Sustainability from a Finance Perspective*

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The collection of studies entitled *A jövő fenntarthatósága – A fenntarthatóság jövője* (*Sustainable Future – The Future of Sustainability*) edited by György Kocziszky, Rector of the Budapest Metropolitan University, summarises the academic papers on sustainability produced and published in the research workshops of the university. The volume is a continuation of the publication *Sustainability in Economics – Theoretical Foundations, Uses* which was issued in early 2024 with Péter Halmai as editor.

One of the cornerstones of sustainable development is that, in addition to the requirements of economic development and growth, it must take into account both the expectations concerning environmental sustainability and the needs of society. The question often arises: What is the relationship between economic growth and the sustainability of the natural environment? This in turn leads to other questions, such as whether economic growth is a barrier to sustainability, or whether there are frameworks where growth and sustainability can coexist and complement each other.

According to the 1987 Brundtland Report[1] of the UN World Commission of Environment and Development, sustainable development ensures that it meets the needs of the present without compromising the ability of future generations to meet their own needs.

Addressing climate change and its consequences is an increasingly pressing issue. In this respect, a consensus has been reached in scholarly circles that climate change is primarily a consequence of greenhouse gases emitted by humans.

* The papers in this issue contain the views of the authors which are not necessarily the same as the official views of the Magyar Nemzeti Bank.

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[1] https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf

The environmental pressure on our planet has now reached such a magnitude that economic growth in its current form can no longer be sustained, as future generations would be left with far fewer healthy natural resources.

Sustainable economic growth requires sustainable financial systems. The focus of this volume is on topics related to economics, in particular the sustainability of finance: the authors examine both the future of financial sustainability and the financial sustainability of the future, covering topics such as the conditions for green central banking, the impact on the labour market stemming from companies' green transition, the impact of household cash holdings, the impact of artificial intelligence (AI) on the financial sector, sustainable carbon neutrality, trends shaping future developments in the automotive industry, large automotive firms and their supplier networks, the impact of IFRS9[2] on the stability of the credit institutions sector, the enforcement of green capital requirements in domestic practice, the impact of automotive megatrends on sustainability, the rise in preference for the portfolios of companies that produce renewable energy, sustainability rules in the insurance sector and the inclusion of sustainability aspects in the prudential regulation and supervision of credit institutions.

Without being exhaustive, I would like to give a brief insight into a few of the studies that I find particularly interesting.

The first step towards future financial sustainability is the incorporation of green finance into a framework, the history of which is presented in *A zöld pénzügyi tudományos kutatások evolúciója* (*The Evolution of Research into Green Finance*) by Balázs Sárvári. Green finance links economic growth with the financial sector and environmental protection, and accordingly it has a significant academic and societal role, as it contributes to sustainable development and environmental protection. After a review of the literature, the author outlines four main areas of green finance that contribute to environmental and sustainability goals, as scientific research can identify the impact of financial systems and instruments on environmental sustainability, and thus help develop strategies for financial institutions and markets to exert a positive effect on the environment. This includes an analysis of investments that contribute directly or indirectly to environmental protection or other sustainability goals, such as green bonds, green shares, infrastructure projects and other sustainable investments.

Combating climate change and reducing greenhouse gas emissions are a key issue for green finance, and research in this field will contribute to the development of financial instruments to increase energy efficiency and promote the use of renewable energy. By designing new financial instruments, products and markets,

[2] https://www.ifrs.org/issued-standards/list-of-standards/ifrs-9-financial-instruments/

it is possible to foster measures to support the achievement of sustainability goals, which can effectively advance the use of sustainable energy.

Climate change and other environmental challenges also engender financial risks that need to be analysed and addressed through relevant green finance research. Such research can, for example, identify the financial consequences of greenhouse gas emissions. The main goal is to support sustainable development and facilitate green economic growth.

Green finance research includes the study of ESG factors that influence the environmental impact (E for environmental), the social responsibility (S for social) and the governance practices (G for governance) of companies or investments.

Among the many important topics (such as green financing and the correlation between green finance and standard finance), the author identifies three key issues: How can green technologies and innovation be financed and stimulated through the financial system? How can large databases be used in green finance to enhance efficiency and to support the achievement of sustainability goals? How is it possible to raise the awareness of the importance of green finance among financial actors and in society at large, and to encourage sustainable financial choices?

In her study, *What is the Future: Robotic Work or Working Robots? The Impact of Robotisation on the Labour Market,* Eszter Kovács points out that, as has been repeatedly demonstrated in past decades, technological innovations have not led to a considerable contraction in demand on the labour market. Robots and human labour have not replaced each other, but rather complemented each other. Processes carried out by DAR (digital, automated, robotic) technologies contribute to the development of global production and also to the transformation of the labour market, as DAR technologies are taking the place of manual labour. Smart work tools and industrial robots assigned to human labour make production processes more efficient, because it is sufficient to monitor the different work phases through a central control system, while DAR technologies also provide automatic troubleshooting. According to surveys by various analyst firms, almost half of all work tasks can be done using DAR technologies, which means that the uptake of these technologies will surge in the coming years. This will have a dual effect: on the one hand, physical work will become less and less prevalent (DAR eliminates jobs), while on the other there will be more areas of intellectual labour and new positions will emerge (DAR creates jobs). Robotisation transforms workflows and amplifies the polarisation of the workforce, with some traditional forms of work being replaced by platform work. The author concludes that the adoption of technological solutions will have a positive impact on the economy as a whole and will not cause significant unemployment, as its growth will be checked by the 'invisible hand'.

In his analysis entitled *Mesterséges intelligencia a pénzügyi szektorban és a munkaerőpiacon* (*Artificial Intelligence in the Financial Sector and the Labour Market*), Tamás Babai-Belánszky examines the transformative effect of artificial intelligence (AI) on the financial system. AI also plays an increasingly important role in the evolution of the financial sector, since it transforms financial products, the functioning of financial organisations and, ultimately, the financial system as a whole. However, its emergence entails new cybersecurity risks. The IMF is particularly concerned about the new cybersecurity risks AI presents, which also pose a threat to financial stability.

According to the 2020 fintech and digitalisation report of the Magyar Nemzeti Bank (MNB) *(MNB 2020*),[3] in the field of new advanced technologies, the use of artificial intelligence could have one of the strongest impacts on the financial sector in the short run. Firms are predicted to replace human labour with AI in their preference for minimising costs, where it is technologically feasible and results in lower expenditure. The biggest challenge with the emergence of AI in the labour market is that its technological development is exponential, and moves at a speed that the regulatory and the legal domains can barely keep up with. In this context, training and retraining are key when it comes to the labour market. Generative AI is particularly important in the rise of AI, because it is no longer just capable of analysing data and making predictions, but can also create products that to date only humans have been able to do, as it has the ability of abstraction, creativity, intuition and empathy that have been unique to humans.

According to an OECD study,[4] the impact of AI is felt most by the majority of workers through changes in their current job tasks and working environment rather than the loss of their job. The impact of AI on wages is not yet clear. It may mean an increase in wages for employees who use AI to complement their own job expertise or who are involved in the development and implementation of AI. AI can complement and support work, allowing workers to perform the same tasks more efficiently; however, it may cut back interactions between people. With the use of AI, processes can be automated, and with less decision-making involved, and it can reduce workers' autonomy, potentially leading to weaker worker motivation. At the same time, it may relieve workers of some of the stress associated with work, for example by decreasing information overload.

One of the most comprehensive analyses of future sustainability in the volume is the work of Anikó Kacsné Kovács, Máté Lakatos and Tünde Ökrös Ilona: *Autóipari megatrendek a világban* (*Automotive Megatrends across the World*). Their study contains a wealth of statistics on car manufacturers, the workforce and the level

[3] https://www.mnb.hu/kiadvanyok/jelentesek/fintech-es-digitalizacios-jelentes/fintech-es-digitalizacios-jelentes-2020-aprilis
[4] https://www.oecd.org/employment-outlook/2023

of R&D. The automotive industry is a key sector for the prosperity of the European Union and Europe, directly and indirectly employing nearly 14 million people, which accounts for more than 6 per cent of total EU employment. Automotive megatrends are pointing towards a significant growth in electromobility, with the production and sales of electric cars rising significantly in recent years, according to a report by the International Energy Agency.[5] In 2020, 5 per cent of all new cars sold were propelled by an electric motor, while in 2022, this figure was 14 per cent. This brisk growth is redefining previous manufacturing, regulatory and environmental processes and regulations.

The emergence of platforms has made carpooling or carsharing popular as a response to the phenomenon of urbanisation. According to an article by Gábor Kaszás published in April 2023,[6] which profiles the three major carsharing companies operating in Hungary, i.e. MOL Limo, ShareNow and GreenGo, carsharing providers could be long-term competitors to owner-used cars. The uninterrupted rise in the popularity of carsharing is demonstrated by the proliferation of users and the dramatic increase in revenue. Studies show that carsharing could replace up to 7–10 private cars in urban transport, significantly reducing the number of parking spaces needed and the degree of congestion. As there are fewer cars that spend more than 95 per cent of their operating time parked, more parking spaces are freed up, allowing the space occupied by these cars to be made better use of.

According to a study by McKinsey published in April 2023,[7] the number of private cars will decline massively over the next decade, and the number of people subscribing to car use as a service will increase, reducing the number of cars owned. However, the high proportion of people who own their car is unlikely to change significantly for a long time, as car ownership is a status symbol.

Closely related to car ownership is the question of car purchase financing: according to an article by Ernst & Young from May 2022,[8] the majority of domestic buyers would use own funds to cover their next car purchase. However, those who do not have the purchase price available should consider carefully what financing model they choose. They could opt for a loan from a bank or financial company, or pick a closed-end or open-end lease. Service users also need customised digital solutions for mobility funding as well as complex financial product packages in which companies offer maintenance, insurance or oversight services for (conventional and electric) vehicles and services for electric vehicles. Large automotive companies'

[5] https://iea.blob.core.windows.net/assets/dacf14d2-eabc-498a-8263-9f97fd5dc327/GEVO2023.pdf
[6] https://index.hu/gazdasag/2023/04/26/auto-automegoszto-carsharing-autoberles-mol-limo-sharenow-greengo/
[7] https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/shared-mobility-where-it-stands-where-its-headed
[8] https://www.ey.com/hu_hu/consulting/autovasarlasi-szokasok-sokan-valtananak-egyre-nepszerubb-az-alternativ-hajtas

own financial service providers (e.g. Ford Motor Company, General Motors Financial Company Inc., Mercedes-Benz Mobility, Toyota Financial Services, Volkswagen Finance Private Limited, etc.) are the biggest financers of car loans and are forecast to remain dominant players in car finance in the next decade. To remain competitive, they need to strengthen their digital services to meet changing needs with new technologies such as blockchain, artificial intelligence, digital payment systems and online mobile banking.

Car manufacturing and car use have left, and continue to leave, a huge carbon footprint. Considering the size of the global industry, it is timely to take sustainability into account in the automotive sector by increasing the share of electric cars, carsharing, community use, R&D, the use of renewable energy and innovative projects in the field of environmental protection.

All of the papers in this volume are recommended for professionals and university students interested in sustainability.