transition to green and circular economy, there can be no sustainable convergence. In terms of social and economic development, only what is sustainable in the long term can be competitive, and vice versa. It is therefore of the utmost importance that the natural resources available to us – such as water, air and land – are not exploited,

but managed efficiently and sparingly (NBH, 2021a). As many historical examples have shown, the overuse of environmental resources can lead to social disasters, such as in the case of the Roman Empire or Easter Island. In the Roman Empire, urbanisation, the development of new agricultural areas and wars led to the destruction of forests, which were replaced by swamps that became a breeding ground for mosquitoes and thus for malaria (Sallares, 2007). Also in the case of Easter Island, the expansion of agriculture and shipbuilding led to deforestation, followed by severe clashes between groups of islanders over scarcity of food and drinking water, and finally the collapse of the island's indigenous society (Bahn & Flenley, 2016).

The ecological balance, one of the main indicators of ecological sustainability, shows that Hungary – like most EU countries and the global average – has a deficit, i.e. the environmental footprint exceeds the available biocapacity (*Figure 5*). However, one positive development in recent years is that both the energy intensity of the economy and carbon dioxide emissions per unit of output have fallen. Overall per-capita carbon dioxide emissions have risen in recent years, but are much lower than in the 1990s. Hungary's emissions per capita and per product are below the EU average, but the country's energy intensity, or energy use per output, is still significantly higher than the EU average, and thus there is still room for efficiency gains. On the positive side, in the field of circular economy, Hungary has made significant progress in recycling or reprocessing waste over the last two decades (over 30% ratio), but further efforts are needed in this area.

The energy mix of the economy also has a significant impact on sustainable development, especially in the current time of war, which increases the importance of energy security. The development of a green, secure

Figure 5



Source: Global Footprint Network

and competitive energy mix is supported by environmentally friendly, domestically produced energy sources, which not only support the green transition, but can also reduce the country’s energy dependence by reducing the share of net energy imports and improve the current account. Over the past decade, Hungary’s energy imports have averaged around 60%, similar to the EU average, but above the regional average. The use of renewable energy as a share of total energy use stagnated in Hungary for years, but the expansion of solar capacity lifted the ratio to 14% in 2020, which is still lower than the EU and the Visegrad Group average. The planned deployment of solar panels is well on track, but there is also considerable scope for the further deployment of environmentally friendly alternative energy types. Besides renewables, nuclear energy is another environmentally

friendly energy source, which provides a high degree of energy independence.

ENVIRONMENTAL SUSTAINABILITY IN THE PRACTICES OF THE NATIONAL BANK OF HUNGARY

Following adoption of the global climate targets, it soon became clear that an active contribution of the financial intermediary system is essential to achieve these targets. Financial markets must first provide the financing channels for capital allocation mechanisms, and in parallel financial market actors must assess the risks associated with climate change and integrate environmental protection into their daily operations (Carney, 2021). As central players in the financial system and economic policy, central banks

have a major responsibility. Recognising this, the NBH was one of the first central banks at the international level to address the issue of environmental sustainability, which has been followed by decisive action in the form of targeted measures over the past three years.

Green Programme and changes in the approach to reserve management

For the first time, sustainability considerations have been incorporated into the operations of the central bank, drawing on the supervisory powers of the NBH. The Green Programme, launched in 2019, focuses on creating a favourable financing environment that strengthens the stability of the financial system and supports green objectives. One specific example of this is the pioneering green capital requirement relief scheme. The regulations on capital requirements affect the cost of capital of bank loans, so the preferential treatment granted in this respect – notably the green-focus preferential treatment introduced by the NBH – can help to achieve green lending objectives without reducing bank profitability (Deák, 2021). Launched on 1 January 2020, the scheme will allow the banks to claim relief on the energy-efficiency housing loans they have granted. The range of green assets that can be included in the relief calculation was later extended to include corporate and municipal exposures, enabling the programme to promote green risk awareness among credit institutions on a broad scale and contribute to mapping the risk gap between green and brown assets, which is becoming a focus across Europe.

Climate change poses physical and transition risks for financial system actors, and an accurate assessment of these risks is essential to ensure the mandate regarding

financial stability (Alogoskoufis et al., 2021a). With this in mind, mapping the potential short- and long-term impacts of climate risks is an integral part of the Green Programme. The long-term climate stress test, completed at the end of 2021 and looking forward to 2050, examined the impact of the materialisation of risks on the non-performing loan portfolio in three scenarios. Its results clearly show that the absence or delay of a green economic transition causes a major deterioration in the ability of some sectors to repay loans, which poses a substantial risk to the domestic banking system (Bokor, 2022).

For the green revolution to succeed, domestic financial markets need to contribute as much as possible to the perception, assessment, prevention and management of ecological risks and to Hungary's climate policy goals, while it is also essential that this be done in full compliance with prudential requirements. The Green Recommendations, first issued by the NBH in 2021, aim to set expectations for domestic credit institutions on the institutional framework for managing environmental risks and integrating sustainability factors (NBH, 2021b). The document provides comprehensive recommendations in the areas of strategy development, corporate governance, risk management and disclosure to help strengthen the resilience of credit institutions to environmental risks. The recommendations were renewed by the NBH in August 2022, based on consultations with banking stakeholders, surveys carried out by the central bank and changes to EU rules. In this context, in a number of areas, more concrete expectations have been set for the necessary measures and their implementation.

Beyond the specific measures, which are essentially tailored to the financial institutional system, it is crucial that the role of environmental sustainability in the financial

markets be understood by all. In 2021, the NBH produced its first Green Finance Report, which provides a comprehensive picture of, among other things, the main environmental risks affecting the Hungarian economic and financial system, the development of the domestic green financial markets and the relevant central bank measures. The annual publication can be a first point of reference for interested market players, international organisations and Hungary's citizens, and the transparent information can indirectly promote the protection of environmental resources by raising green awareness.

The NBH is also making progress in the management of foreign exchange reserves. Following a decision by the Monetary Council, a dedicated bond portfolio was started in 2019, which contains only green-rated securities, the issuance of which has a positive environmental impact. The portfolio includes euro-denominated bonds with well-diversified geographical exposure, while the backbone of the investments is comprised of supranational institutions and issuers from the European Union. With this initiative, the NBH was among the first central banks worldwide to enforce its commitment to green targets in the field of reserve management (Scope, 2021).

In addition to building a portfolio of green bonds, the NBH is also prioritising the monitoring of the positive environmental impacts generated by its investments. The environmental impact of the portfolio was measured and published for the first time in 2021, with the key finding that the innovative central banking practice has contributed to avoiding around 55,000 tonnes of carbon dioxide emissions annually (Elek et al., 2021). According to the survey, repeated the following year, the carbon dioxide emissions saved rose to 94,000 tonnes, mainly due to a positive change in the impact analysis of

individual issuers and a reallocation between bonds within the portfolio (Paulik & Tapaszi, 2022). The scale of this achievement is reflected by the fact that these emissions are roughly equivalent to the carbon footprint of a Hungarian municipality with 19,000 inhabitants or the average annual emissions of around 35,000 cars. With the regular impact assessment, the NBH's objective is also to provide guidance to market participants, which can further strengthen the development and consolidation of best practices.

The appearance of green targets in central bank law and monetary policy

Extreme environmental phenomena, which are becoming more frequent as a result of global warming, not only adversely affect social and economic life, but also have implications for the financial stability, price stability and sustainable convergence (Lagarde, 2021). By the second decade of the 21st century, the role and responsibilities of central banks had radically changed and, as a key actor in economic policy, they cannot afford to ignore the monetary policy aspects of the transition to a carbon-neutral economic model. Based on the survey of *Dikau and Volz* (2021) focusing on central bank mandates, of the 135 central banks and monetary communities examined, only 12% explicitly address environmental sustainability, while another 40% can achieve these objectives indirectly by relying on a mandate to support general economic policy.

As a milestone in the development of Hungarian monetary policy, the NBH's mandate was expanded to support the government's environmental sustainability policy, following the decision of the Hungarian Parliament on 28 May 2021 (NBH, 2021c).

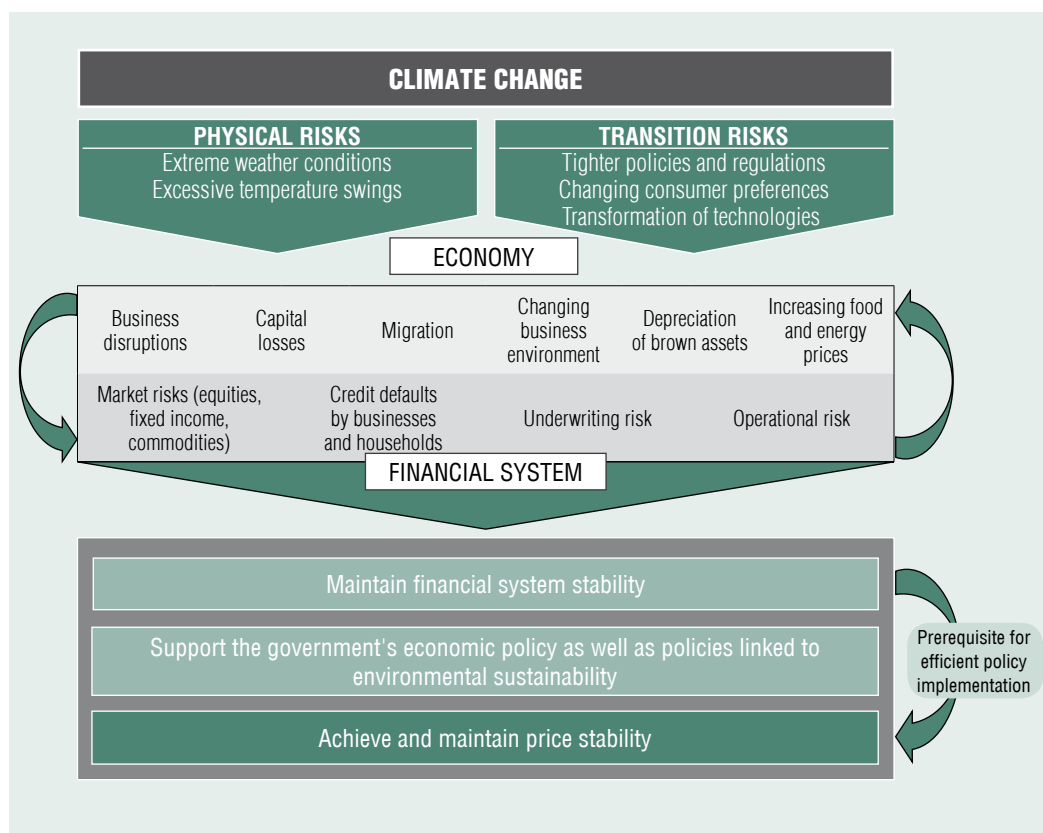
With this, it is not only the belief in the preservation of natural values, but also the achievement of the objectives set out in the central bank law that spurs us to action. In other words, we not only have an opportunity but also an obligation to act to achieve a green turnaround. However, it cannot be stressed enough that the environmental sustainability mandate can only be realised without compromising the primary objective of achieving and maintaining price stability. Green mainstreaming therefore does not, of course, imply a break with the central bank's hierarchy of objectives, and it means,

above all, the stronger integration of green considerations in its decision-making (Figure 6).

The new mandate clarified the need for monetary policy to also take account of environmental values. The foundations for this pioneering approach to central banking were laid down in the Green Monetary Policy Toolkit Strategy announced on 6 July 2021 (NBH, 2021d). The strategy document published presents a coherent framework of possible directions for the NBH to translate climate protection and environmental sustainability into its monetary

Figure 6

IMPACTS OF CLIMATE CHANGE ON THE NBH'S PRIMARY AND SECONDARY OBJECTIVES



Source: NBH (2021e)

policy instruments. We believe that a green transition of the economy is essential for Hungary's sustainable convergence, and that this requires a financial intermediary system that takes into account and effectively enforces the relevant aspects on a broad scale. By adopting the strategy, the NBH aims to promote economic transformation and the achievement of international and domestic climate goals through the use of monetary policy instruments, while at the same time contributing to consumer and social awareness and the adoption of best international practices.

Central bank programmes and green lending

Implementation of the new strategic direction started with the announcement of two pioneering initiatives: the FGS Green Home Programme and the Green Mortgage Bond Purchase Programme. The two schemes aim to support, directly and indirectly, the construction and purchase of energy-efficient and modern housing.

It is no coincidence that monetary policy has taken its first green steps in relation to the housing market. Renewing the housing stock and improving its energy efficiency is a multifaceted approach to tackling a number of social, economic and environmental problems (Hungarian Energy Efficiency Institute [MEHI], 2021). Moreover, energy management has become a key area in the changing geopolitical landscape. Nearly 30% of energy in Hungary is consumed by households, of which the vast majority, nearly 60%, is linked to residential cooling and heating, while only 30% is related to transport (HCSO, 2022). From a central bank perspective, the so-called green hypothesis also underpins the efforts to modernise the

housing market. It is hypothesised that, due to lower overhead costs, people living in green properties will have higher disposable incomes for repayments, which will reduce the likelihood of loan defaults, and that green properties are expected to better preserve their value in the long term, due to a tightening regulatory environment and changing consumer attitudes (NBH, 2019). Finally, the increased role of the NBH was also justified by the fact that commercial banks did not take into account the energy characteristics of properties in their mortgage lending practices before the introduction of the programmes. With these opportunities and challenges in mind, the NBH has made it a priority to support green mortgage lending, i.e. loans for energy-efficient properties.

The Green Home Programme was launched in October 2021 as a new phase of the Funding for Growth Scheme, in order to promote green mortgage lending in a targeted manner. In this programme, the central bank provides refinancing loans at an interest rate of 0% to commercial banks, which can use this resource to grant mortgage loans to their retail customers on favourable terms predetermined by the NBH. This lending can only be granted for the construction and purchase of new apartments and detached houses with very high energy efficiency, and thus the central bank instrument can make a targeted and effective contribution to the creation of modern new housing and thus to improving housing conditions. The Green Home Programme quickly gained popularity after its launch, helped by the fact that the NBH allowed it to be linked to the family housing allowance. As an indication of the success of the instrument, the volume of loans for the purchase or construction of new homes has been on an upward trend again since the beginning of 2022, with a major contribution from loans disbursed in the framework of

this programme (Kömlösy & Winkler, 2022).

The NBH has been able to support the mortgage lending process indirectly by launching the Green Mortgage Bond Purchase Programme and, at the same time, by creating a domestic green mortgage bond market. Green mortgage bonds can be issued by banks for mortgage loans that are backed by properties with good energy efficiency indicators. These special securities therefore create the possibility for investors to buy high quality assets with a positive environmental impact, which can mean lower resource costs for the issuers, i.e. mortgage banks. In the purchase programme, domestic mortgage banks may only participate with securities that met the highest international standards, ensuring the development of best domestic practices and the creation of a liquid and transparent market (Borkó et al., 2022).

Complementing the purchase programme, on the supply side, the preference provided by the NBH's macro-prudential regulation on the Mortgage Funding Adequacy Ratio (MFAR) has also supported the development of the domestic green mortgage bond market. This will allow green mortgage bonds and refinancing loans to be counted with a weighting of 150% in the MFAR's numerator from 2021, so that the MFAR can provide a meaningful regulatory incentive for the issuance of green mortgage bonds without prejudice to the original financial stability objectives (NBH, 2021e). The MFAR preference is also conditional on compliance with international standards for mortgage bonds and certification by a third-party certification body. All in all, the NBH was able to indirectly support the emergence of the domestic green mortgage bond market and, in this way, the green mortgage lending process through its high expectations and indirectly through the purchases made and

the relief granted in the MFAR regulation. At the same time, it can be seen that the issue of environmental sustainability is becoming an increasingly important element in the operation of mortgage banks, with the market share of green mortgage bonds issued already exceeding the comparable ratio for the European market as a whole (Bécsi et al., 2022). (See Figure 7)

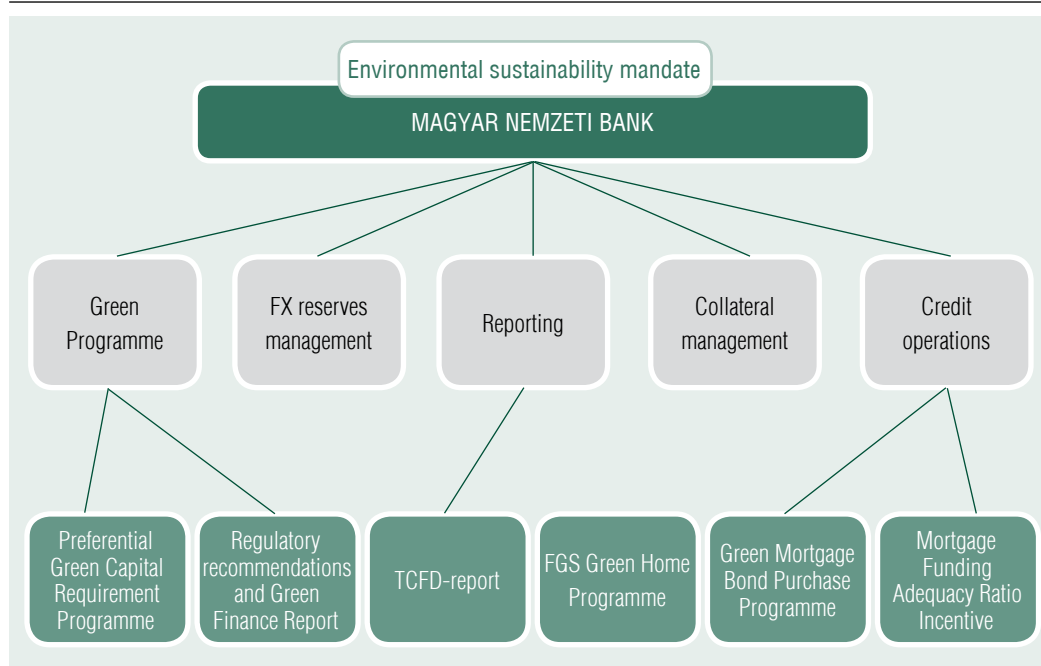
Integration of green aspects in the NBH's collateral management practices

The NBH has also started to integrate climate risk considerations into one of the central elements of its monetary policy toolkit, the collateral management framework, and is one of the first central banks to do so. Collateral management is of paramount importance for the liquidity and asset management of the banking system, and thus the transformation of the framework will have an impact on the internal and market practices of the banking system, support the development of the Hungarian green securities market and contribute to the identification and optimal management of climate risks by the central bank and the banking system.

In order to achieve the above objectives, the NBH will implement the inclusion of green bonds as collateral from September 2021 onwards by applying preferential haircut rates. Accordingly, the preferential haircut – with a maximum of 5 percentage points – refers to a 20% haircut preference for green bonds compared to conventional securities. Fine-tuning the haircut scheme in this way could help achieve monetary policy objectives by supporting the channelling of funds to green projects, thereby creating more favourable liquidity conditions for banks (Kolozsi et al., 2021). The NBH will continue to monitor

Figure 7

KEY GREEN INITIATIVES OF THE NBH



Source: own editing

the possibility of further green changes to the collateral management framework, taking into account the latest international central bank practices. In the short term, the focus of regulators and central banks should be on improving transparency in the green securities market by developing standardised reporting practices based on consistent and reliable data.

Importance of data in the green turnaround

One precondition for the successful green transition of the economy is that financial markets take into account and appropriately assess climate risks. It can also be concluded that investors and market participants need to be able to analyse and assess sustainability aspects, and that climate risks need to be

reflected in risk models, return expectations and financial product prices. However, less is said about the need for credible, easily accessible and verifiable data, without which the necessary investor confidence cannot be built; moreover, the absence of such data can also lead to an increase in the risk of greenwashing (Alogoskoufis et al., 2021).

A green turnaround is inconceivable without measurement, as transparency is a fundamental condition for environmental sustainability, both in terms of the starting point and of measuring the impact of the actions taken. For this, the complex set of recommendations developed by the G20 Financial Stability Board’s Task Force on Climate-Related Financial Disclosures (TCFD) provides an appropriate framework. The TCFD recommendations provide guidance on climate change risk disclosure

in relation to the four main pillars of organisational functioning – company management, strategy, risk management, and indicators and targets – and are followed by the NBH report. Climate change financial reporting along these lines has become the most important disclosure standard today. It is important to note that reporting poses considerable challenges, as while, for example, traditional securities have decades of experience and a well-established methodology, green markets are young, small in size and often heterogeneous in terms of standardisation (Kolozsi et al., 2022).

Given the central importance of the financial sector, as monetary and financial supervisory authorities, central banks have a key role to play in respect of disclosure practices. With this in mind, in March 2022 the NBH was among the first central banks and domestic financial institutions to produce a climate change finance report (NBH, 2022c). In its TCFD report, the central bank analysed the climate risk exposure of financial asset portfolios by portfolio in the two main climate change risk categories, namely transition and physical risks. In doing so, it used its own estimates for certain asset categories, in addition to the indicators commonly used in international practice, and supplemented these with outlook analyses. In measuring the climate risks, the NBH reviewed and used existing central bank examples and practices, in addition to international recommendations, and also took into account the specific characteristics of its own financial asset portfolios. The aim of the report is to identify, measure and transparently disclose the climate risks related to the operational activities and financial instruments of the Hungarian central bank to the widest possible extent, thereby providing guidance to the domestic financial sector. A key step in greening the Hungarian financial

system is the publication of the NBH's Climate Risk Report, which the central bank plans to publish annually, encouraging domestic financial and public sector actors to follow suit.

The NBH also pays particular attention to transparency in collateral management, which can indirectly stimulate demand for green mortgage bonds. Mortgage bonds have a significant share of eligible collateral and a complex structure, for which issuers have already been required to publish a transparency report summarising the most important relevant parameters. The NBH plans to further develop this report in 2022, in consultation with the issuers, with the launch of green mortgage bonds, in order to provide investors with more and better quality information on the climate risk aspects of mortgage bonds.

CONCLUDING REMARKS

Ensuring sustainability in the future is also essential for Hungary's long-term development and successful convergence. Hungary recently closed the most successful decade in the 100 years since the Treaty of Trianon: between 2010 and 2019, balance and growth was realised at the same time, and the country was put on a path of balanced growth (Matolcsy, 2020). This successful decade was underpinned by the fiscal turnaround in 2010 and the monetary policy turnaround in 2013, which brought the two main strands of economic policy into alignment. The results achieved in the 2010s provided a solid foundation for the period of the coronavirus crisis as well, as Hungary continued to catch up with the EU average during the pandemic. But the country's economic convergence must continue in one of the most difficult decades of the last 100 years. We are currently

in a decade of war combined with a global epidemic and energy crisis, which could lead to ruptures in the established international relations and globalisation. In addition to the war, the consequences of climate change are increasingly pressing, with global warming leading to water scarcity, food shortages and health challenges, amongst other things, which could further exacerbate global migration. But the current difficulties and challenges are also opportunities, and only those who can adapt to them while maintaining stability and renewing their economies and shifting to sustainable, digital and green production will be able to survive in the face of international competition.

The NBH has laid the foundations for a sustainable green banking turnaround, and the targeted central bank programmes and initiatives are only the first steps on a long journey. There can now be no question that the fight against climate change requires the active involvement of economic policymakers and central banks. The NBH sees it as its mission to lead by example and play an active role among central banks in supporting the transition to a low-carbon economy. With this in mind, the NBH will continue to make it a top priority to play a role in climate protection, thus contributing to the preservation of environmental values and Hungary's sustainable economic convergence. ■

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