

The Economic Dimensions of Sustainable Development*

Bettina Balázs 

Péter Halmai (ed.):

Fenntarthatóság a közgazdaság-tudományban: Elméleti alapok, alkalmazások

[Sustainability in Economics: Theoretical Foundations, Applications]

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The aim of this collection of studies is nothing less than to explore, understand and present the fundamental economic dimensions of sustainability. The studies cover all key areas of sustainability, including macroeconomic and international economic approaches to this issue, an examination of competitiveness and economic growth, the demographic dimensions of sustainability, issues concerning public finance, challenges arising from the networked structure of global supply chains and the structure of the international financial system, and, in particular, green finance. Each of the more than thirty authors is an outstanding, recognised expert in their field, ensuring that readers will encounter interesting, relevant and forward-looking essays.

Sustainability has emerged as a new paradigm in economics. In our day and age, it is now essential to take into account the natural, economic and social limits of development. This volume is a pioneering work in Hungary, as it comprehensively captures previously under-explored economic dimensions of sustainability. The wide-ranging analysis extends from macroeconomic equilibrium issues to green finance and from demographic and international economic interrelationships to the sustainability of public finances, highlighting the impacts of global challenges such as climate change.

* 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.

Bettina Balázs: Ludovika University of Public Service, PhD Student. Email: bettinabalazs@gmail.com

The volume begins with the editor's *Introduction*,¹ followed by a comprehensive, in-depth introductory study covering the entire work. Structurally, the work can be divided into three main parts, with macroeconomic issues, international economic dimensions and green finance forming separate sections. The macroeconomic aspects of sustainability are reviewed in a total of six studies, comprising the most extensive section of the volume. The second section on international contexts and the third section on green finance are of nearly equal length: the second section contains three studies, while the third contains five.

In his comprehensive study entitled *Sustainability in Economics – Starting Points and Questions to Be Answered*,² Péter Halmai convincingly emphasises that, in addition to environmental contexts, the economic and social dimensions of sustainability also require special attention. After defining the theoretical framework, Halmai outlines earlier studies considered groundbreaking in the field, such as the Club of Rome's 1972 report "The Limits to Growth" (Meadows et al. 1972), the 1988 Brundtland Report, the 2006 Stern Review, Nordhaus's 1994 DICE model and the asset-based approach of the 2021 Dasgupta Review. This broad theoretical background helps to contextualise the book's main ideas. The study reviews the main economic impacts of climate change and the role of central banks in mitigating the effects of climate change. The study's central concern is macroeconomic sustainability, specifically within the framework of growth theory, public finance and ageing; economic resilience (Halmai 2020); and the interpretation of sustainability at the international system level (Halmai 2023). The study also briefly summarises the main points of the papers included in the volume.

The contribution by Lóránt Kaszab, Endre Morvay, Balázs Világi and Balázs Vonnák entitled *Recent Developments in the Economics of Climate Change*³ outlines possible future scenarios, in addition to a thorough analysis of the causes and consequences of climate change. In terms of challenges, two sectors were singled out: energy and food production systems. The effects of climate change vary by region, and certain sectors, such as the energy sector and agriculture, which are discussed in detail, are particularly vulnerable to these uneven impacts. The conclusion is that while it is not possible to stop global warming, limiting its extent is achievable by transforming the energy sector, expanding renewable energy sources, reducing emissions, and promoting sustainable lifestyles and agriculture practices. However, this requires appropriate climate policy measures, government commitment and public education.

¹ Bevezető.

² Fenntarthatóság a közgazdaságtanban – kiindulópontok és megválaszolandó kérdések.

³ Friss fejlemények a klímaváltozás közgazdaságtanában.

Péter Halmai's study *Sustainable Growth, Growth Potential*⁴ approaches the topic of sustainability from the perspective of macroeconomic equilibria. The economy's sustainable level of output, which also reflects macroeconomic equilibrium, is potential output. Current output exceeding this level leads to imbalances and overheating, i.e. unsustainable growth performance, while output falling short of it signifies recession or stagnation. Consequently, potential growth and its trends, as well as the exploration of the effects of individual factors, are exceptionally important in terms of the economic theory of sustainability (Halmai 2021). The study provides an in-depth analysis of the growth models of fourteen EU countries. It analyses in detail the trends in potential growth, their factors and the main characteristics of individual country groups.

*The Effects of an Ageing Society from the Perspective of Fiscal Policy and Economic Growth*⁵ by Ádám Marton emphasises that declining birth rates, rising life expectancy at birth and falling mortality rates are leading to a transformation of the population age structure, with a significant impact on social and economic trends. He uses empirical methods to demonstrate that population ageing can have an adverse effect on fiscal balance and economic growth. In conclusion, Marton outlines the necessary and possible policy responses.

The study by Pál Péter Kolozsi and Ádám Banai, *Climate Change, Trust and the Central Bank*,⁶ examines the role of central banks in combating climate change, emphasising that the green transition is inconceivable without financial transformation. According to the authors, it is crucial for central banks to integrate green considerations into their activities without compromising price stability or other fundamental objectives. They emphasise the importance of trust and credibility in central banks for effective operation.

In *The Relationship Between Competitiveness Indicators and Economic Growth*,⁷ Pálma Filep-Mosberger, Péter Gábor and Judit Hevér identify the factors with the greatest impact on growth and examine the benefits of balanced development of competitiveness indicators by analysing the WEF and IMD competitiveness indices. According to their conclusions, policies aimed at enhancing the balanced development of competitiveness factors can lead to more sustainable growth in the long term. Accordingly, economic policy must focus on relatively weaker dimensions of competitiveness in order to maximise growth potential. While in less developed countries, the focus should be on infrastructure and public institutions, in more developed countries, greater emphasis should be placed on education and financial markets.

⁴ Fenntartható növekedés, növekedési potenciál.

⁵ Az idősödő társadalom hatásai a fiskális politika és a gazdasági növekedés perspektívájából.

⁶ Klímaváltozás, bizalom, jegybank.

⁷ A versenyképességi mutatók és a gazdasági növekedés kapcsolata

The study *What were the Factors that Shaped the Hungarian Cash-to-GDP Ratio After the Turn of the Millennium?*⁸ by Anikó Bódi-Schubert and Ildikó Ritzlné Kazimir examines the long-term evolution of the Hungarian cash-to-GDP ratio following the turn of the millennium, with particular attention to the fact that with the spread of digitalisation, actual data contradict the trends observable in other areas. Contrary to expectations, demand for cash has not only failed to decline in recent years, it has grown at a rapid pace. Using the Engle–Granger method, the authors found that, in addition to wealth-holding motivations, the domestic cash-to-GDP ratio is also influenced by unforeseeable international challenges, such as the COVID-19 pandemic or geopolitical conflicts.

In the section on international context, in another study entitled *The Network Building Blocks of the Global Economy – Connections and Hubs*,⁹ Anikó Bódi-Schubert and Ildikó Ritzlné Kazimir examine the complex network structures and subsystems of the global economy, identifying five key network subsystems: the business, logistics-transportation, technological-resource, geopolitical and consumer network subsystems. The aim of the research is to explore the relationships and interactions between these subsystems, as well as their implications for sustainability and efficiency, formulating guidelines to promote sustainable network efficiency.

*The Sustainability of USD Dominance from an Endogenous Monetary Theory and Geopolitical Perspective*¹⁰ by Lilla Bánkuty-Balogh, Kristóf Lehmann and Zoltán Szalai examines the sustainability of the USD-dominated financial system. The study addresses theories of money creation, the advantages and disadvantages of the current financial situation, currencies other than the US dollar, and global political trends affecting financial systems. The authors warn that major changes are expected in the financial world, but the exact direction is difficult to predict. Numerous factors will play a role in the development of the future financial system, and the balance of the international monetary system will remain dynamic.

The study by Gergely Gánics and Gábor Neszveda entitled *The Natural Real Interest Rate: r^* in Greece*¹¹ analyses the evolution of this indicator between 1997 and 2019. Thus, the authors examine the interest rate at which the economy can operate on a sustainable growth path while maintaining price stability. Their results indicate that economic and political events, as well as the green transition, influence this indicator. According to the study, real interest rates declined during crises, and country risk also had a negative impact on such.

⁸ Milyen tényezők alakították a magyar készpénztartási hányadot az ezredfordulót követően?

⁹ A globális gazdaság hálózati építőelemei – Kapcsolatok és csomópontok.

¹⁰ A dollárdominancia fenntarthatósága endogén pénzülméleti és geopolitikai megközelítésben.

¹¹ A természetes reálkamat: r^* Görögországban.

*Opportunities for the Economic Policy-Driven Diversion of Prudential Banking Regulation*¹² by László Seregdi discusses the purpose of banking regulation and the possibilities for its diversion for economic policy purposes, identifying the objectives as ensuring the prudent operation of the banking system and maintaining economic stability. The author examines the differences between the EU banking regulation system and the Basel III recommendations by analysing the practice and legal framework of banking regulation. The paper presents the possibility of deviating from a strict risk-based approach and emphasises the need to take green financing opportunities and environmental risks into account.

In *Methodological Issues and Practical Challenges of Climate-Neutral Banks*,¹³ Gábor Gyura examines a topic that has received less attention: the field of net-zero banking in light of the goals of the Paris Climate Agreement, with a focus on the need to reduce greenhouse gas emissions. He defines the conceptual foundations, including an international perspective, and also discusses specific elements of climate-neutral banking. Furthermore, he formulates recommendations and attempts to identify future research questions.

The study *Green Lending in Hungary – Experiences and Historical Background*¹⁴ by Gábor Nagy, Balázs Sárvári and Bence Varga reviews the domestic and international historical background of the European banking system, with particular regard to the sustainability practices of banks and central banks in Hungary and Poland. Drawing on data from the Magyar Nemzeti Bank (MNB) and domestic and international academic sources, the authors focus on green lending in Hungary and the MNB's green initiatives and analyse the role and performance of green loans in the green transition.

In *An Overview of Climate Change Risk Management in the Insurance Sector*,¹⁵ Gabriella Hajdu and Norbert Holczinger examine the management of risks arising from climate change in the insurance sector. Based on an analysis of specific financial and operational risks arising from climate change, it can be concluded that climate change presents challenges for the insurance sector, while also stimulating innovation within the sector and creating opportunities to promote sustainable development.

*A Methodological Presentation of the Magyar Nemzeti Bank's Short-Term Climate Stress Test*¹⁶ by Alexandra Bach, Norbert Csorba, Borbála Héjja, Donát Kim, Zoltán Monostori, Gábor Dániel Soós, Szabolcs Szentmihályi and Bálint Várgedő presents the climate stress test developed by the MNB to examine short-term lending, with

¹² *Lehetőségek a bankok prudenciális szabályozásának gazdaságpolitikai célú eltérítésére.*

¹³ *A klímasemgleges bankok módszertani kérdései és gyakorlati kihívásai.*

¹⁴ *Zöld hitelezés Magyarországon – tapasztalatok és történeti háttér.*

¹⁵ *Áttekintés az éghajlatváltozás kockázatainak kezeléséről a biztosítási szektorban.*

¹⁶ *A Magyar Nemzeti Bank rövid klímastressztesztjének módszertani bemutatása.*

the aim of establishing a methodological foundation for measuring climate risks in the Hungarian credit institution sector, particularly transition risks. The paper illustrates how the distribution of climate risks in energy-intensive industries evolves in certain scenarios and what impact these have on credit institutions. According to research findings, energy-intensive sectors are particularly vulnerable to climate policy measures, but the stress test provides a good starting point for identifying and adapting best practices.

One key strength of this groundbreaking volume is that it examines sustainability not merely in an environmental context, but also within a comprehensive economic and social framework. The studies highlight that achieving sustainability requires a fundamental shift in perspective in both economic theory and economic policy practice. At the same time, the work emphasises several times that a systemic approach to sustainability requires further research, and research questions to be explored are also presented in the work. Directions for future research include, among other things, further development of the economic models of sustainability, an examination of the sustainability impacts of innovations and technological progress, and possibilities for reforming the global financial system. The authors in this volume point out that a comprehensive approach to and management of sustainability issues is essential for achieving long-term economic and social stability.

The volume makes a fundamental contribution to the economic theory and practical application of sustainability. Given its subject matter and the depth of the studies it contains, the book can serve as a foundational text for anyone engaged with sustainability issues. Furthermore, it offers an inspiring, thought-provoking read that opens new perspectives on the economic examination of sustainability. The results presented and the questions raised encourage further reflection and research, contributing to the creation of a sustainable future.

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