Macroeconomic and public finance processes in 2022

Summaries of analyzes prepared for the Fiscal Council in 2022

Office of the National Assembly, 2022

The Hungarian Economic Association and the Fiscal Council organized a joint online conference on the studies of this volume on October 11, 2022. The conference presentations can be accessed at https://youtu.be/xcQQ7W5Uwwo.

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FOREWORD

The joint conferences of the Hungarian Economic Association (MKT) and the Fiscal Council (KT) look back on a history of just over a decade: ten years ago we started this series of conferences with the aim of presenting and discussing with the professional community of MKT the analyses and background studies on the processes of public finances prepared for the Council. Of course, this cooperation between MKT and KT was self-evident at some level, as all three members of the Fiscal Council - Árpád Kovács, the Chairman of KT, György Matolcsy, the Governor of the Central Bank of Hungary and László Windisch, the President of the State Audit Office - have been active members and regular speakers at the conferences of MKT for many years and we are proud of this fact.

Just as we are proud of the conference series itself, which has now become one of MKT's flagship events. Every year, managers and experts of the best domestic analytic and research institutions present their latest analyses and forecasts for the MKT's wide professional audience and other interested parties. It is a special pleasure that we could organize the 2022 conference not only in the online space, but in a hybrid format, partly with an on-site audience. At the same time - turning the limitations imposed on us by the pandemic to our advantage and applying the practice introduced then - we made the presentations available to those members who could not attend the conference, as well as our colleagues across the border and a wider range of interested parties on MKT's YouTube channel and podcast.

At the opening of the conference, Árpád Kovács stated: "We would be happy if the analysts had to report only on the problems and challenges this year, as they had to at the end of 2021, even if the picture was not bright even then. Since then, a war broke out in our neighborhood and, partly as a result of this several countries in Europe are facing an energy crisis, high inflation, high interest rates and the expected slowdown in growth and, in some cases, the risk of recession. In such a turbulent economic environment, it is perhaps more important than ever to see very clearly the processes, driving forces, and expected challenges of the public finances and, in a broader sense, of the entire national economy. Of course it is not easy to predict and make a prognosis at this time, but considering the rich body of knowledge contained in these studies, it may not be completely impossible.

Listening to the presentations at the conference and reading these studies, I think: the 128-year-old Hungarian Economic Association, in cooperation with the Fiscal Council, fulfilled its task again this year and fulfilled what it was created for at the time; by providing a professional forum for these studies it contributed with its resources to a better understanding of national economic processes and, through it, perhaps contributed to small degree to the enrichment of our nation.

Budapest, October 2022

Gyula Pleschinger
President
Hungarian Economic Association

INTRODUCTION

It has been more than a decade when, in 2008 the need to solve the serious problems of the state economy prompted the Hungarian Parliament to create a system of rules for the stability of the budget and to establish an independent fiscal institution to monitor compliance with said rules. As regards the Hungarian fiscal practice, it remains fundamental even today that the conditions expressing the connection to the socio-economic-political community of most of the European countries manifested by the 1989 amendment of the Constitution, followed by the 1991 signing of the association agreement and finally, Hungary's accession in 2004, appeared in our set of goals and instrumentals. This determination was confirmed later by our Fundamental Law adopted in 2011. The accession to the EU entailed obligations of legal harmonization and the adoption of common European values and standards, including financial balance requirements.

Today's framework for fulfilling the mission of the Fiscal Council (Council, FC), which has been operating since January 1, 2009, was completed by the creation of constitutional guarantees for the balance of financial affairs in the Fundamental Law and, as a next step, by the adoption of the Stability Act. The Fundamental Law of Hungary, adopted on April 18, 2011, devotes a separate chapter to matters of public finance. It lays down the budgetary rights of the Parliament and also states that public funds must be managed in a transparent and controllable manner, keeping in mind the requirements of legality, expediency and efficiency, and sets a limit on indebtedness not only for public finances as a whole but, within it separately, also for local governments. The Fundamental Law also determines the plannable extent of the national debt each year, as it created the national debt rule. According to this, the Parliament cannot adopt a law on the central budget, as a result of what the national debt would exceed half of the GDP. As long as the national debt exceeds this level, the Parliament can only adopt a central budget act that includes a reduction of the ratio of national debt to GDP, except for those years when the economy is shrinking – for example, due to globalization or pandemic crises, to natural disasters and, more recently unfortunately, due to the war taking place in our neighbourhood, which is catastrophic for the whole of Europe and thus for our country and, that threatens the preservation of our achievements so far.

The Fundamental Law elevated the Fiscal Council that monitors compliance with the rules of budgetary stability, among the guarantee conditions of the country's constitutional operation. The Council performs its tasks subject to the Fundamental Law and other laws. As such, on the one hand, it contributes to the creation of the law on the central budget thus, as the body supporting the legislative activity of the National Assembly, it examines – and gives opinions on – the validity of the central budget. On the other hand, it gives (or refuses to give) its preliminary consent to the adoption of the law on the central budget to ensure its compliance with the so-called debt rule.

The Council was granted a role as an independent fiscal institution with the above-mentioned duties and sphere of authority – i.e. the so-called right to veto – together with the accompanying responsibility. According to this, if the FC indicates its disagreement during the process of formulating its opinion on the draft budget bill, the Government has to discuss it again and coordinate with the Council.

The authorisation for prior consent on the compliance of the budget bill with the national debt rules is "tougher"; if the FC - asserting its right of veto - refuses granting its prior consent, the final vote has to be postponed and the procedure must continue until the Council grants its consent. Thus, with its tools and strong authorization regarding budgetary discipline - we can say: by its presence in the operation of the public finances year after year, the Council can contribute to the fact that public finances adapt to the changing external and internal conditions and operate serving the purpose of sustainability. The Council is convinced that without the full disclosure of its operations it would not be able to fulfil its mission, neither in its distinguished public body, role nor in its professional capacity as a proposer and advisor serving public finances.

It is clear that direct participation in the preparation of annual budgets, carrying heavy responsibility and public law authorizations, a professional financial institution everywhere in the world requires expert work, research and analytical background that help to lay the ground for the decisions of the board members. The short, mid-term and longer-term outlooks, sustainability studies, as well as the analyses related to the semi-annual monitoring of the implementation of the current budget act, with their forecasts and feedback, result in the surplus that helps the Council in formulating its opinion by multi-faceted examination of the realization of the annual budget processes and goals, as well as widening its analytic horizon.

The credibility of the Council's decisions depends on their transparency, i.e., based on what facts, forecasts and evaluations the members of the board reached their decisions that – to the best of their knowledge – serve the preservation and the strengthening of the stability of the budget. After the adoption of the Fundamental Law and then the Stability Law that expands its contents, the full disclosure of the Council's work became a basic requirement which, naturally requires that all professional background material prepared for the Council be made available not only to decision-making representatives and government actors, but also to all interested parties.

The reasons behind the Council’s decisions should be known and clear to the professional-political and the wider interested public as well. In line with this aspiration, not only does the FC make the full extent of the professional studies prepared for the body available on its website but, while presenting them at a conference organized jointly with the Hungarian Economic Association, that was recently streamed and could be followed from anywhere in the world, the Council has also published them for the third consecutive year as a bilingual, English-Hungarian volume of studies – a yearbook type publication – which can be regarded as documents of economic history as well.

It would go far beyond the scope of this short introductory book review if we were to recall the professionally or politically motivated opinions – both appreciative and critical – the sometimes even doubtful expressions that have accompanied the work of the board or even the composition of its personnel even in the last year. However, there was and still is a consensus that exercising control over the maintenance of financial stability requires that the professional validity and objectivity of the Council's decisions and opinions be unquestionable and proven at all times, regardless of how the composition of the board changes with the evolution of the different terms of office of its Members and, with what institutional, value-based, professional background and past career they arrived in the Council.

Thus, even though their decision is always personal, we can say that the participants add their "face", their conviction to the decisions made by the Council, and to their supporting evaluations and opinions. They consider it important that it is based on solid facts, expert work, on the recognition of trends and risks, and this fact was obvious for anyone at home and abroad. That is why it is of utmost importance that the Council's decisions and opinions are always accompanied by extensive justifications both in Hungarian and English languages, accessible anywhere in the world, and that the studies, analyses and forecasts made during the foundational professional background work are accessible to anyone.

I believe that not only the narrow circle of professionals but also all responsible citizens and interested foreign parties who want to see the position of the Hungarian public finances and the processes taking place there, have the opportunity to take a look at the more than two hundred and thirty papers, the sixteen papers produced this year included. You can follow through on what we achieved in 2022, and what and why the Fiscal Council decided one way or another in its decisions regarding the financial stability of the public finances.

The volumes published in recent years - printed and also available online on the website of the Fiscal Council – that were delivered to partner institutions operating in the world, officials of the IMF, the European Commission and other professional institutions, have been met with wide interest. The favourable experience confirmed the Council's decision to continue publishing Hungarian and English study volumes that shed a light on the background of its decisions in 2022, under the current conditions that are even more difficult than those brought about by the coronavirus crisis.

In previous years, the evaluations of the State Audit Office and the Central Bank of Hungary prepared for the FC, as well as the analyses coming from the various segments and viewpoints of external consultants and experts on the strengthening of the stability of the economy and public finances – in addition to a significant number of sometimes serious critical findings and correction proposals with the intention of improvement – were talking about the rising trajectory of the country, then about the serious difficulties caused by the pandemic situation and how to emerge from them. They proved that for a successful fight against the effects of the crisis and for a restart, accurate, factual knowledge of the situation and a reliable perspective are essential. For this goal the wide accessibility of the studies and background documents in themselves can be an efficient tool.

In 2022, the studies and expert forecasts published in the volume confirmed that despite the Russian aggression in Ukraine that started at the end of February and that keeps becoming increasingly protracted, have triggered a serious energy, raw material and food crisis, together with the balance of payment and fiscal deficit as a result of the above factors, the ensuing inflation the depths of what are unprecedented so far, the stipulations of the Stability Act and the functioning of public finances can be fulfilled in Hungary also in 2022 and are sustainable also in 2023, even if at the price of heavy losses.

I am confident that thanks to the support of the Secretariats of the Fiscal Council and the Hungarian Economic Association, as well as the help of the Directorate for Financial Management and Operations of the Office of the Parliament, the dedicated publishing work of the Directorate for Public Collections and Public Education, we can continue on the road we have started. Once again, the series of studies can be widely publicised, based on an overview of which the reader can also get an idea of how the Fiscal Council in 2022 was able to form its opinion based on a versatile, multi-perspective professional background, and how it made its decisions on the planning of the Hungarian central budget and on the mid-year implementation.

For all of this, I would like to express my gratitude first of all to the authors of the studies – too numerous to name them individually – as well as to the leaders of the Hungarian Economic Association, President Gyula Pleschinger, Secretary General Éva Hegedűs and Head of Secretariat Miklós Gábor Nagy, as well as to Gyula Zoltán Pulay, Chief Economist of the State Audit Office and Gergely Baksay, Managing Director of the Hungarian National Bank.

Here on these pages, on behalf of the Council I would also like to express my thanks to Dániel Csomós, the Head of the Secretariat of the Fiscal Council and to his expert colleagues: László Kékesi, Sándor Varga and Diána Vilmányi.

Dr. Árpád Kovács
Chairman
Fiscal Council of Hungary

DIÁNA HORVÁTH - GERGELY HORVÁTH - TAMÁS ISÉPY - DÁNIEL MOLNÁR - ANNA NIKL - ISTVÁN POSGAY - GÁBOR REGŐS [1]

MACROECONOMIC AND BUDGETARY SITUATION FOR 2021

International processes

In 2021, the GDP of the European Union increased by 5.4 percent compared to the previous year, while in the case of the euro area it increased by 5.3 percent. The US economy expanded by 5.7 percent in 2021, after a 3.4 percent decline the previous year. In the United Kingdom, after a 9.3 percent GDP decrease in 2020, an increase of 7.4 percent took place in 2021. Expansion took place in all the economies of the European Union; it was 2.6 percent in Germany and 6.8 percent in France. In the case of the Visegrád countries, an increase of 6.8 percent was measured in Poland, 3.0 percent in Slovakia, and 3.5 percent in the Czech Republic[2].

The number of employees in the USA gradually increased in 2021 but, at the same time, even at the end of the year their number was 3.3 million below the pre-crisis level. The number of employees also increased in the European Union, but even here it did not reach the level of 2019. In the USA, the unemployment rate decreased to below 4 percent by the end of the year, but the fact that the level of activity did not reach the pre-crisis level contributed to this. In the EU, on the other hand, the value of the indicator stood at 6.3 percent in the last month of 2021, i.e. 1.2 percentage points below the level at the end of 2020[3].

Despite the accelerating inflation, neither the European Central Bank nor the FED changed their interest rates, and the decision to slow down asset purchasing programmes was only made towards the end of the year. The reason for the delay in the communication of both central banks was that they considered the price increase to be a temporary factor and did not want to break the recovery with tightening. Among the countries in the region, the Czech National Bank started its tightening cycle at the same time as MNB, in order to prevent the integration of higher price increases into inflation expectations. On the other hand, the Polish and Romanian central banks only started to raise their key rates in October, and in the communications of the two central banks, the temporary nature of inflation and the support for the recovery appeared as the reason for their inactivity.

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[1] Magyar Gazdaságkutató Zrt. Manuscript submission date: September 15, 2022.

[2] EUROSTAT: https://ec.europa.eu/eurostat/databrowser/view/TEC00115/default/table? lang=en &category=na10.nama10.nama_10_ma (02.11.2022) Revision as of 28.10.2022.

[3] USA: Bureau of Labor Statistics :https://www.bls.gov/webapps/legacy/cesbtab1.htm (02.11.2022), https://www.bls.gov/webapps/legacy/cpsatab1.htm (02.11.2022).

With regard to 10-year government bonds, the increase in yields was observed in all the countries discussed (USA, United Kingdom, France, Japan, and Germany) in the past year. This was 0.8-0.8 percentage points for the USA and the UK, 0.1 percentage points for Japan, 0.6 percentage points for France and 0.4 percentage points for Germany[4].

During the past year, the development of the exchange rates of the main currencies with a floating exchange rate system showed a different picture compared to the dollar. The Euro strengthened by 7 percent, the Yuan by 2 percent, the Pound Sterling by 1 percent, while the Swiss Franc weakened by 3 percent and the Yen by 12 percent over the examined time horizon.

The world's leading stock market indices showed an upward trend for the whole of last year. The DAX increased by 16 percent, the Nikkei by 6 percent, the DJI by 20 percent, the Shanghai Composite by 3 percent, the FTSE 100 by 13 percent, and the STOXX by 22 percent between the beginning and the end of last year.[5]

In both the European Union and the USA, inflation accelerated substantially in 2021: in the former economy it grew from 0.7 percent in 2020 to 2.9 percent, while in the latter from 1.4 percent to 7.0 percent. The increase in the price of oil by more than 50 percent and the subsequent energy price shock, as well as the low base of the previous year, played a significant role in the price increase. Inflation was further pushed up by the price change of industrial products, but food and services moderated somewhat the rate of price increase. The rate of monetary deterioration accelerated in almost all member states of the European Union during the last year. In addition, significant differences emerged in the inflation rates: in 2 member countries, monetary deterioration was over 5 percent, while in another three, it was over 4 percent, while in three member countries the rate did not even reach 1 percent[6].

As a result of expanding tax revenues due to rapid economic growth, the deficit of the US budget decreased from 15.0 percent of GDP in 2020 to 12.4 percent in fiscal year 2021. Even with this, public debt decreased only minimally, by 1 percentage point, to 99 percent of GDP. As a result of decreasing government expenditures and rising revenues, the budget deficit in relation to GDP decreased from 7.1 percent to 5.1 percent in 2020 in the Eurozone, and from 6.8 percent to 4.7 percent in the European Union. Thanks to this, the public debt in the GDP ratio fell by 1.6 and 1.9 percentage points to 95.6 and 88.1 percent, respectively, but it is still more than 10 percentage points higher than before the coronavirus epidemic[7].

Economic processes in Hungary[8]

In 2021, the Hungarian economy produced significant growth as a result of the recovery following the coronavirus epidemic and the base effect: according to the raw

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[4] Refinitiv

[5] Refinitiv

[6] EUROSTAT and USA Bureau of Labor Statistics

[7] US Treasury, Fiscaldata

[8] The source of data for the chapter was the Central Statistical Office of Hungary (CSO)

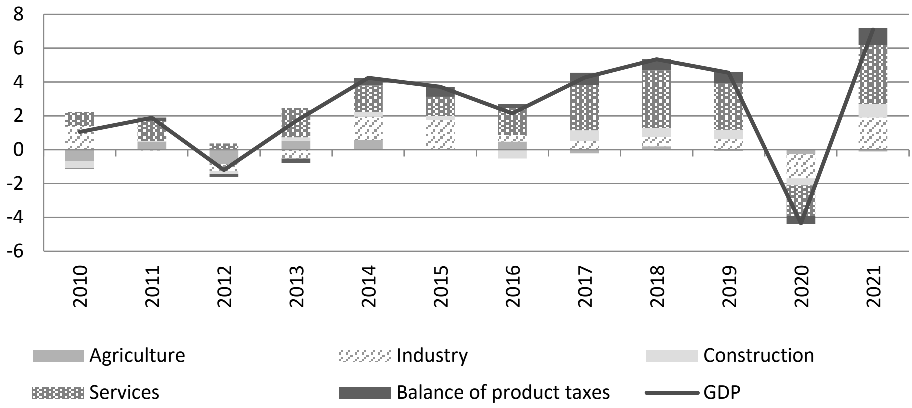
data as well as seasonally and calendar-adjusted data, the GDP expansion amounted to 7.1 percent. With this, Hungary's economic growth was the highest among the Visegrád countries: Poland's was 6.8 percent, Slovakia's was 3.0 percent, and the Czech Republic's was 3.5 percent in 2021. The GDP deflator, which describes the development of production prices, amounted to 6.9 percent in 2021, after 6.3 percent in 2020. Most of the branches of the national economy were able to contribute to economic growth last year, with only agriculture showing a decline (-3.0 percent). The added value of industry increased by 9.8 percent, that of the service sector by 6.2 percent, and that of the construction industry by 15.7 percent compared to 2020. With this, the service sector's contribution to growth was 3.5, that of industry 1.9, that of construction 0.8, and that of agriculture -0.1 percentage points. Within the services, the information and communication branch of the national economy achieved the greatest expansion with 13.9 percent, followed by transportation and storage with 9.4 percent, trade, vehicle repair, accommodation services, and accommodation services with a combined increase of 7.6 percent. An increase can also be observed in the case of the other branches of the national economy, of which the smallest was achieved by real estate transactions (2.5 percent).

On the consumption side, household consumption expenditure increased by 4.6 percent, adding 2.2 percentage points to this growth. This expansion is due to the realization of household expenses postponed in 2020 due to the coronavirus epidemic, as well as the 3.4 percent increase in real wages. Gross fixed asset accumulation increased by 5.9 percent, which thus contributed to growth by 1.6 percentage points. The contribution of net exports to the expansion of the economy amounted to 1.6 percentage points in 2021: the growth of export volume was 10.3, while that of imports was 8.7 percent. Similar processes characterized the foreign trade of products and services: exports of products rose by 10.4 percent and imports by 8.4 percent, while in the case of services the expansion amounted to 9.8 and 7.9 percent, respectively.

In contrast to 2020, the balance of goods in foreign trade was positive in 2021 (HUF 681 billion), while a surplus of HUF 2,043 billion was visible in the case of services. The positive foreign trade balance in terms of volume, which improves the balance of payments, were overcompensated by the deterioration of the exchange rate. Overall, the current account deficit as a percentage of GDP decreased from 1.1 percent in 2020 to 3.1 percent in 2021 based on quarterly data.

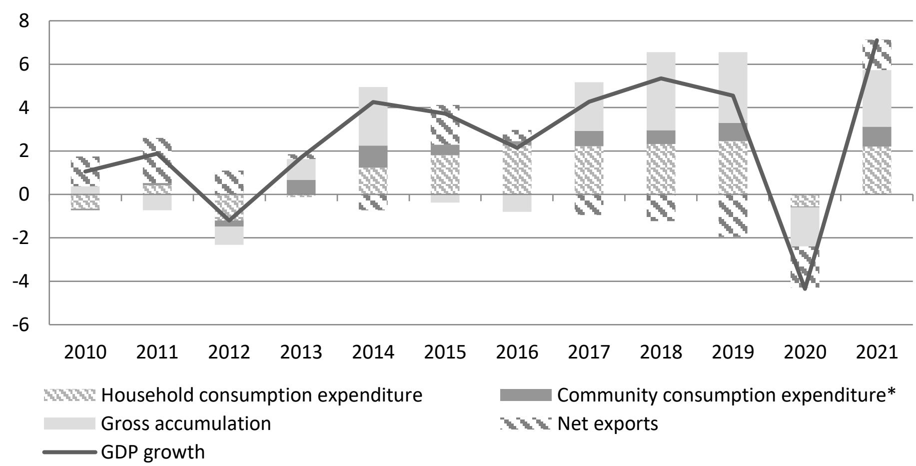
In the following two figures, we illustrate the contribution of individual sectors to GDP growth from the production and consumption side between 2010 and 2021.

Figure 1 The contribution of certain sectors to GDP growth (2010-2021, percentage, based on previous year)



Source: CSO, Magyar Gazdaságkutató edition

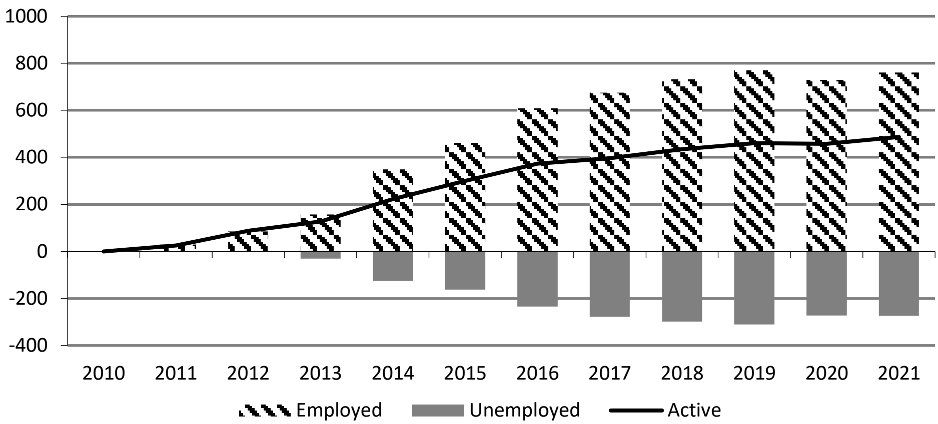
Figure 2 The contribution of consumption items to GDP growth (2010-2021, percentage, based on previous year)



Source: CSO, Magyar Gazdaságkutató edition
Note: * It includes social benefits in kind, regardless of their source.

In 2021, based on quarterly data, the number of number of employees by the third quarter has already reached – as it can be seen on Figure 3 – pre-crisis levels although it has not reached it yet on an annual basis. Activity continued to rise last year, and in 2021 the restrictions did not result in a jump in inactivity either. The number of employees also increased, primarily in the competitive sector, as a result of which the number of employees reached the pre-coronavirus epidemic level by July. Due to the increase in activity, the unemployment rate decreased only minimally, by 0.1 percentage point, to 4.0 percent, but it remains one of the lowest among the EU member states. Parallel to the resumption of the economy, the phenomenon of labour shortage returned, which gradually increased during the year, but its extent has not reached yet the pre-crisis level. The gross average salary in 2021 rose by 8.7 percent to HUF 438.8 thousand, within which a faster wage increase was registered in the budget sector due to the wage settlements affecting individual areas, while in the private sector the 4-4 percent increase in the minimum wage and guaranteed minimum wage and the labour shortage played a decisive role. Net real earnings increased by 3.4 percent last year and by 41.2 percent since the conclusion of the 6-year wage agreement.

Figure 3 Evolution of activity, employment and unemployment (thousands, 2010 = 0)



Source: CSO, Magyar Gazdaságkutató calculation

In 2021, inflation averaged 5.1 percent in Hungary after the 3.3 percent in the previous year. Meanwhile, seasonally adjusted core inflation increased from 3.7 percent to 3.9 percent. On an annual average, the headline inflation exceeded the central bank's target and fell outside the target range of 2-4 percent, while core inflation was just within the target range. Among the individual product groups, the largest price increase, 10.9 percent, was measured in the case of alcoholic beverages and tobacco products, followed by a 9.6 percent increase in the price of other articles and fuels. As regards the increase in the price of alcoholic beverages and tobacco products, the increase in excise duty, due to EU legislation, played a major role in the case of tobacco products, while in the price increase of other items and fuels, the 23.0 percent increase in the price of fuel was decisive, which can be explained by supply-demand imbalances in addition to the base effect. Food prices increased by 4.1 percent, services by 2.9 percent, household energy by 0.5 percent, major durables by 4.5 percent and clothing by 0.2 percent. Among the basic inflation indicators of the Magyar Nemzeti Bank, the core inflation filtered from indirect taxes was 3.9 percent; the core inflation calculated without processed food was 3.8 percent, while the inflation of products with rarely changing prices was 4.8 percent.

The Monetary Council of the Hungarian Central Bank did not change its monetary conditions in the first 5 months of 2021, i.e. the key interest rate was 0.6 percent and they did not change the interest rate corridor either. At the interest rate decision meeting in June, the central bank then raised its key interest rate by 30 basis points, so the base rate increased to 0.90 percent. In the second half of 2021, the Monetary Council decided to raise the central bank base rate and the one-week deposit rate, which will become effective again, at every interest rate meeting. By the end of the year, the Monetary Council raised the central bank's base rate by a total of 1.5 percentage points to 2.4 percent, and by accepting unlimited one-week deposits; it increased its interest rate to 4.0 percent.

Overall, in 2021, a much more turbulent foreign exchange market environment developed compared to previous years, the value of inflation above the tolerance band therefore forced the central bank to a declared path of continuous interest rate hikes. Although the central bank still has no exchange rate target, an excessively weak exchange rate can significantly increase inflation.

The Government has decided to further suspend the repayment of household loans until October 31, 2021. As of November 1, 2021, the moratorium was extended only for certain privileged social groups. The decision to solve the liquidity shock affecting the population was made by the Government in agreement with the MNB.

The Monetary Council also considered the provision of funds necessary for the maintenance of the continuous operation of SMEs and the realization of their investments to be of particular importance during the economic recovery. Through NHP Hajrá!, which closed at the end of September 2021, contracts were signed with 40,655 domestic companies in the amount of HUF 3,000 billion.

In the fall of 2021, Moody's upgraded the risk classification of Hungary's public debt by one category from a positive outlook and changed the outlook from positive to stable. It is worth highlighting that the risk rating of the Hungarian public debt was able to become more favourable during the economic crisis, even with the fact that, compared to the other two major credit rating agencies, Moody's previously used a lower rating by one category.

The foreign currency ratio of the Hungarian public debt rose from 19.95 percent at the end of December 2020 to 20.63 percent at the end of December 2021. This ratio is slightly higher than the 10-20 percent threshold specified in the 2021 financing plan. In 2021, further increasing the duration of the debt appeared among the most important strategic goals of the ÁKK. The maturity of the Hungarian public debt is still low in international comparison but, at the same time, it is increasing every year.

Hungary permanently complies with the Greenspan-Guidotti rule, i.e. the central bank's foreign currency reserves are significantly higher than its foreign currency liabilities within the year.

According to the MNB's preliminary data, in 2021 the banking sector reported a profit after tax of HUF 820 billion. In contrast, a year earlier, based on audited data, the banking sector achieved a profit after tax of HUF 385 billion. Compared to the previous year, interest income and commission income increased, but operating costs also increased. In addition to rising interest margins, the interest income increased by 17.8 percent thanks to significantly cheaper funds but much higher volumes.

Fiscal situation

According to preliminary data, the deficit of the government sector in 2021 was HUF 3,736 billion, or 6.8 percent of GDP. Compared to the previous year, the balance was HUF 25 billion, 1.0 percentage points more favorable in relation to GDP. At the end of 2021, the debt of the government sector reached HUF 42,414 billion, or 76.8 percent of GDP, according to MNB data[9].

In 2021, compared to 2020, the income of the government sector reached HUF 22,695 billion, and its expenditure reached HUF 26,431 billion.

Revenues increased by HUF 1,739 billion, or 8.3 percent. Production taxes exceeded the previous year by HUF 946 billion, or 10.8 percent, within which the increase in VAT revenue was HUF 743 billion, or 15.8 percent. Income tax revenues decreased by HUF 186 billion, or 5.8 percent, as a result of personal income tax refunds for families with children. Social security contributions increased by HUF 396 billion, or 7.4 percent. Other revenues increased by HUF 581 billion, or 16.1 percent, mainly due to the expansion of EU transfers.

Expenditures increased by HUF 1,715 billion, or 6.9 percent. The increase was HUF 430 billion (8.3 percent) in the case of paid employee income, and HUF 582 billion (10.8 percent) in the case of monetary social benefits. Current production consumption increased by HUF 544 billion, or 13.1 percent, and interest expenses by HUF 163 billion, or 14.5 percent. Gross fixed asset accumulation increased by HUF 108 billion, or 3.5 percent. Other expenditures of the government sector decreased by HUF 113 billion, or 1.9 percent[10].

In 2021, beyond measures to support the restart of the economy, tax cuts, job creation and support for families continued while, at the same time, a special tax was introduced in the case of the KATA, and the tax rate was increased in the case of the excise tax. As a result of the above, the accumulated revenues of the central budget increased by 6.6 percent (HUF 1,077.7 billion) compared to 2020. Payments by economic organizations increased by 15.2 percent (HUF 244.8 billion), consumption-related taxes increased by 12.5 percent (HUF 786.5 billion), and payments by the general public increased by 13.6 percent (HUF 383.8 billion) The increase in payments by business organizations was mainly driven by a 37.3 percent (HUF 151.5 billion) increase in revenues from corporate tax while, in the case of consumption-related taxes, the amounts from general sales tax were 15.6 percent (HUF 728.2 billion) should be highlighted. Within retail payments, 14.3 percent (HUF 360.8 billion) more came into the state treasury from personal income tax than in 2020.

Among the measures affecting the expenditure side, the pension correction implemented in June and November due to the higher-than-expected inflation, the start of the reconstruction of the 13th monthly pension, the start of the home renovation program and the start of the multi-year salary increase program for medical doctors should be highlighted. Protection against the coronavirus epidemic continued to be an important factor. As a result, the central budget's expenditures exceeded their

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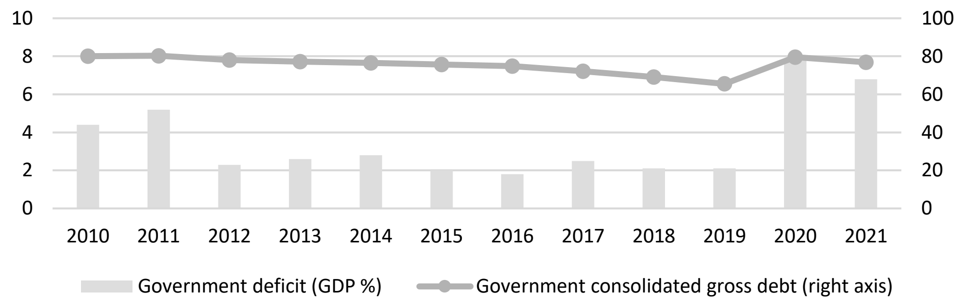
[9] KSH Gyorstájékoztató: https://www.ksh.hu/docs/hun/xftp/gyor/krm/krm2112.html (02.11.2022)

[10] KSH Gyorstájékoztató: https://www.ksh.hu/docs/hun/xftp/gyor/krm/krm2112.html (02.11.2022)

performance in the base period by 4.9 percent (HUF 1,024.0 billion). Within this, housing construction subsidies increased by 49.7 percent (HUF 125.0 billion), retirement benefits by 13.0 percent (HUF 472.9 billion), and curative and preventive benefits by 16.6 percent (HUF 267.8 billion) compared to 2020. Expenditures related to EU programmes closed at HUF 2,235.0 billion in 2021, while revenues related to these amounted to HUF 1,544.5 billion.

Figure 4 Development of public debt and budget deficit as a proportion to GDP between 2010 and 2021



Source: EUROSTAT

The figure above shows the development of the public debt and budget deficit in proportion to GDP between 2010 and 2021. We can see that the ESA deficit amounted to 6.8 percent of GDP in 2021, compared to the 7.5 percent included in the amendment to the budget law. Thanks to this and the faster-than-expected growth of GDP, the national debt-to-GDP ratio decreased from 79.6 percent in 2020 to 76.8 percent. In the European Union, the requirements imposed on the member states are still suspended, but the rate of reduction corresponds to these, as well as to the debt rules contained in the Fundamental Law.

Dr Pál Belyó [1]

DEVELOPMENT OF THE MACROECONOMY, PUBLIC FINANCES BASED ON THE PROCESSES OF THE FIRST HALF OF 2022

The development of the economy, the direction of the processes expected in the near future and their magnitude are difficult to quantify. In the past decade and a half serious difficulties in the processes of the world economy, followed by the COVID crisis covering all regions hindered and significantly slowed down the general economic and social development, while the Russian-Ukrainian war, as well as the regional conflicts and the change in the international cooperation, are causing another setback.

Developed economies are burdened by inflation at a rate not seen in four decades. The ever-increasing level of high inflation, initially indicated as only temporary, will hinder the operation of the economy and the development of society for several years, and may remain decisive. It is typical that the increase in the price levels is already integrated into the expectations of economic actors, i.e. it will be difficult to break inflation.

The primary economic policy task is to moderate the high price pressure in the economies of the affected countries, as well as to reduce the public budget deficit created during the fight against the COVID pandemic. We have to reckon with the slowdown of economic growth and a situation close to stagnation, which are inevitable consequences of the strict monetary and fiscal policy. In the second quarter of 2022, the gross domestic product of the European Union and the Eurozone increased by only 0.6% compared to the previous quarter and, by about 4% compared to the same period of the previous year. The pandemic also caused serious problems in the large economies of the euro area.

Macroeconomic situation

By the middle of 2022, the Hungarian economy is in a critical situation, slowing down in important segments. Among the most noticeable trends, the rapid growth of inflation, which has not been seen for decades, and the continuous devaluation of the forint exchange rate, which has lasted for more than a decade, has become critical. Another reason for the current situation is the continuous increase in the wage level - although it is justified and rational in many respects. The necessity of this process has been well explained by the fact that Hungarian wages are significantly below the average of the EU and neighbouring countries yet, this growth has already exceeded the economy's carrying capacity in recent years and now its inflation-increasing effect has become clear.

It seems that the continuous devaluation of the forint exchange rate cannot be significantly affected either, economic policy reacted late to the accelerating inflation.

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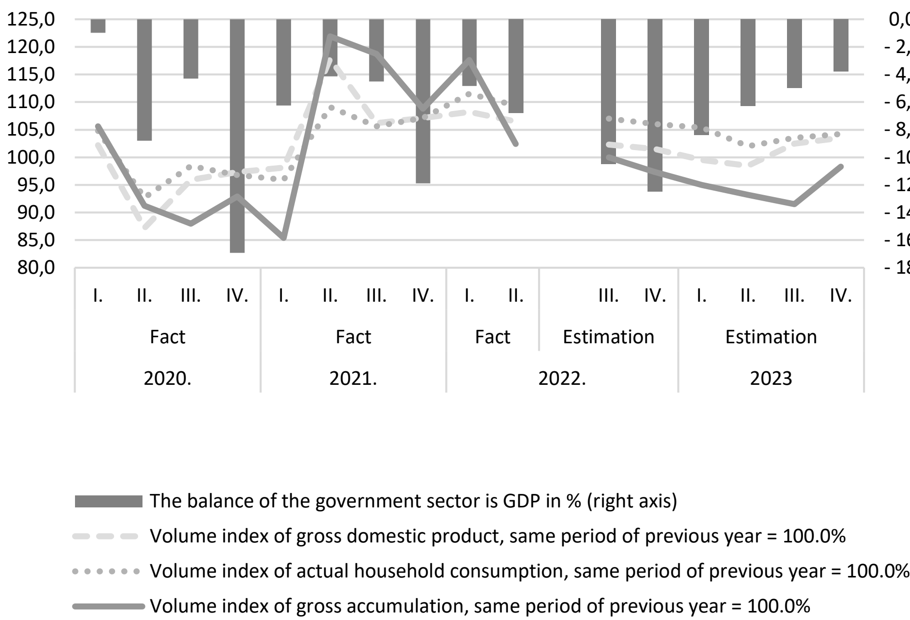
[1] Eco-Vista Kft. Manuscript submission date: September 15, 2022.

A higher base interest rate increase than that of neighbouring countries is not really effective either, and the HUF depreciates to the greatest extent in the region.

In the first quarter of 2022, the gross domestic product rose by 2.1% compared to the first quarter, and – relative to the low base – by 8% compared to the same period in 2021. In the second quarter, GDP growth was 1% compared to the previous quarter, and 6.5% compared to the second quarter of the previous year. The added value of services was 2.4%, but that of industry increased only by 1.0%, while that of agriculture fell by 33.6% and that of construction by 2.8%. Among the components of final consumption, the volume of household consumption expenditure increased by 1.8%, social benefits in kind from the government by 1.1% and community consumption by 0.3%. Gross fixed asset accumulation stagnated at 0.2%. The export volume of foreign trade increased by 1.5%, and that of imports by 0.5%.

Figure 1 Main quarterly developments of the macro economy
(same period of previous year = 100.0%)



Source: CSO Stadat and own estimate (based on so-called simultaneous predictive indicators)

In the first six months of 2022, gross domestic product exceeded the previous year by 7.3%. At the beginning of this year, the income growth among the population was exceptional, which clearly strengthened the consumption-driven GDP expansion. The situation of the public finances has deteriorated significantly; the delay in the expected EU funds indicates serious difficulties. So far, these have approached - in some cases even exceeded - 4% of the gross domestic product every year.

From the second half of 2022, the economic consequences of the Russian-Ukrainian war and the effects of the necessary economic policy correction will become more and more noticeable. In addition to these, the base effect of the previous year also reduces the rate of growth, and in addition to extremely high inflation, the annual growth of the gross domestic product is likely to be only 2.5-3% compared to previous expectations.

Production side of GDP

In the first half of 2022, the performance of industry increased by 3.9%, that of the manufacturing industry by 4.5% compared to the same period of the previous year included. The manufacturing of electrical equipment and the growth of the food industry contributed the most to the expansion of the manufacturing industry. The GDP of the construction industry also increased by only 0.4%, but the performance of agriculture decreased by 35.5% compared to the first half of 2021 due to the severe drought.

In the second quarter of 2022, within the 6.5% GDP increase compared to the first quarter of the previous year, the share of industrial expansion is only 0.9 percentage points, while the share of services is 5.7%. Within this sector, trade vehicle repair, accommodation services and hospitality increased the gross national product by 1.3 percentage points. Growth was held back by a 1.1 percentage point drop in the performance of agriculture, while the construction industry did not improve its GDP volume.

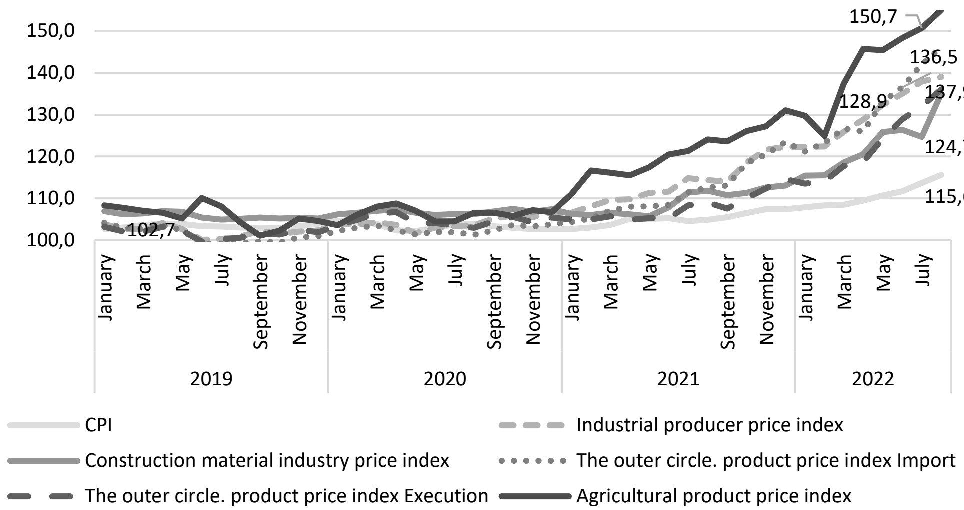
Industry and construction

In the second quarter of 2022, compared to the second quarter of the previous year, the performance of industry increased by 3.9%, within which the manufacturing industry expanded by 4.5%. The added value of the construction industry increased by 0.4%.

In the first seven months of 2022, compared to the same period of 2021, the volume of exports/exports, which accounted for 61% of the industry's total sales, increased by 4.1%, while domestic sales increased by 8.4%. Among the regions, production fell only in Western Transdanubia, namely by 3.6%. In the other regions, the volume rose between 0.6 and 8.8%, and even expanded by 11.2% in the Pest region.

In the first half of 2022, the output of the construction industry increased by 7%. The construction of buildings increased by 8.8%, and that of other structures by 5.1%. In June 2022, the volume of new contracts fell by 27.8% compared to the year before, including 37% less for the construction of buildings and 11.1% less for the creation of other structures.

Figure 2 Main price indicators (same month of previous year = 100%)



Source: CSO Stadat

Housing construction, housing market

In the first half of 2022, 6.8% fewer - a total of 9,133 - new apartments were built than a year earlier. The number of apartments to be built on the basis of issued building permits was 16% more - i.e. 17,715 - than in the same period of 2021.

In Budapest, 3,621 apartments were handed over, 20% less in the first half of 2021. The number of new apartments put into use decreased slightly in cities with county rights, but increased in smaller settlements. In the other cities, 6.7% more new apartments were completed, and in the villages 10% more, than in the same period of the previous year.

Compared to the first half of last year, the year and a half decline in housing construction by natural persons has come to a halt. The number of apartments built by private individuals increased by 5.6%, while those built by businesses decreased by 14% compared to the first half of the previous year. The reviving housing construction activity of the population was limited to smaller towns and villages.

Agriculture

In 2021, the total output value of agriculture increased by 13%. Production volume fell by 2.3% and prices rose by 16%. The volume of crop production fell by 6.5%, that of livestock increased by 4.5%. The production of fruits, animals and animal products increased, while that of other agricultural product groups decreased or did not change.

In the first half of 2022, the volume of purchases of agricultural products decreased by 2.3% compared to a year earlier. Sales of plant and horticultural products increased by 11.4%, including wheat by 20.1%, while corn fell by 11.4%. The purchase of animal products decreased by 2.5%, within which the purchase of eggs increased by 17.9% compared to a year earlier. In total, the real income of production factors per labour unit exceeded 2021 by 6.5%.

Due to the unfavourable weather and the drought affecting all products, there may even be supply difficulties in the future. Agricultural producers will need significant support due to the drought, which has not been seen for decades, and the large increase in energy prices.

Tourism

Tourism is approaching pre-pandemic levels only very slowly. In January-July 2022 a total of 14.6 million guest nights were registered in commercial accommodation, more by 106% compared to the same period of the previous year. Domestic guests spent 55% more guest nights than foreigners (8.6 and 6.0 million). The total gross sales revenue of commercial accommodation at current prices increased by 140% and amounted to HUF 239 billion.

The consumption side of GDP

Final consumption contributed 5.4 percentage points and gross accumulation contributed 0.7 percentage points to the 6.5% growth of the gross domestic product in the second quarter of 2022, compared to the same period of the previous year. The balance of foreign trade increased economic performance by 0.3 percentage points overall. Compared to the previous quarter, based on seasonally, calendar-adjusted and balanced data, the performance of the economy increased by 1.0%.

On the consumption side, gross fixed asset accumulation in the second quarter was 6.1% higher than in the same period of the previous year. The volume of investments in machinery and equipment increased more than that of construction investments. The actual consumption of households increased by 9.4%. The consumption expenditure of households representing the largest proportion in consumption is 10.1% higher. The domestic consumption expenditure of households was higher by 11.4% than a year earlier.

The volume of social benefits in kind received from the government increased by 6.2% and that of community consumption was also slightly higher, by 0.3%. The volume of benefits in kind provided to households by non-profit institutions increased by 6.1%. In this way, final consumption increased by 7.9%. As a result of partially expanding consumption and accumulation processes, domestic consumption rose by 6.2% overall in the second quarter of 2022.

Investments

A characteristic feature of the investment activity registered in the first half of 2022 is that the volume of investments by the population increased significantly due to the activities of companies with mainly foreign interests and the extra money provided to the population at the beginning of the year. Manufacturing developments representing a quarter of the investment performance compared to the previous year increased by 23.9%, and agricultural investments by 23.4%. Investments in tourism increased by

21.9%, while, as a result of the slow-down of construction of stadiums and sports halls, investments in art, entertainment and leisure decreased by 18.1% compared to the high base. Developments in the construction industry increased by 7.7%, investments in the field of information and communication increased by 7%, while developments in trade and vehicle repair fell by 4.9%. The volume of community investments made in the public sector further decreased by 4.1%.

Foreign Trade

The deficit of the foreign trade balance in the first half of 2022 amounted to HUF 808 billion; the balance is less favourable by HUF 2,029 billion than a year earlier. The price level of foreign trade turnover measured in forints increased by 20% in exports and 28% in imports, the exchange ratio deteriorated by 6.5%. The forint weakened by 4.8% against the euro and by 16% against the US dollar.

In the second quarter of 2022, exports of services calculated in euros increased by 30% and imports by 28% compared to the same period of the previous year. Assets were EUR 2,116 million, more by EUR 537 million than in the second quarter of 2021. Compared to the previous quarter, exports increased by 19%, imports by 9.7%, and the surplus by EUR 697 million.

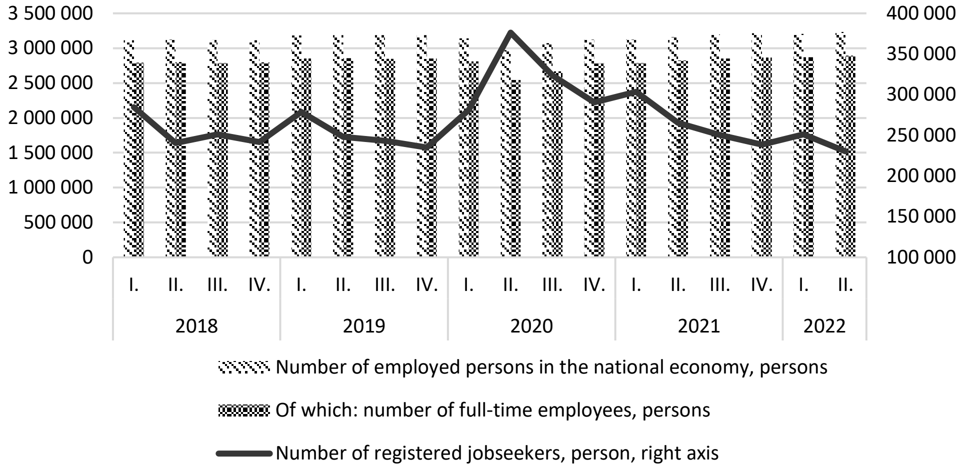
Employment

In the average of the three months between May and July 2022, the number of employed people was 4,699,000, 52,000 people, i.e. 1.1% more than a year earlier[2] . The average number of public employees in the three months was 76,000, which was 13.1% less than a year ago.

The number of active unemployed people averaged 160,000 between May and July, 37,000 or 19% less than a year before. The unemployment rate calculated on the basis of the recruitment methodology - which is an indicator determined by taking into account the active unemployed - was 3.3% on average for the three months between May and July, and 9.9% for under 25 age group in this period. The proportion of those who have been looking for a job for more than a year increased by 3 percentage points. The average length of time without work was 9.9 months compared to 8.7 months registered a year earlier.

[2] Based on a sample population survey by CSO.

Figure 3 Labor market characteristics



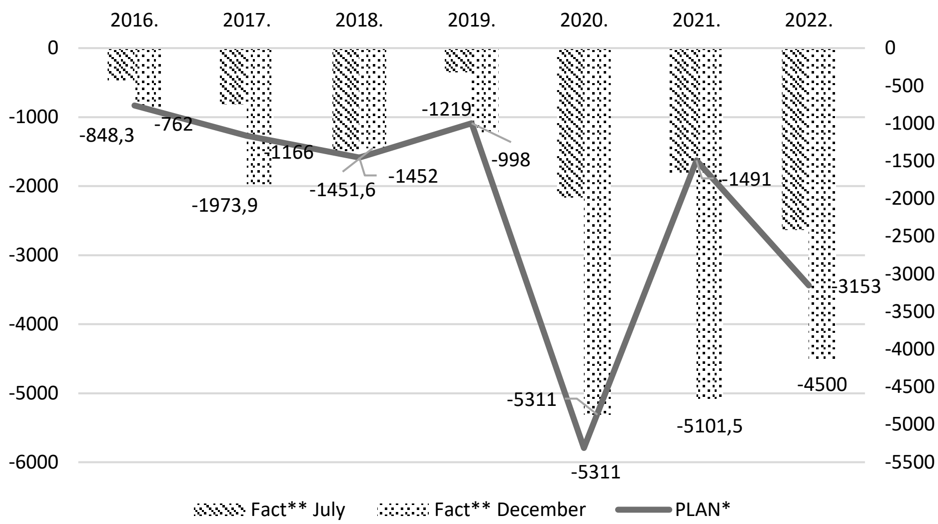
Source: CSO

According to the data of the institutional labour statistics, in the first half of the year, 3 million 220 thousand people were employed at enterprises, budgetary entities and non-profit organizations, including public employees, more by 2.5% than a year earlier. Budget institutions employed 609,000 people full-time, 6.5% less than in the same period of the previous year. The number of public employees was 75,000 in June, 12.4% less than a year ago.

Financial processes

The year 2022 budget includes a budget deficit of 5.9 percent of GDP, which was later reduced by the government to 4.9 percent. This means about HUF 3,000-3,200 billion. The deficit that will develop by the end of the year is uncertain; this can be significantly shaped by the effect of the measures that reduce expenses and increase incomes, the rising price level, and the arrival of EU funds. The crisis that arose as a result of the Russian-Ukrainian war fundamentally rearranges the operational and financing possibilities of all European, including Hungarian, economies.

Figure 4 Government budget balance (billion HUF)



Source: */ Data planned in the State Budget **/Ministry of Finance PM - data on the implementation of the Central budget

State finances - budget deficit

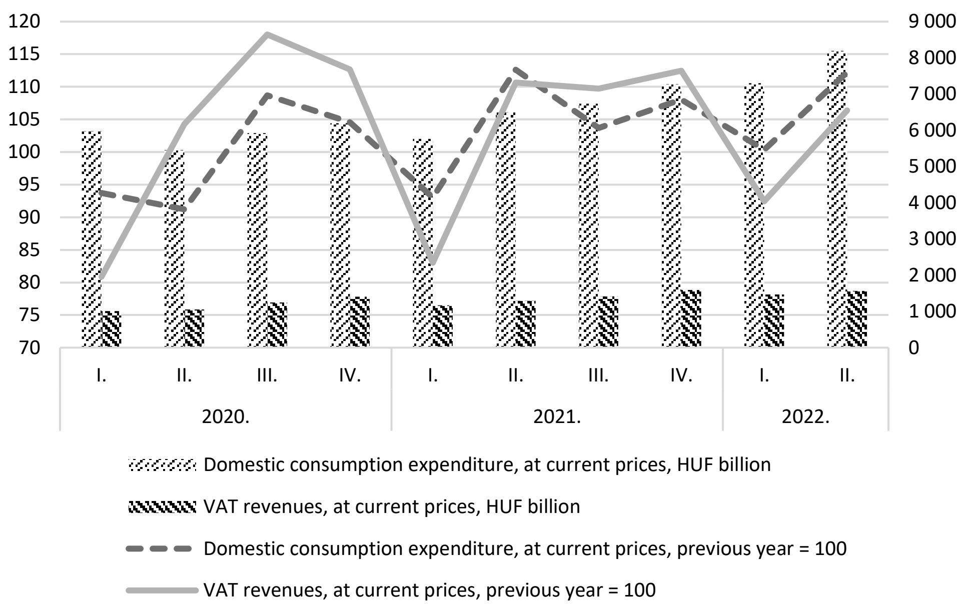
At the end of July, the consolidated deficit without local governments was HUF 2,637 billion, more than four-fifths of the annual deficit target, i.e. 83.6% of it was realised. In the first seven months, the central subsystem generated HUF 17,016 billion in revenue and HUF 19,652 billion in expenses. These represent 67% and 68.8% of the statutory appropriation, respectively. The central budget deficit at the end of July was HUF 2,730 billion, i.e. 87.2% of the annual deficit allocation.

In the first seven months of 2022, the HUF 1,447 billion in taxes paid by business organizations was 28.3% more than a year earlier. The consumption-related taxes amounted to HUF 4,986 billion, 29.8% more from general sales tax than a year earlier, with revenues reaching 7.3% more from excise tax, including 22.9% more from excise tax on tobacco products. Since the beginning of the year, the population paid a total of HUF 1,544 billion in taxes, 15.4% less than in the same period last year.

On the one hand, the July surplus was the result of an increasingly strong inflationary effect on tax revenues, as it was already 13.7% in July. On the other hand, the government's measures to reduce the deficit have already started since July.

The 25 percent increase in consumption tax revenues comes from the increase in retail sales in addition to the increase in prices. Its revenues from VAT in the first half of the year were 30 percent, HUF 914 billion, higher than a year ago.

Figure 5 Development of domestic consumption expenditure and vat revenues (%, billion HUF)



Source: CSO Stadat

Household tax payments are still below last year's level, but despite the tax refunds to family members of about HUF 800 billion, the first seven-month income, which had already increased to HUF 1,334 billion, was only HUF 306 billion less than in the same period of the previous year.

The fact that additional items have to be arranged on the expenditure side by the end of the year means uncertainty in the budget. Another supplementary pension increase, the remaining part of the utility reduction, the planned purchase of Vodafone. These can mean additional expenses of around two thousand billion forints. In addition to curbing investment spending, the state already cut its planned spending amounts by about a third in July.

Inflation

In August 2022, consumer prices increased by an average of 1.8% in one month. However, the increase in August was 15.6% higher than a year earlier. Over the past year, the prices of food and durable consumer goods have risen most. The price of food increased by 30.9%, especially the prices of some basic foods are rising rapidly.

EUROSTAT's harmonized price index already includes the increased energy prices and thus the August 2022 inflation in Hungary is 18.6%. With this result, Hungary is the fourth worst performing country in the European Union.

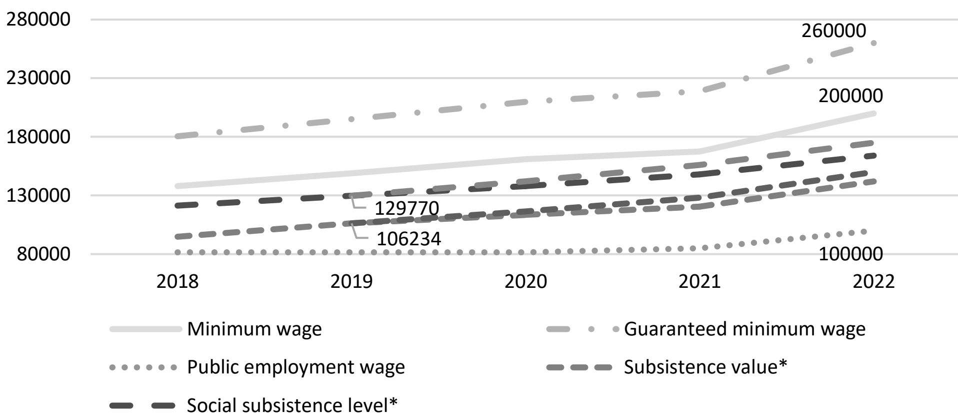
Household consumption

At the beginning of 2022, the development of the turnover was significantly influenced by the effect of the outflow of money before the parliamentary elections. In the first half of the year, the volume of traffic increased by 10.3%. In June, the volume of sales - according to data that filters out seasonal and calendar effects - already decreased by 0.5% compared to the previous month, but - taking into account data adjusted for calendar effects - it increased by 4.5% compared to a year earlier.

Revenues, income

The average gross salary was HUF 505,300 in July 2022 among full-time employees[3] . Calculated without public employees, the average monthly gross salary is HUF 516,400.

Figure 6 Evolution of the minimum wage, estimated changes in the subsistence minimum (HUF)



Source: CSO Stadat, Policy Agenda, */own estimations

The average net salary without discounts was HUF 336,000, while with discounts it was HUF 348,000. The increase is explained by so-called weapon money, wage increases scheduled in advance in individual advancement systems, as well as increases in the minimum wage and the guaranteed minimum wage.

The median value of the gross earnings was HUF 376,000, and the median value of the net earnings calculated with discounts was HUF 272,000.

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[3] According to the methodology, measured at enterprises employing at least 5 people, budgetary institutions and non-profit organizations significant in terms of employment.

By the end of June, the deposit portfolio of the general public amounted to HUF 13,269 billion, an increase of HUF 30 billion in one month. The data of the ÁKK show that the public owned HUF 10,087 billion worth of government securities, only 0.8% more than at the beginning of the year. Household loans increased by HUF 89 billion in June, reaching HUF 9,525 billion by the end of the month.

Expected evolution of economic processes

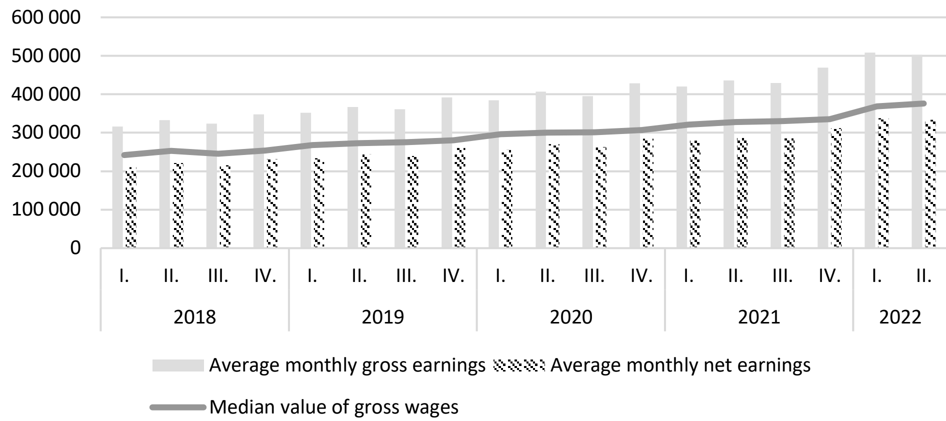
By the end of 2022, inflation may rise to 20 percent and a higher rate possible even, while it is even expected for certain product groups. In this way, consumer prices may increase by 14.5% on an annual average and by 11-12% next year. After the assumed slowdown from the first months of 2023, the deterioration of the forint is only expected to decrease to around 4 percent by 2024, assuming the improvement of economic processes and taking into account the processes affecting the decrease in demand.

High and continuously– compared to the previous months – increasing inflation, resulting in falling real wages and shrinking consumer consumption, has an adverse effect on the entire economy and social processes. The stagnation of economic growth and the unfavorable development of fiscal and monetary processes are obvious.

The downturn is well indicated by economic indicators. Business confidence is deteriorating among large companies; their expectations are constantly shrinking at an ever-accelerating pace. Companies have already started to reduce hiring, and the fear of layoffs is becoming more and more apparent among employees. Many smaller companies have already closed or are planning to cease operations due to unmanageable increases in energy and material prices. Thus, the unemployment rate can be expected to rise to different levels depending on the economic sectors.

At the beginning of 2022, there were significant wage increases in some sectors, but the ever-accelerating inflation cancels out the positive effect of this, and thus real earnings decrease. Therefore, there is a significant demand for a wage increase in the fall. It is even more obvious that families must restrain their consumption in addition to high consumer price increases and rapidly decreasing real income. This clearly slows economic growth.

Figure 7 Evolution of gross, net and median earnings (HUF)



Source: CSO Stadat

The rising interest rate environment, the high forint exchange rate and the rising energy and material prices will make the life of for most of the small and medium-sized companies unbearable, but even the room for manoeuvre of large companies will be narrowed in the coming months. Many of the large domestic companies are also in a difficult financial situation. For the time being, companies are slowing down their investment activity, but their primary goal remains to shorten supply chains and to implement energy efficiency investments. Although these reduce the decline in investments, they divert resources from innovations that actually increase efficiency.

The Magyar Nemzeti Bank's 3 percent inflation "anchor" received a serious blow. The contradiction between fiscal and monetary policy steps, which has been appearing again and again for years, will now be difficult to resolve. The interest rate hikes - it seems - started late and do not help either to reduce inflation or to keep the exchange rate of the forint under control. At the same time, the MNB can raise the base interest rate to 14% by the end of the year with drastic interest rate hikes. This benchmark interest rate can presumably decrease again from the second half of next year. Of course, the stability of the forint exchange rate is essential for this. It is important that the budget subsidies of the European Union arrive regularly, and that the international credit rating agencies do not deteriorate our classification and assessment. This can help the government to avoid financing the growing deficit of the budget and the expiring national debt at increasingly higher interest rates.

Table 1 Macroeconomic forecast (previous year = 100%)

	2020	2021	2022		
			December 2021	March 2022	August 2022
	fact		forecast*		
GDP	94,9	107,1	104,5	102,5-103	102-103
Agricultural production	93,3	97,8	100,0	99	95,0
Industrial production	94,5	109,8	107,0	101,5	101,0
Construction industry production	90,9	115,8	104,5	100	99,5
Retail traffic	99,8	106.8	106,0	105	104,0
Tourism	67,8	114,1	110,5	105	104,5
Information, communication	106,2	113,9	108.2	107,8	107,5
Household consumption	97,4	104,5	103,8	102	102
Accumulation of fixed assets	92,7	106	103,5	101	100,5
Current account balance (% of GDP)	2,8	-0,6	0,5	-1,8	-2,0
Imports	96,5	108,2	106,5	104,5	104,0
Exports)	94,1	110,1	107,5	105	104,0
Gross average earning	109,7	108,7	108	107,5	106,5
Unemployment rate	4,3	4,1	3,8	4	104,8
Consumer price level	103,3	105,1	105,5	109,5	114,5
Budget deficit (% of GDP)	-8,1	-7,3	-5,5	-6,2	-6,5
Public debt (% of GDP)	80,4	79,9	77,1	78	78
HUF/EUR exchange rate	351	355-360	360-365	370-375	395-415

Source: CSO Stadat */ own forecast 2021 December, 2022 March, 2022 September

According to the latest retail data, the population is already adapting to the deteriorating conditions and has started to curb their consumption. A further "deep blow" will be the abolition of price stops and price caps. It is questionable what will happen to the various measures that are still in place until December 31 or that have been extended until the end of this year, and what will happen to the freezing of mortgage interest rates and the credit moratorium. Despite the fact that will have to be eliminated sooner or later, their further maintenance and eventual expansion is also conceivable. However, inflation, the narrowing of incomes may cause a noticeable decline in consumption and GDP from the first quarter of 2023. Production problems in agriculture can be an almost unsolvable situation, since there was a huge, unprecedented drought, and there is also a shortage of fertilizers.

We can count on a scenario assuming a protracted, permanent recession. It is expected that despite the strong growth in the first half of 2022 –and due to the slowdown in the third and especially the fourth quarters –, the Hungarian economy may grow by 2.5-3 percent this year, but the pace of GDP will slow down to around 1 percent next year.

According to economic forecasts and sector estimates, the opinion is almost unanimous in that that the GDP will decline quarter after quarter even in the next three quarters. It can also be assumed that in the fourth quarter of 2022 and the first quarter of 2023, the gross domestic product may decrease compared to the same period of the previous year. After the temporary recession, growth may recover by the end of 2023.

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Policy Agenda (GFI index analyses)

ZOLTÁN MATHEIKA – ÉVA PALÓCZ[1]

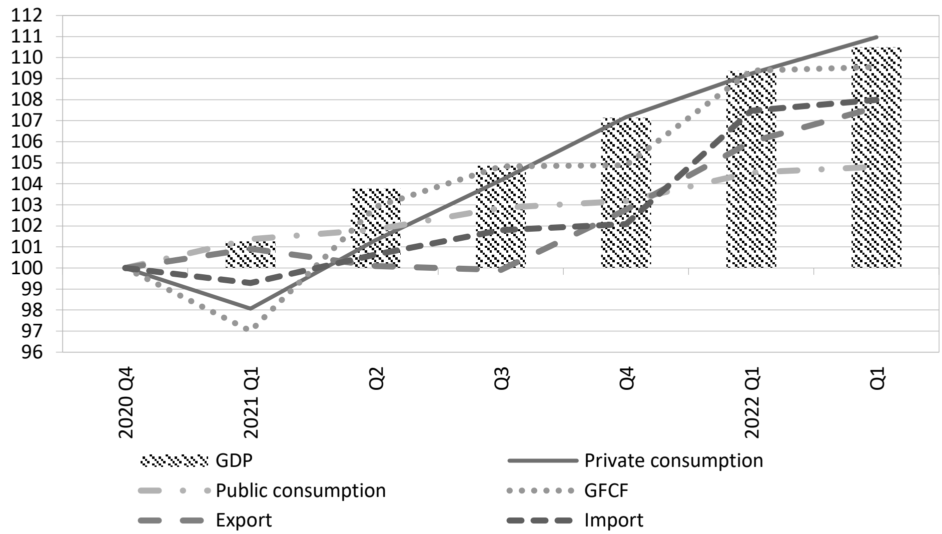
MACROECONOMIC AND FISCAL DEVELOPMENTS IN 2021 AND THE FIRST HALF OF 2022

The economy and its future prospects

The Hungarian economy has grown at a considerably fast pace over the past 18 months. The year 2021 was mainly about recovering from the COVID-19 crisis but, already in the third quarter seasonally adjusted GDP exceeded its pre-COVID peak in the fourth quarter of 2019. Lockdowns prevalent in the second wave of the pandemic had still had an impact in the first quarter of 2021, thus private consumption declined in volume compared with the previous quarter, which, together with the accumulation of fixed assets, had put reins on economic growth. However, after this period the economy grew steadily at a good pace (at least by 1% from the previous quarter), mainly owing to domestic consumption. As illustrated in Figure 1, the driver of growth was private consumption, at least beginning from the second half of last year. The rising trend of the accumulation of fixed assets supported by first state then, temporarily, corporate investments taking momentum was by far more hectic.

[1] Kopint-Tárki Konjunktúrakutató Zrt. Manuscript submission date: September 15, 2022.

Figure 1 Selected components of final use of GDP, 2021-2022
(seasonally adjusted volumes, 2020 Q4 = 100)



Source: EUROSTAT, Quarterly national accounts, own edition

In the meantime, net exports contributed to economic growth now positively, now negatively, and over an average of the past six quarters only minimally. One reason for this is to do with the stubborn bottlenecks on the supply side, running through a good length of the period examined and leaving exports marking time. A pickup in exports as seen on the figure below is to a good part due to the export of services from the fourth quarter of 2021. In contrast, imports supported by domestic demand continued to expand starting from the second quarter of 2021 and made a big leap in the first quarter of 2022.

All in all, the recovery had come to pass by the second half of last year. GDP growth continued at a good pace in the first half of this year.

Table 1 Average GDP growth rates in Q1-Q2 of 2021 and 2022 (%)

Czechia	Hungary	Poland	Romania	Slovakia
3,7	7,2	6,7	5,3	2,6

Source: EUROSTAT, own calculation

Thus, economic output over the past 18 months has surpassed those of the other Visegrad countries and that of Romania. This can be said both about 2021 and also about the first half of 2022. At the same time, a low base also contributed to this: in 2020 the economic decline was stronger only in Czechia than in Hungary. Still, in

Czechia even the low base did not help: its economic growth pace was one of the slowest in the region in 2021.

As we have mentioned before, from the second quarter of last year the dynamic growth was mainly due to domestic demand, more specifically to a rise in household spending, which was on the one hand supported by a recovery-related employment growth, and on the other, a strong increase in real wages, underpinned by a returning critical labour shortage.

In the first quarter of this year, the rise in consumption went stratospheric by a one-off shock effect, the government's demand-boosting intervention package timed for February. This - with the help of still strong corporate investments - led to an unforeseen 11.5% rise in *domestic consumption* and, in turn, to a robust 8.2% GDP growth in the first quarter, which is very strong even with the slackening effects of jumping imports and net exports. In view of this, it is not a slowdown that is worthy of attention in the second quarter, but the fact that the slowdown was relatively modest.

Still, in the second quarter the storm clouds were already gathering. In wake of the war, the possibility of a future energy crisis was emerging. In addition, this year's summer has given the world, and within it, Hungary, a glimpse of what kind of weather will become customary in one or two decades, and to what average produce yields that will lead.

All that said, in Hungary real wages rose at a medium pace on a quarterly basis, and the impact of the one-off income boost of February still lingered on in the better part of the second quarter, while a reduction in the utility bill support scheme was only announced by the government in July. Thus consumer spending still rose by around 10% in the second quarter, which kept GDP growth above 6% in the second quarter. On the manufacturing side, these trends primarily manifested in a strong growth in services - around 10% both in the first and second quarter - in a modest output of industry and a hectic and volatile output by the construction sector, as well as by a spectacular fall of agricultural yield in the second quarter.

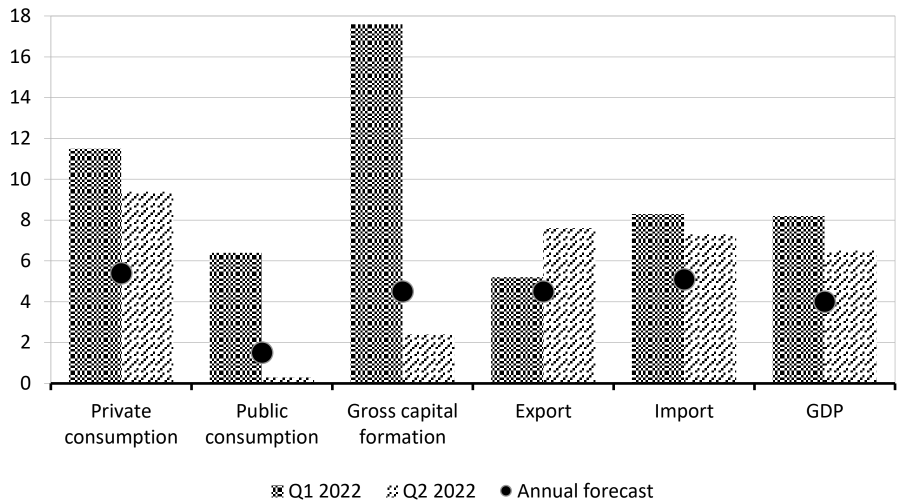
But – as it can be seen on Figure 2 – according to our forecast it is private consumption precisely that the expected negative eventualities would affect most severely. In the third quarter the consumer price index is expected to rise above 15%, through which the real-wage-rise trends seen so far would come to a halt and turn into a decline towards the end of the year. From September the reduction in the government's utility bill support scheme will start to show up in bills, which significantly reduces the part of households' disposable income that can be spent on other purposes and drastically reduces their consumption.

In parallel a drastic slowdown of the growth pace of services can be expected to be seen on the production side, if not for other reasons, merely due to demand-side effects. Further, many companies have been feeling for some time the pain from the ever-greater increases in energy prices, while others will start to feel it from October, facing a manifold increase in prices compared to their earlier bills.

Severe consequences are expected for the industry, too. Although industrial output showed a rising trend still in July, by autumn, news of difficulties experienced by many businesses had started to trickle in. All in all, for now we expect that – despite a significant slowdown in industry – its growth pace in the second half of 2022 and in 2023 will be more favourable than that of services. In summation, in light of the robust growth seen in the first half and, in contrast, the approaching negative turn, **we maintain our earlier projection of 4% growth level**. However, for next year, we

foresee a strong downturn and economic growth of around a mere 0.5%, with considerable downside risk added.

Figure 2 GDP in the first two quarters and forecast for 2022, expenditure side (%)



Source: CSO Stadat, national accounts, own forecast

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Budgetary and fiscal developments and outlook

2021 was a year of mild fiscal consolidation in the EU: the public deficit for the EU27 fell from an annual 6.7% of GDP to 4.7% (it was 0.6% in 2019, pre-COVID). In the first quarter of 2022 positive fiscal trends continued and the deficit fell to 3.1%.

Over the past year and a half Hungary's public deficit has also diminished, although to a lesser extent: in 2020 the ESA deficit it fell from an annual 7.8% to 6.8% in 2021, and then to 5.4% in the first quarter of 2022. With these results the Hungarian government deficit had ranked from the fifth to seventh largest among the EU27 countries.

Hungary's cash flow-based budget deficit came to HUF 2,890 billion, reaching 92% of the deficit target for the full year (HUF 3,150 billion). The Budget Act of 2022 passed in June 2021 had in the meantime lost its relevance; therefore it is not useful to use it for comparing factual data. The Budget Act of 2022 calculates with a CPI of 3% and a GDP deflator of 3.8%, projecting a GDP of HUF 56,361 billion. But according to our forecast, we are lucky if the year goes out with a CPI of 14% and a GDP deflator of around 10%. As a result, nominal GDP could exceed HUF 60,000 billion. These are the figures to consider when taking stock of the budget deficit and public debt.

The record high public deficit of the first half was caused by the government's pre-election "feel-good" measures, which added about a total of HUF 1,700 billion worth of extra expenditures and lost revenues (income tax refund for families, 13th month pensions, one-off bonus for law enforcement workers and other spending items).

After the elections the government began the fiscal adjustment: it introduced extraordinary taxes dubbed as "extra-profit tax" on certain sectors, significantly raised excise taxes, and dramatically increased energy prices for a group of residential consumers.

Fiscal consolidation is helped by inflation, insofar as inflation considerably increases revenues at current prices. Due to a high consumer price index in the first seven months of 2022 almost every item on the revenue side of the budget was up significantly on the previous year (and even more so, on the targets). Revenues from *consumer taxes* were up by 25% in 2022 compared with the first seven months of 2021, while revenues from payments of households rose by 10.6%, if we count the 2021 income tax payments, later paid back to families, as revenues. *Tax revenues from companies* also rose considerably and are expected to do so even more during the year, when extra-profit taxes are levied.

In the short term – still this year – high inflation is still beneficial for the budget, as it can increase the nominal value of revenues. This is especially true considering that on the spending side only pension payments have to be adjusted to inflation. However, a high CPI will inflate away household incomes, resulting in household spending slowing down, perhaps even turning negative, which can reduce the growth of tax revenues already in the short to medium term. In addition, interest on a rising public debt will increase significantly, too.

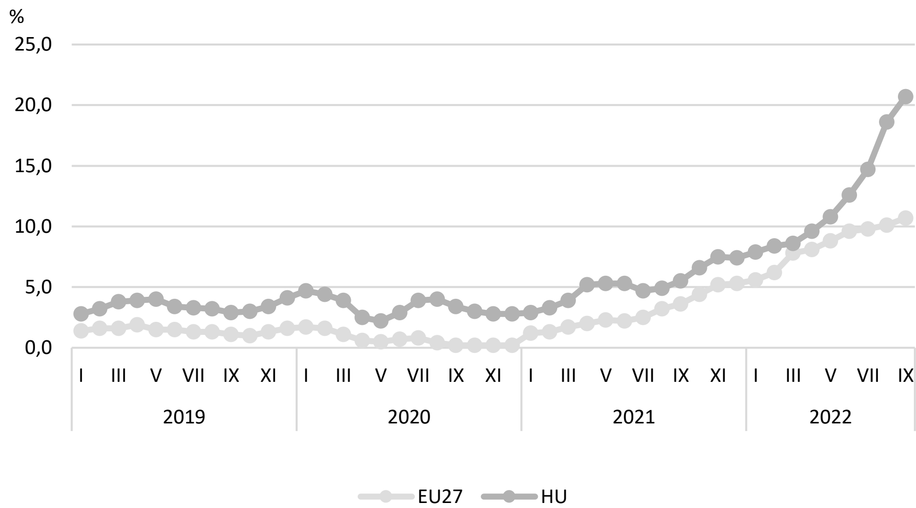
Gross public debt rose by HUF 4,000 billion in 2021 and by another HUF 4,000 in the first half of 2022 (in six months alone), to HUF 46,000 billion or 77.5% of GDP. This is especially alarming, as yields on state securities rose above 10% on almost all denominations in September 2022, and the interest rate boosts of the National Bank of Hungary, seen as necessary in this environment, are foreshadowing the likelihood of further yield rises.

The forint's weakening is now a trend, the Hungarian currency is performing bottom-of-the-field not only against the EU currency but also against regional currencies, which is fuelled in part by an increased mistrust of the government's economic policies as well as rising insecurities surrounding sealing a pact with the EU on funding from the seven-year Partnership Agreement and, more acutely, the Recovery and Resilience Facility (RRF). Yet, by the end of August 2022 the government has already spent from its own sources and at its own risk HUF 186 billion on projects at the expense of RRF funds and has committed HUF 430 billion forints in contracts.

Should Hungary be deprived of that funding, all these commitments are to put a toll on Hungary's public finances.

At the same time implicit inflation in Hungary is record high in the EU. While the Hungarian Harmonized Index of Consumer Prices (HICP) only stood in sixth or seventh place in the inflation rankings in July 2022, this was artificially kept down by the price caps on energy and fuel prices. From August 2022 energy prices will rise dramatically. This considered, the implicit part of Hungarian CPI is to become explicit and as a result, the annual price level could put the country in the lead among EU countries in 2022.

Figure 3 Consumer Price Index year on year, EU27 and Hungary, 2019-2022



Source: EUROSTAT, Economy and Finance, Prices

Among the EU member states, food price rises were among the highest in Hungary (together with Lithuania) in July 2022, and the highest in the case of certain core items (bread and cereals and meat). Hungary's price increase was among the highest for vegetables and fruit, too. Notably high food prices show the impact of the "extra-profit tax" payable by foreign retail chains, pushing up prices.

The Hungarian CPI is expected to continue to rise in the last third of the year; it is set to surpass 20% in December, despite the government's extension of price caps on seven food items and fuel until 31 December.

Inflation is sure to continue growing in 2023, partly due to the low base, as the first eight months will still be compared with the relatively low (10.7%) base figure of 2022. On top of this it is plausible that other price caps will be removed, which could result in a significant increase in the price of those select seven food items (although they have a small weight in the consumer basket), as food prices continue to show a rising trend. Fuel prices can go either way in 2023, as it is not to be ruled out that global oil prices would decline. Partly due to the base effect and partly due to the shrinking demand by

December 2023 the overall price index could fall back to 7-8%, with further decrease possible should fuel prices drop.

In the meantime, the trade and current account deficits are also remarkably worsening, which is a factor behind the forint’s weakening. Additionally, a fast-rising interest rate puts reins on both corporate and household borrowing, which in turn has a cool-down effect on investments and economic growth.

Table 2 Macroeconomic data and Kopint-Tárki projections (2022 October) (annual change, percent)

	Data			Projection		
	2021	**2022 Q1**	**2022 Q2**	**2022 VII-VII**	**2022**	**2023**
GDP aggregates, real growth						
GDP Total	7.1	*8.2*	*6.5*		**4.0**	**0.5**
Domestic demand	5.8	*11.5*	*6.2*		**4.5**	**-0.9**
Private consumption	4.4	*11.5*	*9.4*		**5.4**	**-1.5**
Public consumption	3.9	*6.4*	*0.3*		**1.5**	**0.0**
Gross fixed capital formation	5.9	*13.2*	*6.1*		**4.8**	**0.0**
Gross capital formation	9.6	*17.6*	*2.4*		**4.5**	**0.0**
Export	10.3	*5.2*	*7.6*		**4.5**	**1.7**
Import	8.7	*8.3*	*7.3*		**5.1**	**0.0**
Industrial production	9.5	*5.6*	*4.6*	*4.0*	**4.5**	**2.5**
Consumer Price Index	5.1	*8.2*	*10.6*	*14.7*	**14.0**	**16.5**
Employment, earnings						
Number of employed, growth [a]	0.7	*2.3*	*1.6*	*1.1* [f]	**1.0**	**-0.5**
Employment rate [a]	63.0	*63.7*	*64.0*	*64.1*	**64.0**	**63.6**
Unemployment rate [a]	4.1	*3.7*	*3.2*	*3.3* [f]	**3.6**	**3.8**
Unit labour cost [b]	-1.4	*9.3*	*5.7*		**2.0**	**7.5**
Gross nominal wages [c]	8.7	*21.0*	*15.2*		**17.0**	**12.0**
Net real wages	3.4	*11.8*	*5.1*		**2.6**	**-3.9**
Savings rate, % of GDP [d]	6.5	*5.7*	*5.2*		**6.0**	**5.5**
Current and capital accounts balance, % of GDP	-0.4	-2.4 [h]			**-4.0**	**-2.5**
General government Fiscal balance, ESA-2010, % of GDP	-6.8	*-4.8*			**-6.5**	**-4.0**
Gross government debt, % of GDP	76.6	*77.3*	*77.5*		**77.0**	**75.0**
Short-term gov. yields (3M), eop	2.16	*5.7*	*6.3*	*8.0* [g]	**11.0**	**9.0**
Long-term gov. yields (10Y), eop	4.51	*5.9*	*8.0*	*8.8* [g]	**10.5**	**9.5**
External assumptions						
International trade in goods and services	9.3				**5.0**	**4.4**
Brent oil price ($/bbl, p. avg.)	70.8	*100.3*	*100.9*	*106.2*	**107.0**	**100.0**
GDP real growth, Eurozone, %	5.4	*5.5*	*4.1*		**2.6**	**1.3**
GDP real growth new EU Members, %	-3.8	*7.1*	*4.7*		**3.1**	**-2.7**
EUR-HUF, period average	359	*364*	*386*	*403*	**389**	**400**
EUR-USD, period average	1.18	*1.12*	*1.06*	*1.02*	**1.05**	**1.00**

a ILO methodology, period averages, aged 15-74; public workers are counted as employed
b Manufacturing, based on gross value added and the monthly average compensation of employees in euro, cumulated from the beginning of the year
c Enterprises with at least 5 employees, all budgetary institutions, and major non-profit institutions
d Net lending of households according to the financial accounts statistics, percentage of GDP, four-quarter cumulative data
e July f May-July g August

ROZÁLIA JEHODA BOGÓNÉ – MIKLÓS LOSONCZ– KATALIN NAGY – GÁBOR OBLATH – ÉVA PALÓCZ – PÉTER VAKHAL[1]

GLOBAL ECONOMIC TRENDS AND THEIR IMPACTS, ESPECIALLY ON THE GERMAN ECONOMY, AND CONSEQUENCES FOR HUNGARY'S ECONOMY AND PUBLIC FINANCES

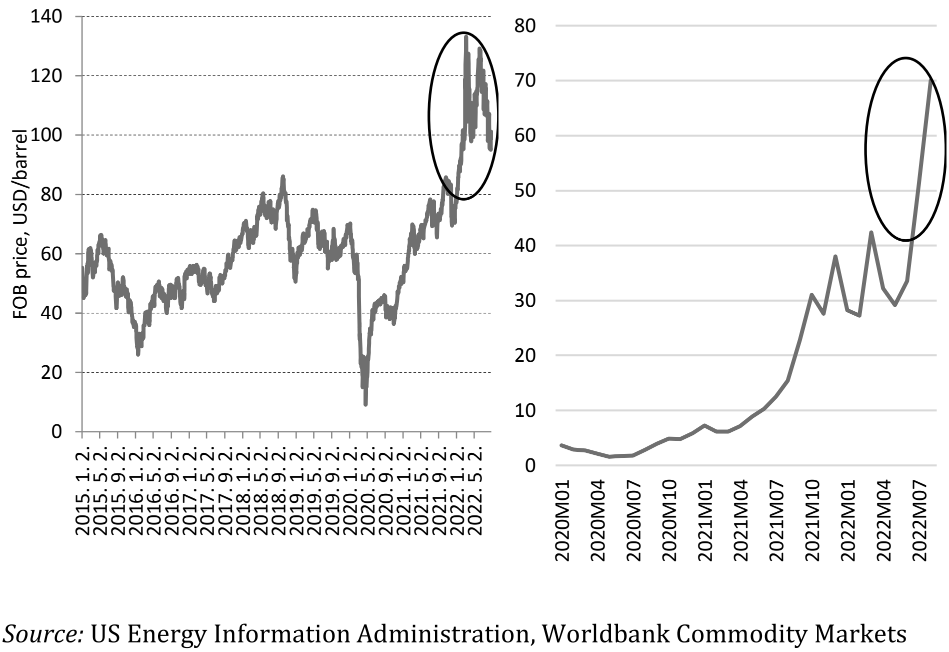
Following the recovery in 2021, the outlook for **economic activity** around the world is increasingly bleak. The ***global outlook*** for the second quarter of 2022 is marked by the slowdown in China, the escalation of the Russian-Ukrainian conflict, the energy crisis and rising inflation. Most central banks are responding to the latter with various instruments of monetary tightening. The increasingly tightening monetary environment however, is holding back growth, without having a real impact on inflation developments in the short run. For economies with high indebtedness, monetary tightening and rising government bond yields are making financing more difficult, and this is narrowing the room for manoeuvre for fiscal policy. Hence, in the current period, neither monetary nor fiscal policy will be as supportive as it was during the pandemic. The IMF and OECD forecast a global growth of around 3% this year, but the mounting downside risks suggest that we can expect worse than this. For now, all trends signal that in 2022 European policymakers could face unprecedented challenges, and that conflicts of interest between EU countries could plunge the whole European Union into crisis. The biggest problem is uncertainty: there is no way of knowing how Europe's gas supply will evolve in 2022-23. Everywhere, the switch from Russian gas will take time and could entail heavy sacrifices, such as the application of measures to restrict its use. Having the public and businesses accept these difficulties will be a conflictual process and is sure to lead to strikes and political unrest on more than one occasion. All in all, we are facing a difficult few months ahead: a slowdown in growth will characterise both this year and the next; to a greater extent in Europe and to a lesser extent in the US. The global consequences of China's zero tolerance for disease control and the slowdown in production and logistics caused by natural disasters will be felt everywhere. However, the dynamic growth in the production of green energy and e-mobility-related products, as well as the increased importance of Chinese deliveries for Russia as a consequence of the Ukrainian conflict, will reinforce China's global economic dominance as it will become an increasingly important partner for Russia, both in terms of trade in goods and services and in the flow of working capital. In addition to the deterioration of the global environment, developing countries are also affected by the Russian-Ukrainian conflict and the difficulties in grain supply, with rising food prices as a consequence, causing famine in more than one country. China is increasingly active in helping countries in distress. The possibility of stagflation and a debt crisis cannot be excluded. Inflation is not yet at its peak, energy tensions and high prices persist, interest rate hikes

[1] Kopint-Tárki Konjunktúrakutató Zrt. The coordinator of the chapter was Katalin Nagy. Manuscript submission date: September 15, 2022.

are ongoing, and the consequences of the Russian-Ukrainian conflict are becoming more serious.

Trends in international oil and gas markets have been dominated by the consequences of the coronavirus epidemic in 2020 and, from February 2022, by the Western response to Russian aggression against Ukraine (Figure 1). The most significant of these are Western efforts to become independent of Russian energy resources, embodied in measures to reduce imports, which are linked to Western sanctions against Russia. The main means of reducing Russian imports are reducing energy demand and the rise of the share of renewable energy. Eliminating dependence and reducing Russian imports can be achieved at relatively little cost in the case of oil and oil products, but at considerable economic and social costs in the case of natural gas. A complete cut-off of Russian gas supplies in response to the Western embargo would cause varying degrees of supply difficulties and a possible recession in the EU.

Figure 1 Development of Brent crude oil price (l) and European gas prices (r) (FOB price, $/barrell, $/mmbtu)



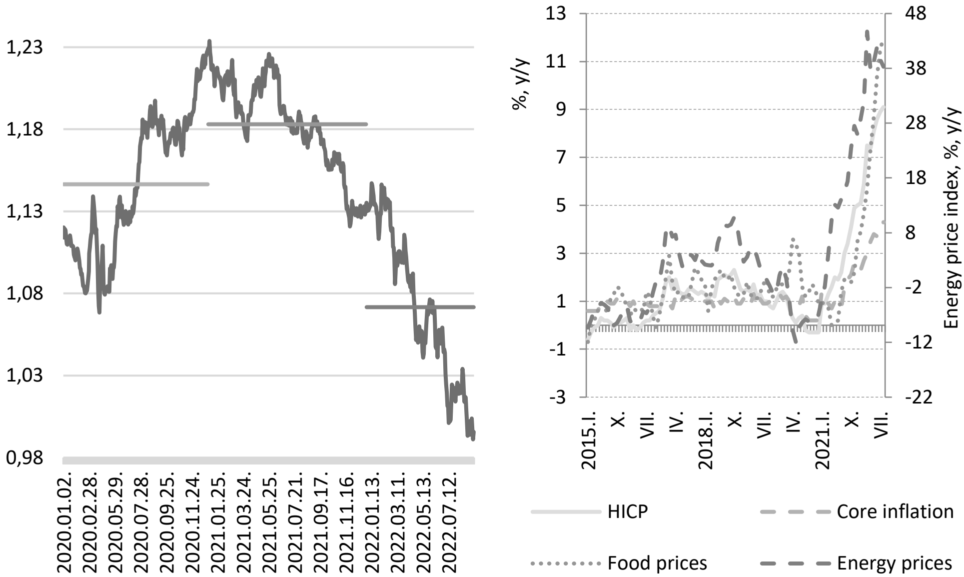
Source: US Energy Information Administration, Worldbank Commodity Markets

Despite their relatively modest weight in the world economy (Russia is ranked 11th in the world in terms of GDP volume and Ukraine 57th), the two countries are playing a dominant role in the world markets for some agricultural products, metals, energy carriers and mineral-based fertilizers. The consequences of the Russian invasion of Ukraine (reduction in the supply of Ukrainian cereals due to the war, closure of supply routes, etc.) have been overreacted by international markets in the light of ex post analysis, as indicated by the fall in average prices in July. It remains to be seen how long the price fall will last, as the average price of several commodities rose in August compared with the previous month, whilst a new wave of decline took place in September.

In developed countries ***inflation*** started to accelerate dramatically in 2022 (Figure 2). The large price increases can only partly be explained by the impact of the Russian-Ukrainian conflict, with energy and agricultural prices rising more sharply after the conflict broke out, and supply disruptions (e.g. Ukrainian industrial goods, spare parts) due to the conflict also pushing up the prices of some industrial goods. At the same time, some of the price increases were already prevalent before the outbreak of the conflict. This suggests that the various fiscal stimulus programmes implemented during the pandemic, coupled with loose monetary policy, have allowed for a demand expansion that the supply side was not prepared for. Thus, both in the US and the UK, as well as in Europe, core inflation started to rise sharply. The inflation outlook has worsened everywhere, with fears that inflation expectations will remain anchored at high levels. Producer prices are on an upward trend and are becoming increasingly embedded in consumer prices, and this trend is unlikely to reverse in the near future. Under these circumstances, it is not surprising that the pace of ***monetary tightening*** is taking a more pronounced form than previously expected everywhere. The ***FED*** started a wave of interest rate hikes in March this year, and so far, this year there has been a total of 225 basis point rate hikes, with further hikes expected. To restore price stability the maintenance of tight monetary policy will be needed for a longer period, despite fears that this could push the American economy into recession.

Despite the dramatic rise in inflation, the ***ECB*** held interest rates steady for a long time, but in July it raised all three benchmark rates by 50 basis points. For the time being, the ECB has reactivated its asset purchase programme and has developed a new instrument to help indebted countries in the South of Europe, making it easier for them to finance their debt and curbing turbulence in bond markets. In September, everyone expected the ECB to raise interest rates by up to 75 basis points, as it actually happened and to start quantitative tightening. However, there are also arguments for the ECB to raise interest rates along a slower, steadier path so, that it has room for manoeuvre to correct course if necessary. As a result of all these developments, the euro has reached unprecedented lows against the dollar, with minor fluctuations. In general, monetary tightening has also started ***in other developed countries***, except in Japan, where inflation is not yet so dramatic that the central bank would need to act. Even in Switzerland, interest rates moved upwards, but still remained in negative territory. In the Central-Eastern European region, more drastic interest rate adjustments have taken place as inflation has also been higher. The base rate is the highest in Hungary. Although the pace of inflation is expected to moderate somewhat next year, the period of low inflation during the pandemic will not return. Central banks will maintain a tighter monetary policy over the forecast horizon even, if inflationary pressures ease, to avoid a possible renewed inflation run-off.

Figure 2 The USD/EUR exchange rate (l) and HICP in the Euro Area



Source: ECB, EUROSTAT

For the ***EU-27*** as a whole, GDP growth is expected to slow down this year compared to last year. An average growth of 2.6-2.7% is forecast, that could slow to 1.5% next year, depending on global economic trends. This year's growth is being pulled by a stronger-than-expected first quarter performance of 5.6% (y/y), with the expected slowdown starting in the second quarter, when GDP expanded by 4% y/y. Resources of the Recovery and Resilience Fund also underpin growth in most countries. At the same time, developments in the Russian-Ukrainian conflict pose a significant risk. The downside risks are significant, with the escalation of the war and its external and domestic economic consequences.

The economy of the ***euro area*** expanded by 5.5% year-on-year in the first quarter of 2022. The pace of growth has also been affected by the base effect, as the *EA economy* was still in contraction in the first quarter of 2021. In the second quarter of 2022, the slowdown is already showing signs of abating, with GDP expanding by 3.9% on a year-on-year basis. In 2020 and 2021, average GDP per capita in PPS for the EU-19 was below the 2019 level in all but a few countries, indicating that more than half of the euro area countries had not yet recovered from the losses caused by the pandemic by the end of 2021. European sentiment indicators have been trending downwards since the spring, with June-July data in most countries showing that the consequences of the escalation of the Russian-Ukrainian conflict, growing supply and demand problems in many areas, the energy crisis and soaring inflation are making the situation for businesses increasingly desperate. Manufacturing output has been falling since March and this trend is expected to continue in the coming months as well. As a result, we have revised downwards our previous forecasts concerning the short-run trends of the main GDP aggregates.

The *inflation rate* in the euro area was 8.1% in May and picked up to 9.1% by August compared to the same period a year earlier. However, actual inflationary developments are masked by the fact that price shocks are being dampened by various regulatory measures in several countries so, that actual inflationary pressures are significantly higher than the data would suggest. A growing number of countries are forcing the impact of price increases on private households through various fiscal instruments.

The economies of the ***13 new Member States of the European Union*** have been badly hit by the coronavirus crisis. However, fiscal stimulus programmes and loose monetary policy have helped these economies to return to growth in 2021, although some countries are only growing at a lower level. The economic impact of the Russian-Ukrainian war is most felt in the CEE region, almost exclusively due to unilateral energy dependence. The effects of the war are mainly reflected in inflation imported through energy imports. These prices are then reflected in consumer prices of other products through the various price transmission channels within a few months. The room for manoeuvre of central banks in terms of monetary policy stance is rather limited and inflationary pressures are unlikely to ease, with somewhat lower price indices due to base effects at most.

In the first half of 2022, changes in global economic conditions affected the ***Hungarian budget*** through several channels. In the short term, the most important of these is the global inflation environment. A higher and rising price index reduces the fiscal deficit and the public debt-to-GDP ratio, as inflation increases the level of revenues much more than expenditure directly and to a much larger extent, especially in the area of consumption taxes.

At the same time, the weakness of the world economy and world trade, the deterioration of the global environment is already worsening the budget position in the short to medium term. While inflation will continue to boost fiscal revenues next year and possibly even in 2024, the growth in household consumption will slow down significantly and is expected to decline in 2023. Indeed, inflation will only increase consumption at current prices as long as it does not reduce the household's purchasing power. Other revenue items are also expected to decline, e.g. taxes on household income and on corporate profits. Therefore, the inflation improves the fiscal position only temporarily and in the short term.

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ROZÁLIA JEHODA BOGÓNÉ – ZOLTÁN MATHEIKA – ÉVA PALÓCZ – PÉTER VAKHAL[1]

SUSTAINABILITY AND THE EMERGENCE OF ECONOMIC-SOCIAL DEVELOPMENT IN HUNGARY'S COMPETITIVENESS

The fiscal effects of the COVID-19 pandemic

The COVID-19 pandemic has caused considerable economic damage in all EU Member States, not only in households and the business sector, but also in all segments of public finances. Adopting an active economic policy, governments resorted to measures that expounded state spending.

In the year of the pandemic, the debt-to-GDP ratio rose to 6.7% on average in the EU from 0.6% in 2019, but eased back to 4.7% in 2021. Despite this improvement, budget balances of all Member States were worse than in 2019.

Since 2021 most EU Member States ran consolidation plans, but a visible decline in debt-to-GDP was only produced by a few countries (e.g. the Netherlands, Denmark). It is especially difficult to curb deficits in south European countries that are heavily dependent on tourism, as 2021 was not exactly the best year for tourism, despite a notable pickup from the plummeting of the previous year. Among the Visegrád countries, Poland is unlike the others, in that it has pushed its public deficit to below 2% in 2021. In countries that have pursued stringent fiscal policies already before the crisis, a rise in public deficit stayed more modest in 2020 and recovery took a faster path. But the countries that were more relaxed about their deficits before saw stronger deficit increases during the crisis, and – despite their deficits falling somewhat – their budget gap stayed well above 3% in 2021.

After the huge growth of 2020, debt-to-GDP ratios fell back somewhat in all EU27 countries in 2021. A fall in debt-to-GDP was primarily induced by the nominal growth of GDP, as public debt at current prices continued to rise for all countries with only a few exceptions (Figure 1). The nominal rise in GDP was mainly propped up by the high price index (GDP deflator). It is whether the nominal GDP was higher or lower than nominal debt increase that made a difference among various countries. There were only a few Member States that could cut their nominal public debt (Denmark, Portugal, and Cyprus), while debt continued to grow in all other countries. However, a rebouncing economic growth could still reduce debt-to-GDP ratios in most Member States, despite rising nominal debt.

The flip side of this picture is that it is mainly rising inflation that had contributed to this process, which in turn has blown up GDP at current prices as well as revenues of the budget. Further, as incomes are inflated away, and economic trends connected with tax revenues are fouled up already in the medium term, it is hard to see that any of the above would support debt consolidation for longer than the immediate short term.

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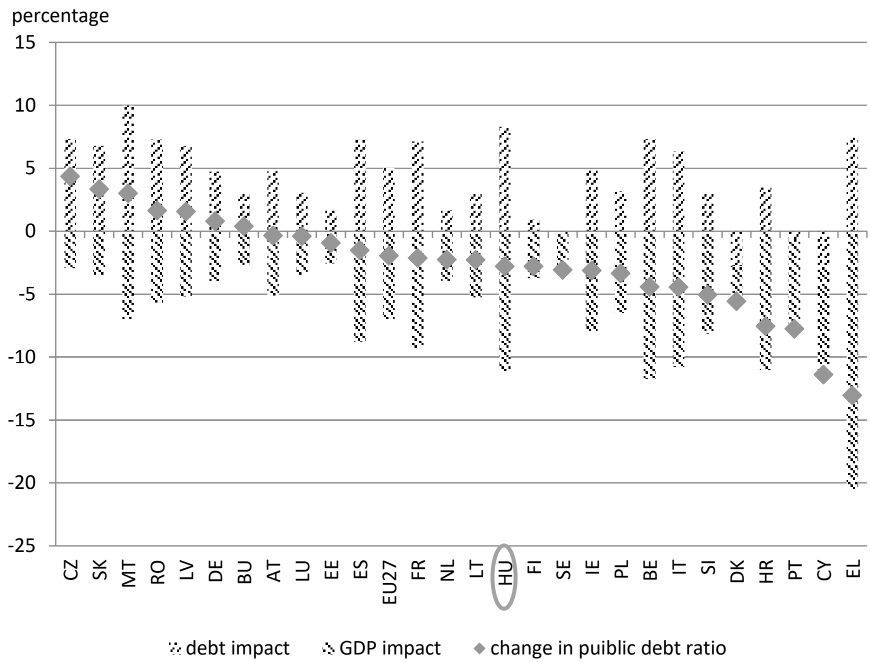
[1] Kopint-Tárki Konjunktúrakutató Zrt. The coordinator of the chapter was Péter Vakhal. Manuscript submission date: September 15, 2022.

Figure 1 The impact of change in nominal GDP and public debt on the change of public debt ratio (2021, percentage point)

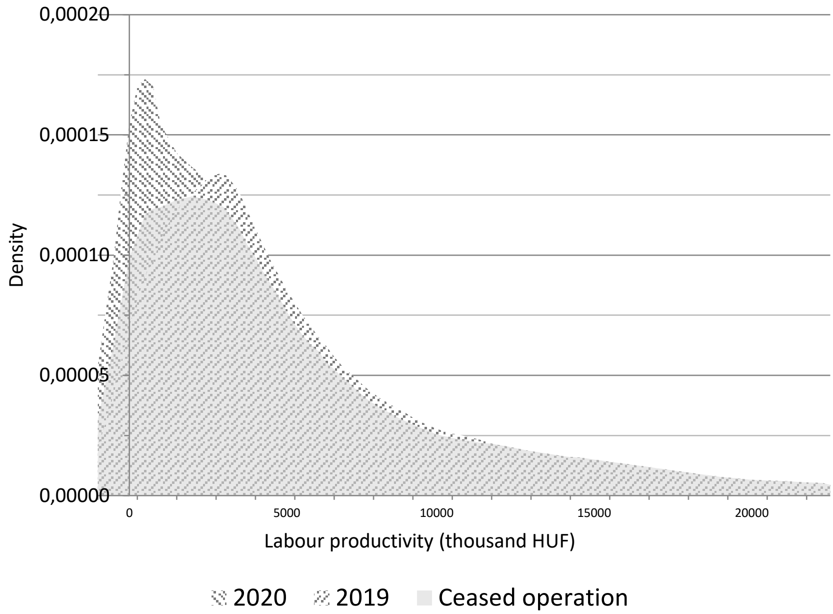


Source: EUROSTAT, own calculation

Characteristics and profitability of Hungarian businesses, change in 2020

The profitability and main demographic indicators of businesses have changed in 2020, more on unfavourable terms, but not nearly as severely, as one would expect after a period of recession as deep as unseen since World War II. Certainly, the number of functioning businesses has dropped in all sectors, altogether by about 13,000. From the point of view of risk of closure, the tourism sector was not affected worse by the crisis than any other sector; on the contrary, for some other sectors performing services with higher added value, a risk of shutting down was slightly even higher. About a quarter of businesses that have closed were five years old or younger, half of them were 5-10 years old, while the share of companies aged 10 years or older was 25% among companies that had to shut down. In general, however, it can be said that most of the companies that closed in 2020 operated with low labour productivity. In this regard, of course, it cannot be ruled out that the low productivity in 2019 was already measured during the "run-out" period of the company's operation, i.e. the company would have ceased to exist regardless of the pandemic. In Figure 2, it is also worth noting that in 2020 the productivity of otherwise operating companies decreased significantly, which is in line with the increase in losses.

Figure 2 Labour productivity and density in terminated businesses, 2019, 2020 (nested sample, excluding bottom 5th and top 95th percentile)



Source: National Tax and Customs Office data, own calculation

In 2020 profitability had not been favourable, as expected from the circumstances, but the situation was not dramatic. In 2019 among some 200,000 businesses examined, 15% were making a loss, which corresponds on average to about HUF 500,000 in loss on assets. One year later the share of loss-making companies rose to 22%, and the average return on assets hovered around HUF -800,000.

A fall in profits after taxation (profitability) affected nearly all sectors, but mainly construction, accommodation services and catering. Agriculture, the energy sector and financial services were the only three sectors where a median profitability grew, albeit only slightly. Although the largest losses were invariably suffered by the tourism and the arts and entertainment sectors, it is apparent that companies that were not helped by the government's sectoral wage support scheme also suffered significant losses of profit.

The Hungarian corporate sector has made use of the preferential low-interest loan and grant opportunities, investment-boosting programmes offered during the pandemic. Consequently, a slight rise in debt can be seen among companies that have hardly ever had any long-term liabilities before (which may partly be the result of the reduction of repayment obligations).

Digitalization and competitiveness

Since 2014, the European Commission has monitored Member States' digital progress and published annual Digital Economy and Society Index (DESI) reports. Whereas Hungary ranked 21st among the EU28 over the past two years in the survey, it fell to 23rd place among 27 EU countries in 2021. There are only very few areas where Hungary performs above the EU average. Some of the areas where Hungary performs well are overall fixed broadband take-up and at least 100 Mbps fixed broadband take-up. At the same time development of mobile networks remains below the EU average. 5G coverage grew by 11% in 2021 compared with the previous year, but it is still at only 18% compared with an EU average of 66%.

Hungary performed below the EU average in most of the sub-indicators on human capital. Only 49% of Hungarians had at least basic digital skills and other indicators also showed relatively low levels of digital skills.

In terms of integrating digital technologies Hungary ranked 26th, and was placed among the worst performers in the EU for all indicators on adopting and using modern technology. A majority of Hungarian businesses still does not pay adequate attention or makes sufficient effort to transform its production, marketing and organizational processes in a way that fits the needs of a modern age.

Hungary's rating on the digitalization of public services is mixed. The country ranked 25th in this dimension, which is a commendable achievement and is to do largely with the relatively high number of e-government service users. However, it is less flattering for the country's competitiveness that Hungary had one of the lowest values in the EU for open data.

In sum, Hungary has made considerable progress in investments, completed developments and integrated systems, but the use of services - both in the case of businesses and private individuals - has only become popular where the state made it compulsory.

It seriously impedes Hungary's chances of reducing its digital development gaps that other Member States are already using the community funding made available by the Recovery and Resilience Facility (RRF), which can be used on the condition that at least 20% of allocations are spent towards developments aimed at digital transformation. Most Member States have gone even further. Overall, 26% of the approved developmental expenditures are aimed at digital goals, but in Germany or Austria, more than half, in Luxembourg, Lithuania and Ireland, nearly one-third of allocations are spent on digital developments.

The key to Hungary's competitiveness – and digitalization is no exception – is in the development of the education system. In order to tap on the advantages offered by digitalization, the government and businesses must take immediate steps to train, retrain and further educate the current and future labour force.

In addition to the traditional school system, a strong further education system should be set in place with incentives (tax breaks, repayable and non-repayable assistance), so that the adult population, the current workforce, could have the opportunity to acquire digital competencies that will be needed in the workplaces of the future, in the companies undergoing digitalization; and so that they should not drop out of the labour force due to the appearance and increasing spread of robotization and automation. Not only employees but also companies should be motivated, by offering them incentives to improve their employees' digital skills in the interest of raising their own competitiveness.

An evaluation of the EU's climate strategy with a view to Hungary

Over the past few years there have been several milestones in the EU's climate strategy: like the European Green Deal (EGD) at the end of 2019, and the Fit for 55 package introduced in mid-2021. Under the EGD and the related European Climate Law, the European Union should become climate neutral by 2050. The Fit for 55 plan has put in place stricter medium-term targets for 2030, thus it aims at achieving a faster green transition.

Based on the main targets set by the Commission and approved by the Council, the EU must reduce its greenhouse gas emission levels by at least 55% compared to the 1990 level by 2030 (the target is 40%). This target number was accepted in principle already in December 2020, at which time it was included in the EU commitment related to the Paris Agreement, and in the European climate regulation adopted in July 2021, it is included as a new binding target instead of the previous 40% target number. The targets also included raising the share of renewable energy in the overall energy mix to 40%, including 29% in transport and 49% in the energy supply of buildings. A binding target approved for industry is to raise the share of non-biological renewable energy sources (e.g. green hydrogen) to at least 35% by 2030 and to 50% by 2035.

In this framework the Hungarian government is fundamentally set on maintaining stability, taking advantage of opportunities arising through the green transition while avoiding disruptive changes as much as possible. In line with this aspiration, the government intends to partially replace traditional fossil energy sources by further increasing the role of nuclear energy, which has also been prominently present for a long time. An implicit aim of the Hungarian strategy is that the country should remain an attractive target for industrial investments with relatively high raw material and energy needs. However, as seen from its reactions to the energy crisis, the government is ready to respond to the sudden and obvious emergency situation by taking strong steps, yet its approach is still not really climate-centred. One sign of this is the dependence on the use of firewood.

In the longer term however, the EU climate strategy is likely to deal with the question of how realistic are suggestions that the economy after the green transition will be very much like today's economy, only in a greener and more digitalized version. While the aim is to avert a climate catastrophe, by now it is more realistic to talk about a partial aversion. According to projections, the weather conditions weighing down on Europe this year will become the new average in 15 years. In addition to this, global politics is starting to face changes, a sign of which is the ongoing Russian-Ukrainian war. Decisions have been made to quickly change the current European energy mix in wake of the war. At the same time, Hungary, which has placed nuclear energy and the expansion of solar power in the centre of its green transition strategy, continues to build on the idea that a Russian connection (import of uranium) and a Chinese connection (import of solar panels) can still be reckoned with in the foreseeable future.

Noémi Végh – Balázs Csomós – Gergely Kicsák[1]

THE 2022 BUDGET PROCESSES

The budget act set a deficit target of 5.9 percent for 2022, which the Government reduced to 4.9 percent in its December 2021 forecast, and then raised it to 6.1 percent in September 2022. The increase in the deficit target is justified by the accumulation of special natural gas reserves which, according to EUROSTAT's accounting, increases the ESA deficit. The situation of the Hungarian public finances in the 2021-2022 budget years will be significantly influenced by unfavourable global economic processes. In 2021, mitigating the effects of the coronavirus as well as protecting and restarting the economy tied up significant budget resources and, in 2022, the Russian-Ukrainian war and rising energy prices adversely affected the economy and, through it, the budget situation. This year's GDP development is characterized by a strong duality: after dynamic economic growth in the first half of the year, growth is expected to slow down in the second half of the year. As a result of the increase in revenues resulting from economic growth, the deficit will decrease in 2022 compared to 7.1 percent in 2021, however, the Russian-Ukrainian war and rising energy prices have an unfavourable budgetary impact, to which the budget is constantly reacting with measures. In order to meet the budget deficit target, as well as due to the additional expenses arising, a package of measures including extra-profit tax measures amounting to about 3 percent of GDP and expenditure restraints was announced in parallel the preparation of the 2023 budget act. However, the rise in energy prices may pose a risk to meeting the deficit targets in the coming years. According to MNB's September 2022 forecast, if the budget deficit target is met, the gross national debt as a percentage of GDP will decrease to 76.0 percent by the end of 2022 from 76.8 percent at the end of last year, but the existence of the state of emergency makes it possible to deviate from the debt rules of the Fundamental Law this year.

Development of macroeconomic processes

After the successful restart of the economy, the growth of the Hungarian economy continued in the first half of 2022, after which growth is expected to slow down in the second half. For this reason, while the macroeconomic forecast, which is the basis of the 2022 budget act adopted last year, predicted an economic growth of around 5 percent for this year, MNB's September forecast already expects a real growth of between 3 and 4 percent. In the first half of the year, Hungarian economy grew by 7.3 percent compared to the same period of the previous year. Residential consumption contributed the most to the increase, and investments by the corporate sector and budget bodies also increased in the second quarter. However, the course of GDP over time is characterized by a strong dichotomy, and the

[1] The National Bank of Hungary (Magyar Nemzeti Bank – MNB) regularly supports the work of the Fiscal Council with the publication Budget Report – Half-yearly analysis of public finance processes. Present study was based on said publication, including its extract. Manuscript submission date: October 5, 2022.

MNB forecast for the September Inflation Report expects a significant slowdown in growth in the second half of this year.

The demand for labour remains high, so both the budget and the MNB forecast expect a further rise in employment this year. The latest forecast of the MNB expects a more dynamic expansion of employment compared to the forecast in the budget act this year so, the unemployment rate is expected to be 3.5 percent in 2022. According to the MNB's September forecast, the gross average earnings of the national economy may increase by 16.6-16.9 percent in 2022, exceeding the expectations of the budget draft. This year's wage dynamics are determined by the large minimum wage increase at the beginning of the year, wage improvements affecting a wide range of state employees, and further tightening labour market conditions.

The 2022 budget act adopted last year was planned with 3 percent inflation, while MNB expects inflation of 13.5-14.5 percent this year in its September inflation report. The annual growth rate of consumer prices was 11.7 percent at the end of the first half of 2022, while it rose to 15.6 percent in August. In the first half of this year, due to the increase in energy and raw material prices, companies repriced their products and services significantly more than the average of previous years, which led to an increase in domestic inflation. In the short term, high energy, raw material and crop prices continue to increase domestic inflation, which is further strengthened by the impact of the extraordinary drought. Government measures in some areas (fuels, household energy, some basic foodstuffs) prevent or contain the rise in prices, so the extension of the price caps on certain basic foodstuffs and fuels until 31 December 2022 points in the direction of lower inflation, the high end of last year bases, as well as declining consumer demand.

Table 1 Comparison of the macro trajectories in the 2022 Budget Act and the MNB's September 2022 Inflation Report

	2022		
	Budget Act	MNB	Difference between the MNB and the Budget Act
GDP	5,2	3,0 - 4,0	(-2,2) - (-1,2)
Consumption expenditure of households	6	6,0 - 6,1	0 - 0,1
Community consumption	-1,9	2,3 - 2,7	4,2 - 4,6
Gross fixed capital formation	7,2	3,0 - 3,6	(-4,2) - (-3,6)
Exports	10,5	4,7 - 5,3	(-5,8) - (-5,2)
Imports	10	5,4 - 6,0	(-4,6) - (-4)
GDP-deflator	3,8	10,4	6,6
Inflation	3	13,5 - 14,5	10,5 - 11,5
Gross earnings	9,8	17,7	7,9
Gross average earnings	7,7	16,6 - 16,9	8,9 - 9,2
of which business sector	7,6	14,1 - 14,5	6,5 - 6,9
Number of employees	1,1	1,2 - 1,3	0,1 - 0,2
of which business sector	1,3	1,8 - 1,9	0,5 - 0,6

Source: 2022. Budget Act and its annexes, MNB Inflation Report 2022 September

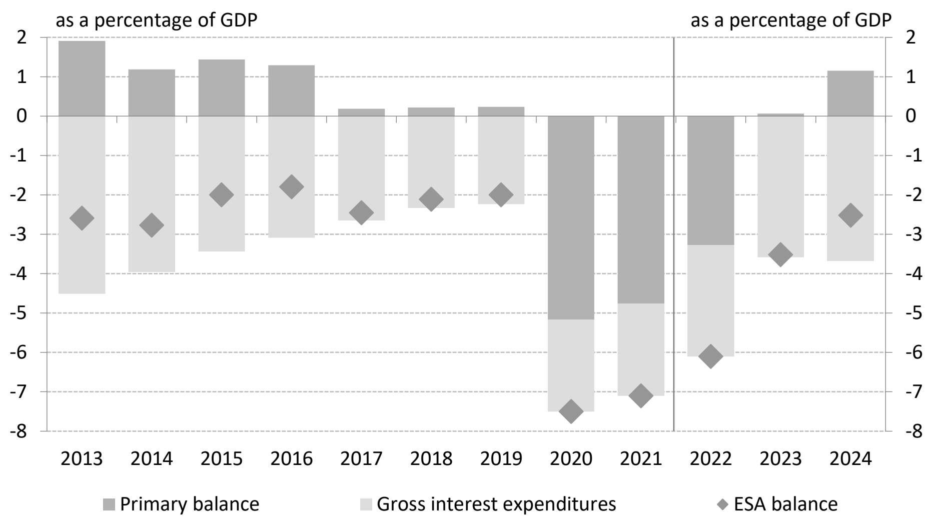
Budget balance in Hungary

Expected evolution of the budget balance

The budget deficit in 2022 could be 6.1 percent of the GDP based on the increased government target compared to the previous 4.9 percent (Figure 1). The 2022 budget act contained a budget deficit target of 5.9 percent of the GDP, which was reduced to 4.9 percent by the December 2021 government target, and then raised to 6.1 percent by the September announcement of the government. The increase in the deficit target for 2022 is justified by the accumulation of special natural gas reserves which, according to EUROSTAT's accounting, increases the ESA deficit. Based on the budget deficit target, the deficit will decrease in 2022 compared to 7.1 percent in 2021, which is partly due to the increase in revenues resulting from economic growth. In order to meet the budget deficit target, as well as due to the additional expenses that arise, a package of measures including extra-profit tax measures and expenditure restraints, amounting to approximately 3 percent of GDP, was announced in parallel with the drafting of the 2023 budget act. However, the rise in energy prices may pose a risk to meeting the deficit targets, especially in the coming years.

The 2022 budget act established the cash flow deficit of the central subsystem of the public finances at HUF 3,152.7 billion. The nominal GDP is developing more favourably than assumed in the budget, thanks to which the tax and contribution revenues may exceed the appropriation despite the marked tax reductions introduced since the adoption of the law. At the same time, expenses are also higher than planned as a result of rising energy costs due to high world market prices, pension expenses, and interest expenses.

Figure 1 Development of the ESA fiscal balance and interest expenditures (as percentage of GDP)

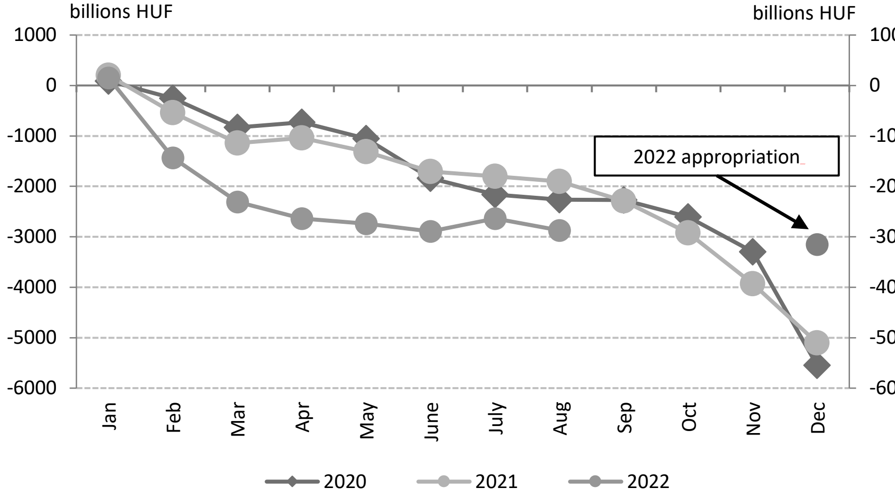


Source: Actual data for years 2013-2021 by CSO, MNB's September 2022 inflation report for years 2022-2024 forecast

Presentation of facts related to the development of the budget in 2022

The cumulative deficit of the central subsystem was HUF 2,873 billion by the end of August, which is 91 percent of the annual appropriation (Figure 2). The tax and contribution revenues of the central subsystem were almost HUF 1,600 billion higher in the first eight months of the year, despite the reimbursement of child benefit for those with children and tax and contribution reductions burdening work, while the primary expenditures of the central subsystem exceeded the same figure last year by more than HUF 2,600 billion period value. Most of the increase in expenses can be linked to higher expenses related to EU subsidies, in addition to which significant household income-raising measures were implemented. The restructuring of the 13th month pension, the usual increase in the beginning of the year, the expected additional pension increase in July and November, as well as the weapon money and sector wage increases will significantly improve the income situation of families.

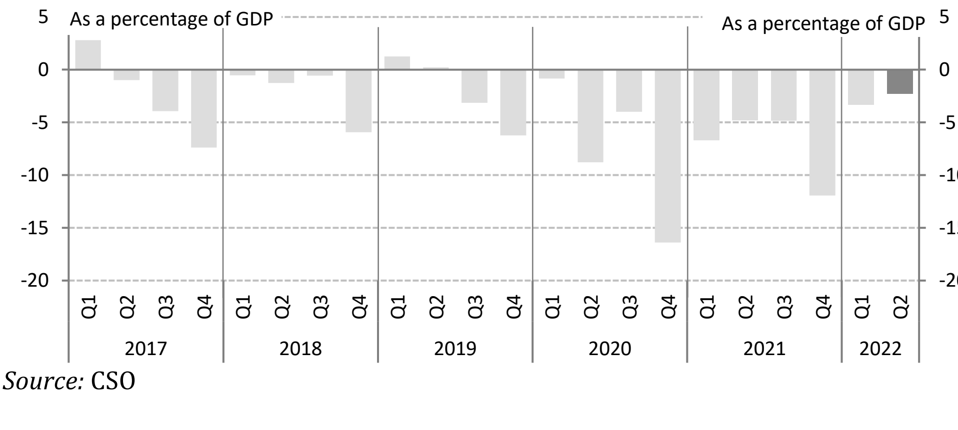
Figure 2 Intra-year cumulative cash-based balance of the central subsector (billion HUF)



Source: 2022 Budget Act, Hungarian State Treasury (HST)

In the first half of 2022, the accrual-based deficit was 2.8 percent of the six-month GDP, which was in line with the then-current annual deficit target of 4.9 percent. The accrual-based deficit in the first quarter amounted to 3.4 percent of the quarterly GDP, which is considered a high deficit compared to previous years (Figure 3). In the first quarter, measures resulting in significant one-time expenses (13th month pension, service allowance for armed and law enforcement agencies) were implemented. In the second quarter, based on CSO (Central Statistical Office – Központi Statisztikai Hivatal/KSH) data, the deficit amounted to only 2.3 percent. This is the lowest quarterly deficit as a percentage of GDP since the outbreak of the coronavirus crisis. The additional expenses resulting from the sharp increase in raw material and, especially energy prices, are expected to occur largely in the second half of 2022.

Figure 3 Accrual balance of the general government (as percentage of GDP)

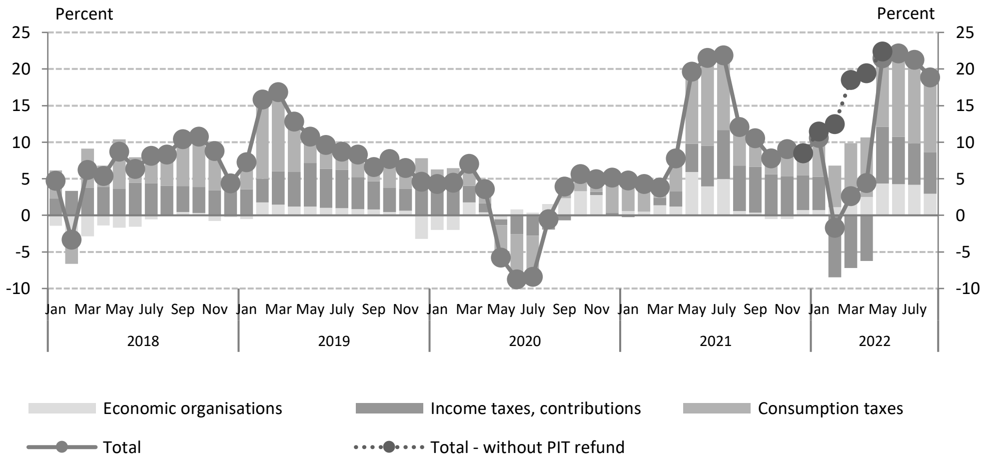


Source: CSO

In the first eight months of this year, the partially consolidated cash flow revenues of the central subsystem were about HUF 2,000 billion higher than a

year earlier. An increase of nearly 14 percent in tax revenues can be observed at the end of the first eight months, which is mainly due to the increase in nominal GDP. The most significant increase occurs in the payments of economic organizations and consumption taxes: VAT revenues showed significant growth dynamics in the first eight months of this year (Figure 4). While the tax and contribution revenues related to employment showed favourable dynamics despite the PIT refund for those with children, the partial PIT exemption for those under 25 and the 4 percentage point reduction in employer contributions.

Figure 4 Evolution of tax and contribution revenues between 2018 and 2022, year-on-year, 3-month moving average (percent)



Source: HST, MNB
Note: The income calculated without PIT refund is the calculation of the MNB

The partially consolidated cash flow expenses of the central subsystem of the public finances were about HUF 3,000 billion higher than the value in the same period of the previous year. The increase in expenses is mainly reflected in expenses related to EU subsidies, central budget bodies, retirement benefits and net interest expenses. In the case of EU subsidies, the difference is caused by the payment of advances for the new cycle, in the case of the central budget bodies, the government's wage increase measures at the end of last year, the bringing forward of the law enforcement service allowance to 2022, and the larger overspending of the central reserve of the Economic Restart Programs. The rise in pension expenses is a consequence of the 13th month pension and the pension increases implemented due to inflation exceeding the macroeconomic expectations on which the budget is based. The increase in interest expenses is mainly caused by the rise in government bond market yields.

Government measures announced in 2022

The measures at the beginning of the year were aimed at increasing household incomes. At the beginning of this year, the budget increased the support for families with social security reimbursement, and the income of employees under the age of 25 is exempt from personal income tax up to the average wage. In addition, law enforcement and national defence workers received a six-month advance bonus, while many state workers received a wage increase this year. Furthermore, the payment of the full amount of the 13th monthly pension significantly improved the income situation of the pensioners. The combined effect of tax and wage measures in 2022 on increasing household net incomes will exceed HUF 1,700 billion this year.

Table 2 Impact of significant income-increasing measures in 2022 (billion HUF)

Measure	Gross budgetary impact	Net income
1) Personal income tax refund	660	660
2) Sectoral wage increases	610	382
3) 13th-month pension	365	365
4) Law-enforcement service allowance	271	170
5) PIT-exemption under 25 years	140	140
Total measures (1+2+3+4+5)	**2 046**	**1 717**

Source: HST, Ministry of Finance (MoF)

In order to meet the budget deficit targets, a package of measures representing about 3 percent of GDP was announced at the same time as the 2023 budget bill. The vast majority of income measures can be linked to special taxes levied on "extra profit"; in addition to which, additional tax revenue measures have also been announced. Deposits from the banking and insurance sectors are rising, taxes from energy companies, the retail sector, telecommunications companies and pharmaceutical actors are increasing, and contributions from airlines are emerging. In addition, the advertising tax will be re-introduced. In 2022, among the measures affecting the revenue side, revenue corresponding to more than 1.1 percent of GDP may come from the special taxes imposed on the so-called extra profit. At the same time, most of the measures affect the expenditure side, which covers saving and increasing efficiency affecting ministries, budgetary bodies, and government programs, rescheduling and curbing public investment projects and amending the rules for reducing overheads. Overall, expenditure-side measures can mean savings of around 1.7 percent of GDP.

Table 3 The fiscal impact of measures announced during the preparation for the 2023 Budget Act (as a percentage of GDP)

	2022
Revenue side measures	**1,34**
Special taxes on windfall profits	1,14
Duties, taxes on company cars and public health taxes	0,15
Formal sector widening and employability simplifying measures	0,05
Expenditure-decreasing measures	**1,7**
Economising and efficiency increase at ministries, budgetary authorities and government programs	1,0
Rescheduling and replanning of public investment projects	0,5
Utilisation of revenues from feed-tarifs (KÁT) in universal services	0,2

Source: MoF

The amendment to the law effective from September 1, 2022 limited the number of persons entitled to choose the itemized tax type (KATA) of low-tax businesses. The main legislative intention behind the tightening of the KATA was to eliminate the tax optimization practice that has become increasingly common among larger enterprises in recent years, which was primarily aimed at replacing the employment relationship with a lower tax burden. According to the MNB's estimate, the measure could result in a net additional revenue of HUF 150-200 billion for the budget. Of the approximately 450,000 low-tax payers, it is expected that 100,000-150,000 people will be able to continue their activities in the new system of KATA, which alone could mean an annual loss of HUF 150 billion. On the other hand, income in excess of HUF 300 billion per year can be derived from other types of taxes, primarily from personal income tax and contributions, which can be offset by the abandonment of entrepreneurial activity, which is typically a part-time job.

The sudden rise in energy prices is a significant burden on the budget. The world market price of natural gas and electricity rose dramatically compared to pre-crisis levels, so in addition to the costs of maintaining utility reduction, the energy bills of state institutions also rose. Changes to residential energy prices were also announced in July, in the framework of which the previous official price remained available to everyone for the amount of energy corresponding to the average consumption, while a more favourable residential market price than the current market price was still introduced for energy consumption greater than the average consumption. Thanks to the measure, the budget savings in 2022 could be about HUF 200 billion, which partially offsets the budgetary impact of the significant increase in energy prices in the summer months. In the absence of measures, the continuation of high energy prices in terms of natural gas and electricity would mean an additional expenditure of around HUF 1,600 billion for the budget in 2022.

Evolution of government debt

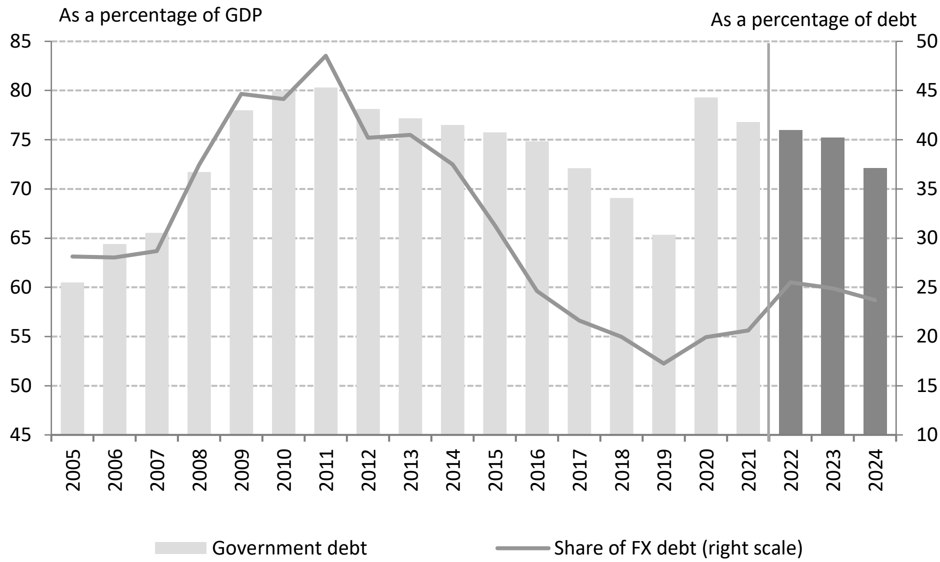
Based on the data of the financial account, at the end of the second quarter of 2022, the gross national debt as a percentage of GDP was 77 percent (Figure 5)**.** Based on the financial account data published by the MNB, the debt ratio increased by 0.6 percentage points compared to the same period of the previous year, and by 0.2 percentage points compared to the value at the end of 2021. The increase in public debt was caused by the high net output in the first half of the year, which was nearly HUF 2,700 billion in the first half, while the dynamic GDP growth partially offset the increase in the rate. The foreign currency ratio of the central government debt rose to 23.1 percent in the second quarter of 2022 from 20.6 percent at the end of last year as a result of foreign currency bond issues.

Figure 5 Gross quarterly public debt (as a percentage of GDP)

Source: MNB

According to MNB's September 2022 forecast, if the budget deficit target is met, the gross public debt as a percentage of GDP will decrease to 76.0 percent by the end of 2022 from 76.8 percent at the end of last year (Figure 6)**.** This year, the public debt ratio will decrease as a result of the dynamic expansion of nominal GDP, the expected more restrained debt issuance in the second half of the year, and the decrease in the stock of government deposits if the ÁKK's issuance plan is fulfilled. The value of the public debt ratio may decrease by an average of nearly 1.5 percentage points per year over the forecast horizon, so it may decrease to close to 72 percent by the end of 2024.

Figure 6 Expected gross public debt as a percentage of GDP and share of FX debt of the central budget



Source: MNB, Government Debt Management Agency (ÁKK)
Note: The Maastricht public debt ratio is published by the MNB, while the FX ratio of the central debt is published by the ÁKK. For years 2022-2024 MNB forecast.

Fulfillment of the fiscal rules in 2022

A total of eight fiscal rules apply to the Hungarian public finances in 2022, of which four Hungarian and four European Union criteria apply to domestic budget management, of which only the domestic debt rule included in the Stability Act is effective in this period. There are overlaps between the rules in two places, these are: the Maastricht deficit criterion of 3 percent and the rule regarding the medium-term budget goal. The other two Hungarian rules are the debt rules of the Fundamental Law and the debt rules of the Stability Act. The regulations that arise only in the European Union legal system are the spending rule and the Maastricht debt rule.

According to **the debt rule of the Fundamental Law**, the national debt ratio is above 50 percent of GDP so, according to the rule, the debt ratio needs to decrease.[2] Compliance with the debt rule is a condition for the adoption of the budget, which is examined by the Fiscal Council. The 2022 budget law was adopted in 2021 in such a way that it included the expected reduction of the national debt ratio according to the prospects at the time so, compliance with the rule was ensured. Based on the exemption clauses, it is possible to deviate from the rules if there is a permanent and significant decline in the national economy or the introduction of a special legal order becomes

[2] Fundamental Law of Hungary of Hungary, Article 36 (4)-(5), Article 37 (2)-(3).

necessary.[3] The crisis related to the coronavirus epidemic, as well as the state of emergency ordered as a result of the Russian-Ukrainian war that broke out in 2022, put into effect the exemption clause, on the basis of which the debt rules of the Fundamental Law can be deviated from this year. The debt ratio is expected to decrease if this year's deficit target is met, so the rule is fulfilled.

Another domestic budget rule regarding public debt is **the debt rule of the Stability Act.** The regulation states that the national debt as a percentage of GDP must decrease by at least 0.1 percentage points per year in addition to the enforcement of European Union rules.[4] The additional annual average decrease of approximately 1.5 percentage points in the debt ratio this year and in the following years means compliance with the requirements of the debt rule contained in the Stability Act.

[3] Fundamental Law of Hungary of Hungary, Article 36 (6), Article 37 (3)
[4] CXCIV of 2011. Act on the Economic Stability of Hungary, Section 4 (2a)

Table 4 The most important rules for the domestic budget and their exemption clauses

<table>
<tr><th colspan="2">Hungarian national rules</th><th>Description</th><th>Exemption clauses</th></tr>
<tr><td colspan="2">Debt rule</td><td>As long as the national debt ratio exceeds 50 percent of GDP, only a budget that includes a reduction in the ratio can be adopted. During the implementation of the budget, no financial obligations may be undertaken that would result in an increase in the national debt.</td><td>Special legal order and the reduction of the gross domestic product.</td></tr>
<tr><td colspan="2">Debt formula</td><td>The debt ratio should decrease by at least 0.1 percent of GDP per year, in addition to enforcing the EU rules on debt reduction.</td><td>The reduction of the gross domestic product.</td></tr>
<tr><td colspan="2">Deficit-criterion</td><td>The deficit of the government sector cannot exceed 3 percent of GDP.</td><td>The reduction of the gross domestic product. (Currently suspended as of 2022 September.)</td></tr>
<tr><td colspan="2">Medium-term budget goal</td><td>The balance of the government sector should be in line with the achievement of the medium-term budget goal.</td><td>-
(Currently suspended as of 2022 September.)</td></tr>
<tr><th colspan="2">European Union fiscal rules</th><th>Description</th><th>Exemption clauses</th></tr>
<tr><td rowspan="2">Corrective arm</td><td>Maastricht deficit</td><td>The planned or actual budget deficit should not exceed 3 percent of GDP.</td><td>An unforeseeable adverse economic event with a significant negative impact on public finances or, a severe economic downturn affecting the euro area or the Union as a whole.</td></tr>
<tr><td>Maastricht debt</td><td>The government debt should not exceed 60 percent of GDP, or should decrease at a satisfactory pace to the reference value.</td><td>-</td></tr>
<tr><td rowspan="2">Preventive arm</td><td>Medium-term Budgetary Objective</td><td>The balance of the budget should be in line with the achievement of the medium-term budget objective.</td><td rowspan="2">An unusual event that cannot be influenced by the Member State concerned, which has a significant impact on the financial situation of the public finances or, a severe economic downturn affecting the euro area or the Union as a whole.</td></tr>
<tr><td>Expenditure benchmark</td><td>The development of the net primary budget expenditures should be in accordance with the requirements of the corrective path leading to the medium-term goal.</td></tr>
</table>

Source: Fundamental Law of Hungary, Act CXCIV of 2011 on the Economic Stability of Hungary, Council Regulation (EC) No 1466/97

The **Maastricht deficit criterion**, included in both the domestic and EU budget framework, stipulates that the government sector's accrual-based deficit cannot be higher than 3 percent of GDP.[5] Although the expected 6.1 percent of the GDP-proportional public budget deficit for 2022 exceeds the threshold, the Maastricht deficit target is subject to an exemption clause in both the European Union and domestic budget frameworks. The general exemption clause implemented in the EU permits a temporary deviation from the reference value for the budget balance, as well as from the medium-term budgetary goal and the corrective path leading to it, provided that this does not endanger the medium-term sustainability of the public finances.[6] Under the exemption clause, the rules belonging to the corrective arm of the Stability and Growth Pact apply to EU institutions so, in the case of a deficit criterion, they do not initiate an excessive deficit procedure according to a discretionary decision, on the other hand, their activity is limited to formulating the revised country-specific economic policy recommendations. In the Hungarian legal system, a decrease in the real value of the gross domestic product would provide an exemption from compliance with the 3 percent deficit rule.[7] At the same time, the relevant paragraph of the Stability Act was amended, so according to the transitional provision, the rule does not have to be applied in the budget years between 2021 and 2023.

Pursuant to the **medium-term budgetary objective** rules found in both the domestic and EU legal systems, the balance of the government sector must be determined in such a way that it is consistent with the achievement of the medium-term budget objective.[8] The structural balance is used to measure the path leading to the goal, which is a cyclically adjusted balance filtered from the effects of individual and temporary items. The medium-term budgetary objective (MTO) for Hungary between 2021 and 2023 is -1 percent of GDP. After the implementation of the general exemption clause in the European Union, during its scope, the Commission neither sanctions nor examines compliance with the rules belonging to the preventive arm of the Stability and Growth Pact. In this way, the member states are temporarily exempted from the medium-term budgetary objective or, from **the expenditure rule** that designates the corrective path in the event of its failure. The rule regarding MTO in the domestic legal system has been amended so, according to the transitional provision of the Stability Act, this regulation does not have to be complied with between 2021 and 2023.

The **European Union debt rule** states that the national debt ratio of the member states cannot exceed 60 percent of GDP, or if it does exceed it, then a satisfactory reduction of the debt ratio is necessary. The appropriate reduction of the debt is quantified by the one-twentieth debt rule, according to which it is necessary to reduce the debt ratio annually by approximately one-twentieth of the part of the debt ratio above 60 percent on average over three years. Based on its own forecast, the European Commission calculates the rate of change in the debt ratio using three types of methodology (forward-looking, backward-looking, cyclically adjusted), and if the required one-twentieth reduction is achieved based on at least one of them, the rule can be considered fulfilled.

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[5] Act CXCIV of 2011 on the Economic Stability of Hungary, Article 3/A (2) b)

[6] Council Regulation (EC) 1466/97, Article 5 (1), Article 6 (3), Article 9 (1), Article 10 (3); Council Regulation (EC) 1467/97, Article 3 (5), Article 5 (2)

[7] Act CXCIV of 2011 on the Economic Stability of Hungary, Article 7 (1)-(2)

[8] Act CXCIV of 2011 on the Economic Stability of Hungary, Article 3/A (2a)

In 2022, the domestic gross public debt ratio will exceed 60 percent of GDP, so annual debt reduction is necessary. The scope of the general exemption clause will remain in effect in 2023; however, according to the current forecast of the European Commission, the development of the national debt in proportion to GDP would nevertheless meet the requirements of the temporarily suspended debt rule this year.[9]

[9] Report from the Commission – Report prepared in accordance with Article 126 (3) of the Treaty on the Functioning of the European Union, European Commission, 2022 May 23rd, Table 4

ATTILA ERDÉLYI[1] – GYULA PULAY [2]

„TO SEE THE FOREST FOR THE TREES"

SUMMARY OVERVIEW OF MACROECONOMIC AND BUDGETARY PROCESSES BETWEEN 2017-2021 BASED ON THE ANALYZES OF THE STATE AUDIT OFFICE

The State Audit Office (SAO) supports the Budget Council (FC) in the performance of its tasks by preparing analyzes and studies in accordance with Section 5 (13) of Act LXVI of 2011 on the State Audit Office. Pursuant to the CXCIV Act of 2011 on the economic stability of Hungary (Gst.) § 23 (1) point c), the FC issues an opinion every six months on the status of the implementation of the Act on the Central Budget and the expected development of the national debt. The analyzes of the SAO provide clues for the formation of the opinion of the FC. In doing so, the SAO primarily examines how the fulfillment of budget revenues and the fulfillment of expenses developed in comparison to the appropriations set out in the budget law, and how this influenced or influences the achievement of the deficit target and public debt index defined in the law. In doing so, the SAO pays attention to macroeconomic processes that have a significant impact on the state of the budget.

The SAO does not make forecasts, but rather identifies and quantifies risks threatening the fulfillment of budgetary rules, including primarily the national debt rule and the Maastricht deficit requirement. It also did this during the evaluation of the budget processes for the first semester of 2022. The analysis on this is available on the website of the SAO[3], so in this study we do not present the conclusions of this analysis. We will not go into a detailed presentation of the processes in 2022, as the study by the employees of the National Bank of Hungary (MNB) and several other studies in this volume do this. Instead, we would like to give a five-year retrospective, highlighting the key macroeconomic developments of the period between 2017 and 2021 and showing how they interacted with the development of budget expenditures and revenues. We do not stray too far from the risk approach used by SAO, since future risks arise from the continuation of processes started in the past in addition to unexpected events, and the ability to manage the risks that occur also depends to a large extent on the extent to which the stakeholders have accumulated suitable resources.

By definition, the analyzes prepared for the Fiscal Council on a half-year basis evaluate the processes of the given half-year and focus on risks occurring within the year. However, it is advisable to stop from time to time and review the processes spanning the chain of semesters, highlighting their connections. Figuratively speaking, the semi-annual analyzes are about the "trees", and this paper tries to show some characteristics of the "forest".

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[1] Project manager, State Audit Office

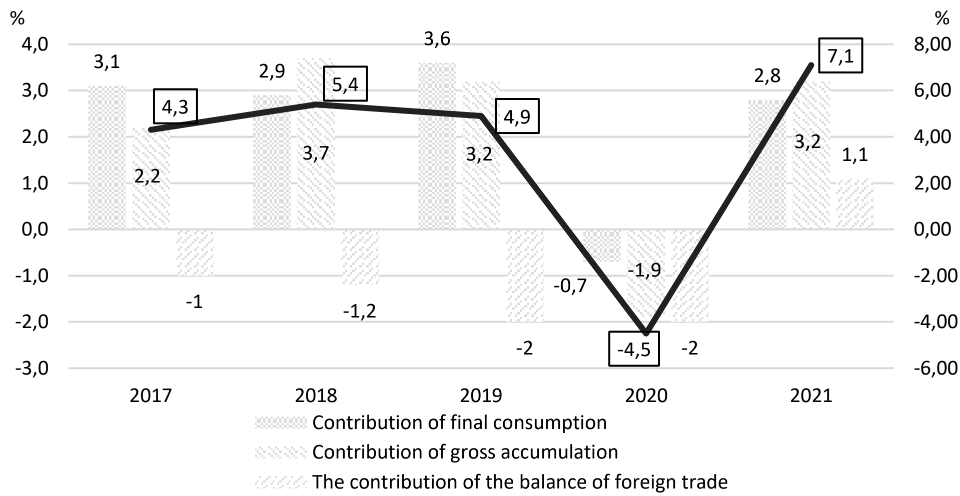
[2] Senior economist, State Audit Office, associate professor, University of Miskolc

[3] See „Elemzés a Költségvetési Tanács részére a 2022. I. félévi költségvetési folyamatokról https://www.aszhirportal.hu/storage/files/files/elemzesek/2022/E2246__2022_I_felevi_FC_elemzes_.pdf?ctid=1310

Transition from export-driven growth to internal consumption-driven growth

As a result of the global financial crisis of 2008-2009, internal consumption in the Hungarian national economy fell to a large extent, and exports were the driving force of the economy. As a result, the Hungarian economy grew at a moderate pace until 2016, but its external equilibrium position improved a lot and accumulated a considerable foreign trade surplus. However, starting in 2017, this trend changed, internal consumption became the driving force of economic growth, and in parallel, the positive balance of foreign trade decreased year by year. Both consumption and the accumulation of fixed assets expanded rapidly, as a result of which dynamic economic growth was realized until 2019. This is illustrated in Figure 1.

Figure 1 The contribution of factors[4] on the consumption side of GDP to the change in GDP
(2017-2021, in percentage points, change in GDP in percentage)



Source: CSO STADAT 21.1.1.11., own edition

However, the dynamic economic growth was interrupted by the coronavirus epidemic in 2020, and a decline occurred in all three factors of the consumption side of GDP. At the same time, all three factors contributed to the rebound in 2021, with gross accumulation to the greatest extent. This also reflects the realization of the government's intention to offset the economic difficulties caused by the epidemic primarily by encouraging job preservation and job creation, and not by artificially expanding consumption. (We will come back to this later.) Nevertheless, the increase in

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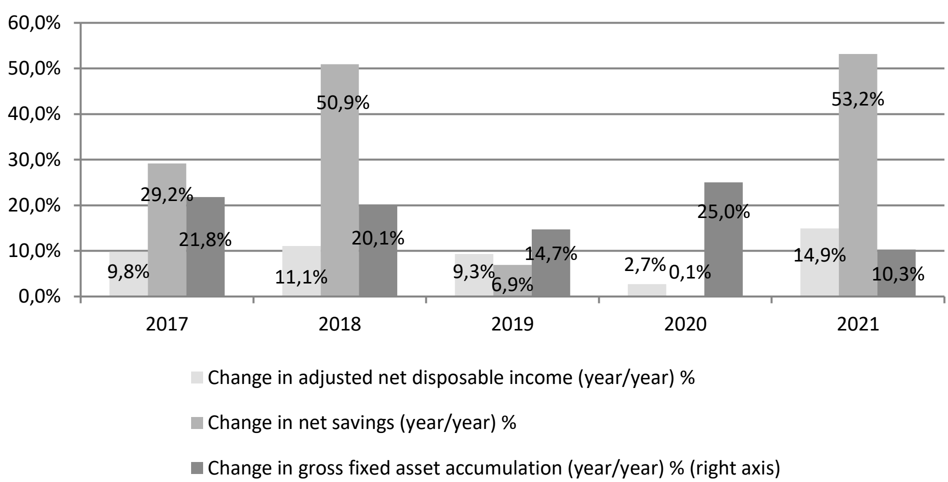
[4] Final consumption means the combined data of actual household consumption and public consumption.

the volume of final consumption in 2021 was also well above the rate of decline in 2020. It is noteworthy that despite the dynamic growth of the two factors of internal consumption, the balance of foreign trade also improved and again contributed positively to the growth of the national economy as a whole. This is partly explained by base effects. Such is the one-time balance-destroying effect of the assets acquired from abroad in order to contain the epidemic in 2020, as well as the drastic decline in tourism in 2020, which generally significantly improves Hungary's foreign trade balance, which has already begun to correct itself as of the second quarter of 2021. At the same time, from the fall of 2021, the price of energy carriers began to increase rapidly, and foreign trade exchange rates deteriorated. As a result, despite the increase in the volume of the foreign trade balance, the balance has already deteriorated in terms of value. (When calculating economic growth, i.e. the change in the real value of GDP, the evolution of the volume of exports and imports is naturally taken into account. As a result, changes in prices and thus the deterioration or improvement of the exchange rates are not reflected. This is methodologically correct, but it does not take into account that the exchange rates its deterioration reduces disposable income in the country).

The role of household economic decisions in the development of economic growth and balance

Households are the determining players on the consumption side of GDP, and by converting their earned income to consumption, savings or accumulation, they exert a significant influence on economic growth and balance. Figure 2 illustrates the aggregated effect of household decisions.

Figure 2 Current price changes in households' adjusted net disposable income, net savings and gross fixed asset accumulation
(compared to the previous year, 2017-2021, in percentage)



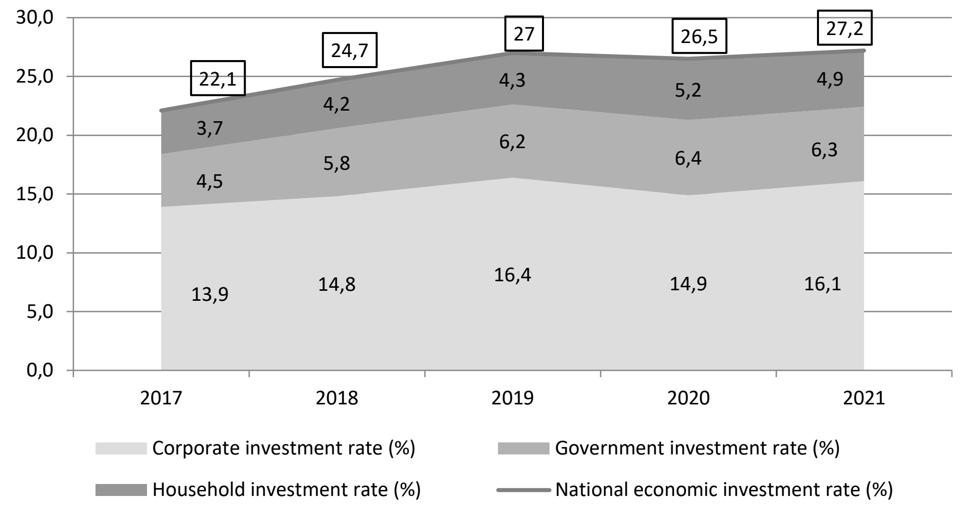
Source: CSO 21.1.1.32 and 21.2.1.24, own edition

From the figure, it can be seen that the disposable income of households increased by close to or more than 10% between 2017 and 2019, more than twice the rate of GDP growth reported in figure 1. However, a significant part of the increase in income did not appear as additional purchasing power, as households saved a significant portion of it in 2017 and 2018: their savings increased by 29.2% and 50.9%, respectively. As a result, there was no inflationary suction effect, and household savings could be channeled into the financing of investments and public debt. The rapid growth of household savings also contributed to maintain the internal and external balance of the national economy in 2021, despite the nearly 15% increase in the disposable income of households.

The expansion of household savings created favorable conditions for increasing their accumulation (essentially their investments). Figure 2 also shows that the increase in the gross fixed asset accumulation of households exceeded 10% every year. In particular, the 25% increase in 2020 should be highlighted, which seriously curbed the economic downturn due to the epidemic. The accumulation of fixed assets by households takes the form of housing investments to a decisive extent, which the central budget subsidized with an increasingly significant amount: HUF 94.0 billion in 2017, and HUF 373.2 billion in 2021 for such subsidies, as can be read from the annual discharge laws.

The increase in the investment activity of households also contributed to the fact that the Hungarian investment rate rose to a record level in 2019 (see Figure 3). It can also be read from the figure that the 0.9 percentage point increase in the investment rate of households in 2020 (admittedly, partly due to the drop in GDP) represented a serious counterweight to the decrease in corporate investments. The investment rate of households in 2021 also exceeded the pre-epidemic level by a good amount (by almost 15%). Starting from the second quarter of 2021, corporate investments also picked up quickly, among other things, as a result of the one thousand billion development budget subsidies paid out at the end of 2020. Thus, the investment market became overheated, also due to the slow adaptation of the supply, which was also reflected in the rapid increase in prices. Consequently, it was a rational decision to curtail government investments in the second half of the year, which the Fiscal Council had already advocated.

Figure 3 Development of the composition and size of the investment rate (2017-2021, %)



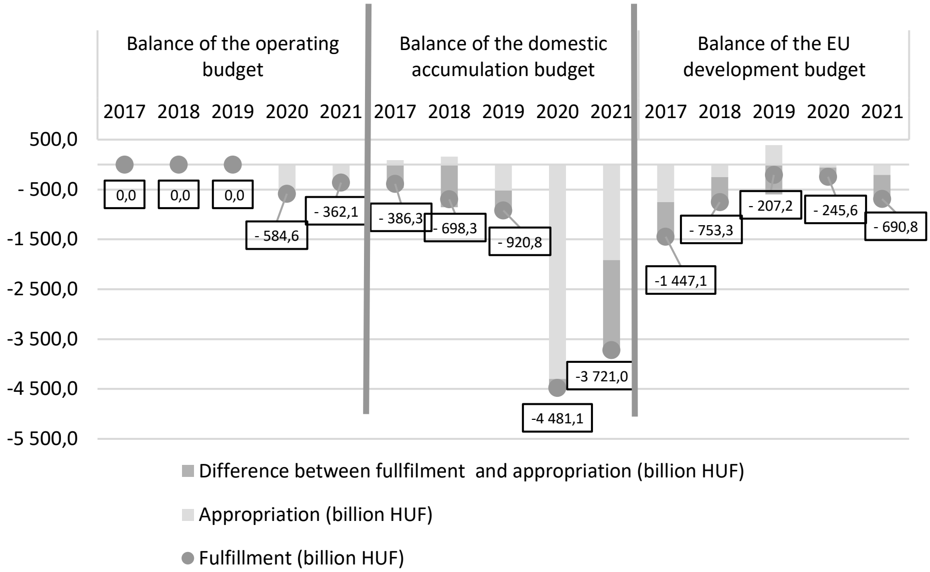
Source: EUROSTAT, based on the investment rate of national economies, own edition

The role of the budget in the development of economic growth and balance

Since 2015, Hungary's central budget has been divided into three sub-budgets: the operating budget, the domestic accumulation budget, and the EU development budget. The nature of the budget policy is well illustrated by the amount of the balance of these sub-budgets determined by the budget laws of the given year, and how the actual balance developed. This is illustrated in Figure 4 for the analyzed period.

It can be seen that the operating budget is designed to break even every year. On the other hand, in the domestic accumulation budget and in the EU development budget, a deficit was planned every year from the beginning, following the principle ("golden rule") that the state can only go into debt for the sake of developments that will turn out to be fruitful in the future. In this way, at least in principle, the current generation not only puts a burden on the next generation, but also compensates for these burdens.

Figure 4 The balance of the three sub-budgets of the central budget (2017-2021, billion HUF)



Source: 2017-2021 annual budget laws and discharge proposals, own edition

Between 2017 and 2019, this principle also prevailed during the actual implementation, i.e. the balance of the operating budget part was maintained. However, mitigating the adverse economic effects of the coronavirus epidemic also necessitated the fulfillment of additional operating expenses that led to a deficit in the operating sub-budget in 2020 and 2021 as well.

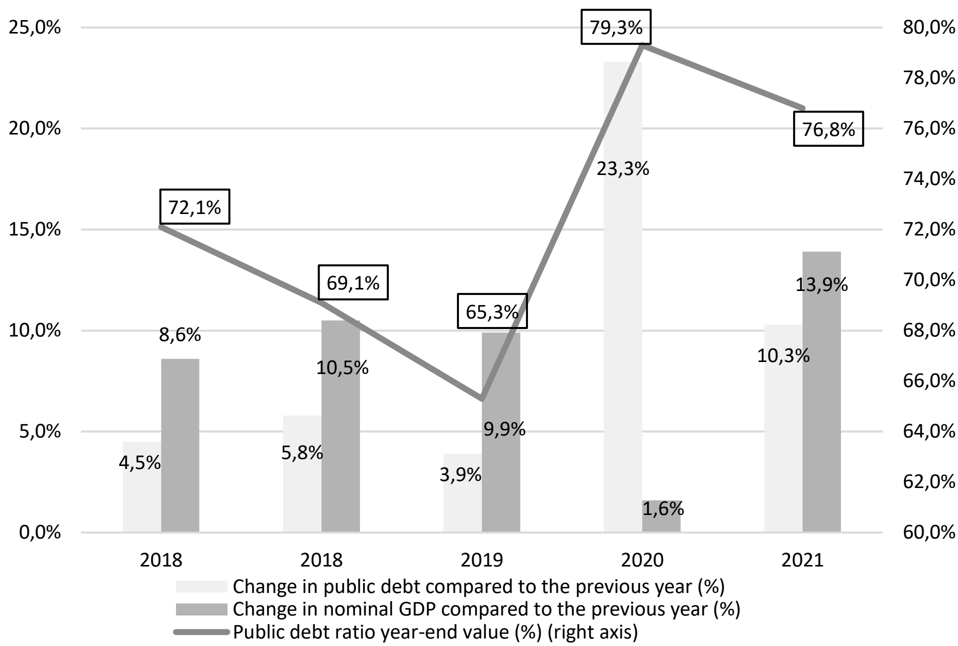
In 2017 and 2018, the deficit of the domestic accumulation budget was lower than planned, at which time the larger than planned deficit of the EU development budget worsened the balance of the budget as a whole. In 2019, however, the situation reversed, the smaller-than-planned deficit of the EU development budget created room for maneuver to increase the expenditures of the domestic accumulation budget beyond the plan.

The most noteworthy element of the figure is the deficit of the domestic accumulation budget for 2020, which is many times higher than planned, and which approached HUF 4,500 billion, as a result of the fact that the government primarily tried to offset the negative economic impact of the epidemic with large-scale support for investments and developments. Given that the government paid the majority of the spending for the purpose of accumulation in the fourth quarter of 2020, their economic impact appeared at the beginning of 2021, increasing the rate of GDP growth by leaps and bounds. The development-oriented crisis management continued in 2021, and the adopted 2021 budget law already planned a deficit of more than HUF 1,800 billion in the domestic accumulation budget in order to protect and restart the economy.

The actual deficit was more than double that, primarily as a result of the large amount of subsidies for the purpose of accumulation also paid out at the end of the year.

An additional economic incentive was the higher-than-anticipated advance of EU subsidies, which, together with the lower-than-planned fulfillment of EU revenues, further increased the planned high deficit of the EU development budget. We can draw the conclusion that the government played an active role in curbing the economic downturn caused by the epidemic, and even more so in supporting the restart, by consciously accepting the larger deficit of the central budget, and especially that of the domestic accumulation sub-budget. Of course, all this was accompanied by a rapid increase in the national debt. This is illustrated in Figure 5.

Figure 5 Changes in public debt and nominal GDP compared to the previous year, as well as trends in the public debt index
(2017-2021, percentage)



Source: 2017-2021 annual discharge proposals, own calculation and edition

It can also be read from the figure that between 2017 and 2019, the budget policy represented the principle of "growth", i.e. it prioritized the growth of the economy rather than reducing the amount of public debt. It is clear that this approach proved to be successful, as the public debt index decreased by almost 7 percentage points in three years. However, in 2020, the economic downturn due to the epidemic (due to the rise in prices, the amount of nominal GDP increased somewhat despite the 4.5% decrease in the volume of GDP) and the huge deficit of the budget brought the public debt indicator close to the 80% level, almost full completely eating up the improvement from 2011. In 2021, however, thanks to the successful restart, the public debt index improved significantly again, confirming the effectiveness of development-oriented crisis management and the feasibility of following the principle of "growth". However, new economic challenges, primarily the rise in the cost of financing public debt, warn that the viability of the path of "growth" is threatened by repeated economic downturns and slowdowns, so it is advisable to pay even more attention during periods of economic growth to curbing the increase in the amount of public debt, even reducing it.

PÉTER ÁKOS BOD – ILONA CSERHÁTI – TIBOR KERESZTÉLY – TIBOR TAKÁCS [1]

MACROECONOMIC AND BUDGETARY CORRECTION – IN AN INFLATIONARY ENVIRONMENT

Prospects of the global economy

The short and medium-term prospects of the Hungarian economy are surrounded by great uncertainty amid the European energy crisis caused by the Russian war, rising inflation, the expected slowdown in growth dynamics, frictions between the government and the EU institutions and the malfunctioning of international supply chains. In its 2022 summer forecast, the European Commission lowered significantly its forecast compared to its Spring report as a consequence of the protracting Russian-Ukrainian war. The growth of the Union is estimated at 2.7% for year 2022 and 1.5% for 2023 year, and the growth prospects of the Eurozone are judged to be slightly less favourable. In September 2022, however, the President of the European Central Bank did not rule out the possibility that a recession could develop in the winter of 2022-2023. In its June 2022 forecast, the OECD also estimated similar dynamics for the year in the Eurozone. In July 2022, the IMF also reduced its forecast for global growth: for 2022, even in the base scenario, growth of only 3.2% is expected, in 2023 the dynamics may further decrease to 2.9%: the growth forecast for the EU is 2.6% for year 2022 and 1.2% in 2023. In its June 2022 analysis, the World Bank also assumed among the risks the return of the stagflation similar to that of the 1970s.

As a result of the protracting war, EU sanctions and Russian counter-sanctions, crude oil prices rose high by June 2022, but after that they have had a downward trend; in three months the price of Brent fell by 25% and that of Ural by more than 30%. The price of natural gas rose to a record high in the third week of August 2022, partly due to excess demand due to replenishment of reserves and, partly due to the curtailment of Russian supply, but the price returned to the end of July level in the second week of September. At the time of writing, the EU is trying to prevent the return of unrealistically high gas prices with joint action. According to U.S. Energy Information Administration's forecast, Brent prices are expected to average around USD 104/barrel this year, and they could hover around USD 96 throughout 2023. In the case of natural gas, a slight increase in the annual average price is expected in year 2023.

It is assumed in this forecast as a base scenario that despite the supply problems and the drastic rise in the cost of living, no serious economic and social crisis will develop in Hungary, under the assumption that an agreement with the EU institutions will be reached on access to the funds that are necessary to recover from the crisis and, that our judgment will not deteriorate even with the credit rating agencies. However, we detect negative risks in these important aspects; in an unfavourable case, we assume

[1] Corvinus University of Budapest. Manuscript submission date: September 15, 2022.

recession in the whole of 2023, a further weakening of the domestic currency, supply problems and inflation stuck at a high level.

Development of macroeconomic processes: current situation and projection

From 2020, macroeconomic processes can actually be described as a series of non-economic shocks and reactions to these shocks. A fundamental question is how the domestic economy will cope with the unfolding price increase and the energy crisis following the rapid and apparently successful recovery from previous simultaneous external demand and supply shock caused by the COVID epidemic.

After a short-term contraction in 2020, the world economy responded to the atypical demand and supply shock of 2020 with a rapid recovery due to the development and roll out of vaccines. In 2021, the volume of GDP per capita in the majority of European Union economies already exceeded the 2019 values. In the case of the Hungarian economy, the volume of GDP per capita, measured in euros, was 2.9% higher than two years earlier. Inflation processes, on the other hand, show a dangerously upward trajectory from the beginning of 2021, in addition to supply disruptions, partly as a result of the fiscal stimuli used to restart the EU economies, and partly as a result of the domestic expansionary fiscal policy. Overall, however, it seemed that rapid economic growth could be predicted after the crisis.

Overall, however, it seemed that rapid economic growth could be predicted after the crisis. Unfortunately, in 2022, this process took a negative turn as a result of the Russian-Ukrainian war: inflation continued to strengthen (because it is fuelled not only by fiscal expansion, but also by the extraordinary rise in the prices of food, energy and raw materials), while the energy supply and its security has become critical due to the worsening conflict between Russia and the EU.

As a result of all this, the annual inflation in the Eurozone in August 2022 was 8.9%, while CPI in Hungary it was 15.6%. In the euro area, energy prices increased the most (by 38.3%), while food prices (10.6%) came in second place. In Hungary, the price structure is different: as a result of the price cap measures, energy prices were only 11.9% higher, while food prices were 30.9% higher than a year earlier. Even more worrying is the fact that Hungarian core inflation has already reached 19% for the same period. By the end of 2022, we are assuming the gradual liberalization of official prices; accordingly, we estimate that with the further impact of wartime food, raw material and energy prices, monthly inflation may reach 20% by year-end, so the annual average inflation may be around 14% for year 2022.

For the analysis of the processes in 2022, the structure of economic growth in the first half of the year offers important clues (Table 1). It can be seen that all items of domestic consumption increased dynamically. The consumption expenditures of households increased by a unique rate of 12% in the first half of the year, but capital accumulation also expanded at a rate of over 8%. Our foreign trade also showed dynamic growth, the volume of exports was 6.4% higher and that of imports was 7.8% higher than in the same period of the previous year. All of this clearly shows that in the first half of 2022, there has been no sign of the Hungarian household and corporate sector reacting appreciably to the unfolding crisis processes. The one-off transfers at the beginning of the year (tax reimbursements for families with children, the full 13th monthly pension paid to pensioners, etc.) were largely spent, and import demand did not react to the global price shocks that were clearly developing from the second quarter, as a result of lower domestic managed energy prices.

Table 1 Quarterly volume indexes of the final use of the gross domestic product (GDP) At the average price of 2015 (same period of the previous year = 100)

ITEMS OF USE	2021					2022		
	I.	II.	III.	IV.	I.-IV.	I.	II.	I.-II.
CONSUMPTION EXPENDITURE OF HOUSEHOLDS	94,1	109,8	106,7	108,2	104,6	114,1	110,1	112,0
ACTUAL HOUSEHOLD CONSUMPTION	95,9	109,1	105,6	107,1	104,4	111,5	109,4	110,4
COLLECTIVE CONSUMPTION	111,5	99,9	105,5	100,4	103,9	106,4	100,3	103,3
TOTAL FINAL CONSUMPTION	98,2	107,6	105,6	105,9	104,3	110,6	107,9	109,3
GROSS FIXED CAPITAL FORMATION	97,0	109,3	111,5	103,2	105,9	113,2	106,1	108,8
DOMESTIC DEMAND	95,0	111,4	109,6	106,8	105,8	111,5	106,2	108,7
EXPORTS	105,6	136,1	102,8	102,6	110,3	105,2	107,6	106,4
IMPORTS	102,5	126,7	107,0	102,0	108,7	108,3	107,3	107,8
GROSS DOMESTIC PRODUCT	98,1	117,8	106,2	107,1	107,1	108,2	106,5	107,3

Source: CSO Stadat

We expect that these trends will reverse by the second half of 2022, as the households will already directly experience a drastic increase in the costs of living, and the activities of some businesses may also become unprofitable, which may result in a decrease in production dynamics, especially in energy-intensive sectors. The 10% increase in consumer spending at the beginning of the year will already be moderated in the second half of the year by experiences and fears related to the prolongation of the war and the widening of embargoes, and the motives of prudence, which are a natural part of external and internal crisis phenomena, will come to the fore. The persistently high level of inflation and extremely high interest rates further worsen the dynamics of consumer demand in the second half of the year.

Overall, by 2022, the actual consumption of households is likely to increase by around 6%, along with a significantly decreasing dynamic within the year (Table 2). The dynamics of investments already started to decrease in the second quarter of 2022. In the second half of the year, in addition to the growing uncertainty and producer inflation, the investment dynamics may also be strongly affected by interest rate increases. According to our model calculations, in 2022 the dynamics of gross fixed capital formation may increase by only about 4.5% overall after the dynamics of 8.8% in the first half of the year, remaining below both the 6.1% growth dynamics of consumption expenditure and the 5% growth dynamics of domestic demand . By 2022, we consider it likely (and also useful from the point of view of the macroeconomic balance) that domestic demand will begin to realign in the second half of 2022: both consumption and investment demand will respond to the worsening inflationary situation, tightening interest conditions and the expected supply uncertainties. We believe that realignment in this direction is a prerequisite for improving the external balance (compensating the worsening effect of the terms of trade deterioration) through lower import dynamics.

Due to the current domestic and international processes, no growth drivers for a quick recovery are, on the horizon by 2023: the economic growth prospects of the European Union are subdued, the prolonged price shocks are worsening the income positions of Hungarian households and the corporate sector, and fiscal policy cannot plan to counterbalance, having limited scope for manoeuvre. When forecasting the gross fixed capital formation in the economy, we assumed that the government would eventually reach an agreement on the use of the Recovery and Resilience Funds (RRF). In our forecast, we assumed that access to funds will be a gradual process: some EU funds will be at least partially available in 2023 - which could be one of the keys to avoiding recession. In accordance with all of these, we expect a modest increase in consumption of around 1%. The dynamics of domestic demand, under these optimistic conditions, thus remains slightly below the growth rate of the estimated maximum 1.9% economic growth in year 2023.

In the medium term, by 2024, assuming an improvement in the global economic situation, positive demand expectations, and a fuller access to EU funds, we expect gross fixed capital formation dynamics of around 5% and an increase in consumption of over 2% (Table 2). By 2024, the structure of growth will be approaching the long-term trend, i.e., the dynamics of accumulation already exceeds the growth of both consumption and domestic use. The rate of economic growth may rise above 3% again.

Overall, we consider that the most difficult year in the medium term will be 2023, when the effects of the one-off domestic demand-stimulating economic measures will have completely exhausted themselves, inflation will still remain high, and due to the negative spillover effects of the Ukrainian-Russian war, the world economy and, especially the EU external demand will be relatively weak, while the dynamic of the accumulation of fixed assets is still low, due to financing difficulties and uncertainty. By 2024, the Hungarian economy can begin to reorganize itself; the revival of external demand will enable the volume of exports to increase by around 5%, but in addition to the expansion of domestic demand by 3%.

It is important to emphasize that the above basic path – just short of a recession – can only be realized if the inflation processes remain within the planned framework, the agreement with the EU will be eventually reached, thereby the balance positions of the domestic sectors remain in the sustainable range, so there will not be a larger-than-estimated decrease in production and employment, resulting in lower household income generation. These risk factors are listed briefly in the final chapter of the study.

Table 2 Annual volume indexes of the final uses of the gross domestic product (GDP) at the average price of 2015 (previous year = 100)

	2022	**2023**	**2024**
GDP	104,8	101,9	103,1
DOMESTIC DEMAND	105,0	101,6	103,1
ACTUAL HOUSEHOLD CONSUMPTION	106,1	101,0	102,3
GROSS FIXED CAPITAL FORMATION	104,8	102,5	105,0
EXPORTs (GOODs + SERVICEs)	106,5	104,0	105,0
IMPORTs (GOODs + SERVICEs)	106,2	103,8	105,0
ANNUAL AVERAGE OF CONSUMER PRICE INDEX	114,0	113,0	107,0

Source: Own forecast

External balance

In 2021, the external trade in goods reached a surplus of EUR 1.6 billion; the balance of services was EUR 5.7 billion based on preliminary data. Despite the annual surplus of goods , the monthly balance has been continuously in deficit since July 2021 – a worrying trend. The volume of annual exports was 7.8%, and that of imports was 8.3%. The surplus of the external trade in goods product balance deteriorated by EUR 3.7 billion in one year: the deterioration was mainly experienced in the EU context. Foreign trade in services was able to improve, mainly thanks to tourism; the balance was EUR 5.7 billion for the whole year.

In the first half of 2022, the terms of trade deteriorated by 6.5%. The Russian-Ukrainian war caused a significant energy crisis, leading to a further major increase in the prices of energy products compared to previous levels. Foreign trade in goods continues to be hampered by the global shortage of semiconductors, falling external demand, and disruptions in supply chains have a negative effect on foreign trade in goods as well. In the first half of 2022, there was already a deficit of 2.2 billion euros, the export volume increased by 2.3% and the import volume by 4.6%. The deterioration of the terms of trade played a significant role in the deficit. At the time of writing, only preliminary data was available for July 2022: however, the balance deteriorated drastically that month. The deficit in July was EUR 1.1 billion, which is worse than the large deficits in April 2020 and August 2021. The deficit was actually formed as a balance of both import and export surges: in July 2022, the value of exports calculated in euros increased by 13%, while that of imports increased by 23%. When detailed data are available, one can get an idea of the extent to which these sudden changes could be linked to the management of the energy crisis. Trade volumes are believed to have changed to a lesser extent. We do not expect the deficit to remain at this level, but a deficit of EUR 6-7 billion is conceivable in foreign trade in goods throughout year 2022.

Services developed relatively favourably in the first half of the year. In said time period, we achieved a surplus of EUR 2.1 billion, mainly thanks to tourism, which performed well with the lifting of closures, and the invigoration of transport activities. In the foreign trade of goods and services together, a negative net export may develop throughout the year, despite the fact that we no longer expect a significant increase in energy prices and deterioration in the exchange rate despite the expected protracting war. This year, we expect dynamics exceeding 6% in both exports and imports. In 2023, we expect slightly lower dynamics; import growth may be slightly below 4%, export growth around 4%.

In 2021, the current account gradually deteriorated every quarter. Based on the quarterly data, the balance of payments showed a deficit of EUR 4.9 billion for the year as a whole. In the first quarter of 2022, as in the previous quarter, a deficit of 2.3 billion euros emerged. In the current account deterioration, the widening external deficit was somewhat offset by a smaller than customary investment income balance. The latter is mainly a consequence of deteriorating international conditions and rising energy prices. For the time being, remittances of the salary income of employees working abroad have remained relatively low. With the end of the pandemic, remittances are expected to start to increase. We expect a current account deficit of around EUR 8 billion for the whole year of 2022. The payment position vis-a-vis abroad is significantly improved by capital transfers. The capital balance in the first quarter of 2021 was EUR 1.7 billion - this essentially represented the balance of transactions related to the EU, the amount was the same as in the previous quarter. Uncertainties in transfers make it difficult to forecast the net lending/net borrowing position for 2022. According to our expectations, a moderate negative is expected in the combined balance of the current account and the capital balance, i.e. a net borrowing position will develop.

Fiscal Path 2022-2024

The budgetary processes in 2022 were initially determined by the longer-term consequences of the coronavirus epidemic and then, by the immediate effects of the Russian-Ukrainian war. Although we experienced a significant correction in 2021 following the previous downturn, the damage to supply chains was only partially repaired. This appeared as a kind of negative supply shock on the world market, which caused a noticeable inflationary pressure together with the rising demand. It was in this situation that the Ukrainian crisis erupted, which mainly contributed to a further rise in prices through energy costs. So, on the one hand, the budget will be burdened by many extra expenses this year (cost of partial maintenance of utility price freeze - the so-called “utility cost reduction”, financing the increased interests of the national debt), yet on the other hand, accelerating inflation will sharply increase tax revenues. The increase in government receipts is of course also helped by the introduction of an extra levy (windfall taxes).

In the first four months of the year, the government maintained an extremely loose fiscal policy, the cash flow deficit of the public finances exceeded HUF 2,600 billion. After that, however, the government began a strong tightening: cancelled or postponed many investments and increased tax revenues with several measures (introducing sector levies, tightening lower-than-average tax schemes called KATA). Considering these measures, as well as the budgetary processes of the period since then, the government's commitment that this year's ESA deficit should not exceed 4.9 percent of GDP seems plausible.

The increase in inflation increases the revenues of the public finances most strongly through taxes related to consumption, the VAT revenues may exceed the planned value for this year by HUF 1,000 billion. Of course, this also means that the exposure of the Hungarian budget to consumption-type taxes continues to rise, and this trend is expected to remain in the coming years.

Higher inflation occurs in all areas of the economy, so wage inflation also raises the income tax revenues. In the case of revenues from corporate tax however, the effect is not so clear; the profits of certain sectors are essentially reduced to zero by inflation and those sectors that gain from higher prices, pay more tax into budget. Although it is unfortunate from an economic point of view, if tax levies and extra taxes are given too much weight - their market distorting effect is significant, which always results in victims in the real economy - it cannot be denied that the higher profit rate of certain sectors and company types is primarily due to the special economic situation, and not to the above-average management skills at the given companies. An example of this can be the energy industry (oil refining is an egregious case within it), which has been hit with special taxes by governments in many European countries.

In 2022, the cash flow deficit of the public finances is expected to remain below HUF 3,500 billion, which can be considered particularly favourable after the data of the first quarter. Thus, this year we calculate a cash flow deficit of 5.2% and an ESA deficit of 4.9% (we estimate the amount of the ESA bridge at HUF 200 billion - we do not have any new information on this compared to our May outlook). The percentage of the deficit is also noticeably reduced by the fact that, thanks to the inflationary surplus - and to a lesser extent to faster growth - the nominal GDP will be much higher compared to the values calculated in the Spring.

Throughout year 2023, we expect a strict fiscal policy; yet we fear that the cash flow deficit measured in forints and the ESA balance will hardly improve. The explanation for this is that the amount of the budget's interest expenses may double in 2023, while the extra income increase in 2022 cannot be repeated in 2023. According to our expectations, the positive sign of the ESA bridge will disappear next year so, in 2023 the ESA deficit may be higher than the cash flow deficit. Specifically, the former may decrease to 4.2% of the GDP, while the latter may be 4.5%. According to our calculations, the targeted 3% deficit can only be achieved in 2024 if strict and disciplined budget policy is maintained, which hardly allows one-time distributional expenses, even though the temptation to do so may be great due to the double election year.

In 2020, the previously decreasing trend of the national debt was broken, the GDP ratio rose by about 14 percentage points. The majority of analysts had previously expected stagnation or further deterioration for last year, but an improvement of nearly 3 percentage points occurred. This can be explained by the fact that although the public debt increased significantly in 2021 due to high annual deficit, the GDP measured at current prices rose even faster. In 2022, nominal GDP may grow even more steeply, although the increase is largely due to rising inflation, real growth will play only a small role in this (last year the contribution of the two factors was roughly the same). All of this means that the gross debt of the government sector may drop significantly this year, and by the end of the year the value of the indicator may fall below 70%. In 2023-24, we consider a decrease of around 3-4 percentage points per year conceivable, so by the end of the outlook period, the debt ratio may decrease to close to 60%, if the combination of high inflation and the decreasing nominal deficit persists. The forecast for deficit indicators and public debt is summarized in Table 3.

Table 3 Development of deficit indicators and debt of the government sector

	2021	2022	2023	2024
GDP AT CURRENT PRICES (MILLION HUF)	55 256 668	66 016 246	76 015 727	83 858 270
CENTRAL BUDGET BALANCE ON CASH BASIS (MILLION HUF)	-5 101 468	-3 450 000	-3 200 000	-2 200 000
ESA BALANCE (MILLION HUF)	-3 743 098	-3 250 000	-3 450 000	-2 510 000
CASH BASIS BALANCE IN % of GDP	-9,2%	-5,2%	-4,2%	-2,6%
ESA BALANCE IN % OF GDP	-6,8%	-4,9%	-4,5%	-3,0%
GROSS GOVERNMENT DEBT (MILLION HUF)	42 414 240	45 864 240	49 064 240	51 264 240
GROSS GOVERNMENT DEBT AS A % OF GDP	76,8%	69,5%	64,5%	61,1%

Source: CSO, own forecast

Risks

In terms of external conditions for Hungary, the baseline quantified in this analysis rests on similar assumptions as the July 2022 forecast of the European Commission and the IMF mentioned above. These are the following:

- disruptions in international production chains will ease,
- the coronavirus epidemic moderates and another similar pandemic will not develop,
- the political, economic and security consequences of the war in Ukraine will not escalate,
- there will be no serious disturbances in energy supply.

Under such conditions, the main economic regions can achieve a "soft landing": the inflation wave that developed in 2021 and rose to historic heights will be overcome by the turn of 2022 and 2023 without the CEE region and most member states suffering an economic downturn, at most a short technical recession occurs for a brief period of time. This European scenario is of course only one of the possible trajectories due to the multitude of upside and downside risk factors; however, our baseline calculations here are rests on this cautiously optimistic version.

With regard to domestic conditions, our assumptions for economic policies are as follows:

- the central bank will continue and maintain monetary policy tightening until the inflationary processes start to return to the range of moderate inflation,
- the government successfully reaches an agreement with the EU institutions on the legal-institutional-political points of debate, and Hungary will receive a significant part of the currently pending funds at the beginning of 2023 at the latest,
- the state budget keeps the deficit at a moderate level throughout, it is able to finance it domestically and abroad without disruptions and at an acceptable cost level (although much more expensive than the cost level at the beginning of 2022); in the reviewed period, our sovereign rating will not deteriorate, in any case will definitely remain investment grade,

- in the meantime, the budget can finance expenditure areas that require real growth (defence, debt service, education and health sector, social support).

In the model calculations, we made assumptions regarding the responsiveness of the economy and society as well as the social and domestic political situation. According to the starting hypothesis of the baseline, the vast majority of economic agents will be able to adapt their operating procedures to the rising energy tariffs, the rising wage demands caused by the inflationary wave, and the significant increase in financing costs at the end of 2022 and in the following months, i.e. there will be no widespread shutdowns or waves of business bankruptcy. Deteriorating living conditions and inflation stuck at a high-level increase social tensions, but extensive work stoppages are not included in the present assumptions. The negative possibilities of the mentioned aspects and their production, employment, and financial consequences are taken into account among the downward risk factors.

The basic version also assumes that there will be no radical change in the employment situation; the situation is not getting worse in areas where there is still a shortage of workers, e.g. due to the mass emigration of workers with skills in shortage, and the number of unemployed will not greatly increase by the layoffs of economic organizations that are closed due to falling demand or rising costs. However, we have identified the topic of company continuity and the labour market situation as a serious risk factor, and we will consider it among the risk factors listed below.

Due to their high degree of uncertainty, we do not present the additional possible economic trajectories beyond the baseline – pessimistic, optimistic – in our present analysis. If the external and internal economic conditions interpreted in this way occur and the economic policy course we assume is implemented, the Hungarian economic output, the growth of which exceeded the EU average in 2021, will also outperform it in 2022 due to structural reasons and the combined effect of the expansionary economic policy that will prevail until the middle of the year. A growth performance close to the EU average is expected for 2023, slightly exceeding it in the following year.

Looking at the inflation trajectory, Hungary is also characterized by higher values; during the years reviewed here, the Hungarian consumer price index significantly exceeds the average of the EU and the V4, and is on a more prolonged disinflation path. The single-digit inflation rate can be reached by 2024, and from then on, perceptible, dynamic growth from the point of view of residential consumption and the business cycle is likely. At that time, the deficit limit according to the Stability and Growth Pact seems to be observed; we do not regard achieving it earlier feasible.

Compared to this "soft landing" trajectory, however, downside risks can be identified in many areas. These are the following.

- The energy situation may take a turn for the worse. In terms of natural gas, our highly import-dependent economy is hit harder than the European average by any possible supply disruption, even if the physical shortage can be dealt with by storage and disconnection of large consumers. At the same time, the exposure on the cost side is serious: even with the current gas prices, many companies are forced to stop or reduce production, because there will not be sufficient solvent demand at sales prices that could compensate for the energy price surplus.
- It is difficult to estimate the extent of temporary or permanent company shutdowns, production cuts, and their impact on employment. Sectors with

lower energy intensity may demand the same about of labour or the labour shortage may ease, yet unemployment may appear in other areas. Since the Hungarian inflationary wave (being suppressed by several price controls) runs a later course than the Western European one, and the strong slowdown (possibly: recession) will occur in Hungary when the conditions elsewhere in the EU will be already improving, there is a risk of an acceleration of the emigration of the marketable Hungarian workforce.

- In addition, the increase in the cost of commuting and mobility in the already more disadvantaged, marginal areas further worsens employment opportunities, thus the improving trend of labour market activity characteristic of previous years may reverse. During a recession, it becomes an even bigger problem than before that the present Hungarian social protection for the unemployed is too short - many will soon be completely without care. In order to curb impoverishment and regional separation, additional budgetary resources are needed (ideally channelled through the regional municipalities).
- Due to the tightening of the KATA rules, the increase in utility costs and (unless the forint exchange rate is able to recover somewhat) the further increase in the price of imported products, the inflation rate may surpass twenty percent towards the end of the year, which will inevitably intensify wage disputes. In companies with a high energy cost ratio, significant downsizing is also expected, which causes sectoral labour slack, but will not deter those who demand a wage increase in other sectors. Western European and British examples show that wage strikes have already increased in professions with stronger bargaining positions. In Hungary, moreover, entire professions had been left out of the big wage increases before the election (teachers, healthcare workers), and due to the obvious increase in their living costs, moderation in their wage demands cannot be expected from them.
- Work stoppages and strikes worsen the public mood and have a direct impact on production. A successful wage struggle increases production costs and to some extent contributes to the rising consumer prices.
- In the fall and winter of 2022, a wide range of economic actors will face a significant increase in their loan repayment burdens and bank costs. At the end of 2022, at the beginning of 2023, the previous loan scheme with a reduced interest rate will expire for many companies and they will find themselves in a difficult financing situation in the new monetary conditions when taking out a working capital or investment loan.
- In addition to high and rising central bank interest rates and interbank loan rates, credit institutions will continue to raise interest rates on their active operations. The fact that their tax burdens have increased, and the quality of their portfolios is deteriorating also has an effect in this direction. The banks' lending expectations deteriorated already in the fall of 2022, even though business closures, bankruptcies, and temporary shutdowns were still rare at that time. In addition to rapid inflation, the real wages of the employed will decrease, which will worsen the creditworthiness of the general public. With the rapid repricing of bank interest rates, the proportion of people suffering from financial disturbances.

- The forint exchange rate is highly exposed to political developments and news about EU relations. It can be feared that a wave of forint sales may start as a result of bad news. Until now, credit rating agencies have taken a wait-and-see stance, anticipating economic policy corrective measures, but at the same time, they are sensitive to the deterioration of the foreign trade and balance of payments, and the increase in the cost of public finance financing. A sovereign risk downgrade is not excluded, which would make debt financing even more expensive and might trigger a capital flight.
- Assuming normal conditions, the central bank reserve is sufficient, but it would hardly be sufficient to prevent panic-like fluctuations in the exchange rate and prevent a larger capital flight.
- We have to prepare for the deterioration of the social situation. Food and housing expenses make up a significant part of the family budget for lower-income groups. The rise in food prices has not yet been accompanied by a significant increase in utility tariffs until August 2022, after which the rise in housing costs is difficult to assess, but will cause a widespread household expenditure shock. Meanwhile, there is no reason to believe that food inflation will end, given the established trends in food industry producer prices and the increase in costs in the domestic trade sector. Where the increase in the price of daily expenses is accompanied by an increase in the repayment of a personal loan or a mortgage loan, social crisis situations may arise. This also puts a burden on the state budget.

The chances of the development of the listed and other possible negative processes cannot be predicted with sufficient certainty to be included in a full-scale national economic model calculation in the form of a B (pessimistic) version. The sudden deterioration of an area (for example, the shutdown of a major industry, a drop in orders resulting from a strong reduction in public investment) can infect the affected economic actors in a way that is difficult to predict. Also, one can only guess what kind of pressure the forint exchange rate might come under after the news of the unfavourable turn in our relations with the EU. Another large devaluation by the market may yield in an inflationary boost, which cannot be countered with central bank interest instruments without causing problems for potential and existing corporate and household borrowers. We refrained from including these possible yet hypothetical options into a full-fledged model this time. All the possible positive developments that could occur in international security conditions, in the world market price of critical products, and in the business climate were also left out of the quantification as similar methodological difficulties would arise when calculating upside risks.

CSABA KÖBER– KATALIN SZILÁGYI– ISTVÁN ZSOLDOS[1]

THE IMPACT OF GLOBAL ECONOMIC CHANGES ON THE EU AND HUNGARY'S ECONOMY AND PUBLIC FINANCES

The rapidly changing global environment is well described by the fact that the most significant topics have changed completely during the past one year. The good news is that the coronavirus has receded into the background in developed countries, for the fortunate reasons that vaccination rates are high and new variants are less dangerous. (In China however, due to the "zero COVID" policy, the virus still has an economic and social impact). The bad news is that the Russian-Ukrainian war has started and, partly due to this, partly due to previous lax fiscal policies and the still existing supply/delivery frictions, inflation has risen to levels not seen for decades in most developed countries, including Hungary.

The European inflationary situation is further complicated by the energy price shock: compared to the levels of a few years ago, the price of both natural gas and electricity has increased about tenfold. The reason for this is primarily that Russian natural gas deliveries have dropped to a very low level and the high natural gas price spills over into electricity prices. Due to extremely high energy prices and monetary policy tightening in response to inflation, European growth prospects are not very encouraging in the short term.

At the same time, it is not worth considering the short-term trend as given for the medium and long term. We strongly believe that current energy prices in Europe are so high that at some point in the next couple of years we will see a significant reduction - "the best antidote to a high price is a high price". Short-term adjustment can be painful, but high prices will accelerate infrastructure investment (such as the construction of LNG terminals), resource diversification, and the ramp-up of renewable energy generation.

According to our baseline assumptions, there will be no shortage of physical energy and therefore no reduction in production for this reason, even in the short term. Regardless of energy, we do not consider high (core) inflation to be a permanent phenomenon, nor do we expect the era of low real interest rates to end. Despite the difficulties in the short term, we are therefore relatively optimistic about the longer term, although in the first two alternative scenarios we examine the impact in case some of these optimistic assumptions do not turn out to be true. Our third alternative scenario, on the other hand, outlines a worldview that is even more optimistic than our baseline.

In 2020, as a result of the worldwide recession and the rising budget deficit due to the coronavirus epidemic, the debt ratio rose again above 80 percent of the GDP in Hungary, neutralizing the results of the previous decade in just one year. Although the economy gradually overcame the difficulties caused by the epidemic last year, the

[1] OGResearch. Manuscript submission date: September 15, 2022.

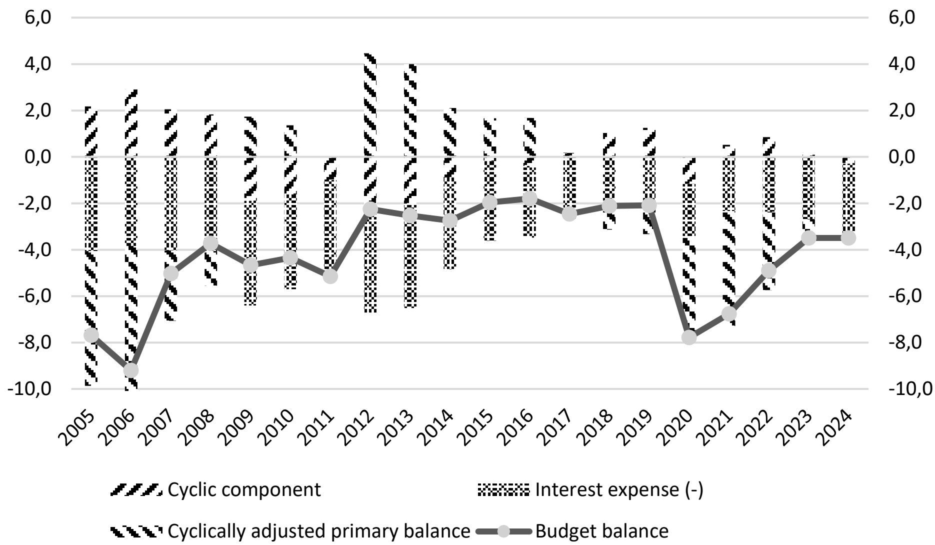
budget deficit remained high, and the public debt was well above the average of the years before the epidemic.

This year we had to face new difficulties: the Russian-Ukrainian war narrows the fiscal space through many channels. Although the direct costs related to the war are not significant in the case of Hungary, the substantial slowdown of the economy in itself increases the budget deficit. Falling external demand and drastically rising import prices (especially gas and energy prices) also put strong pressure on the forint exchange rate and inflation, to which the central bank reacts by tightening monetary conditions. In addition, the government's spending at the beginning of the year (before the election) also contributed to the fact that the budget deficit did not decrease significantly in the first half of the year, despite the dynamically expanding economic performance. Overall, we can say that as a result of external and internal (related to the political cycle) processes; the Hungarian budget policy was forced to make a significant correction in the middle of the year in order to maintain the projected deficit for this year.

The basic trajectory of our forecast draws attention to the fact that the next decade will be more difficult than the previous one in terms of the growth prospects of the Hungarian economy and the possibilities of budgetary policy. Even then, similarly to the analysts' and market consensus, we are optimistic about the issues that concern the Hungarian public and the political elite the most. On the one hand, we expect that the drastic increase in gas and energy prices is a temporary phenomenon and will not cause either a permanent recession or prolonged inflation in the world. On the other hand, we expect that the Hungarian government will manage to reach an agreement with the EU on the issues affected by the rule of law procedure during the autumn and thus, we assume that the resources of the recovery fund and the 2021-27 EU budget will become available over time.

In the case of our baseline scenario, we assume that this year's budgetary adjustment measures will be more than enough to meet the 4.9 percent deficit target in 2022, and we see the 2023 deficit target of 3.5 percent can be achieved as well. In the medium term, in the period 2024–2032, we assume that prudent fiscal policy will be maintained. In 2024, the cyclically adjusted deficit will continue to improve and disappear but, despite this, the total deficit will not decrease further. Interest expenses will be much higher by this time due to the slow repricing, and the output gap will continue to move in a negative direction, partly due to fiscal austerity. So the cyclical component also worsens the balance compared to 2023. In addition to a large slowdown in nominal GDP, it will be much more difficult to reduce the primary balance and the debt ratio. However, we expect that the adjustment in 2024 may be helped by the fact that the burden on the budget may be much lower as a result of the assumed decrease in gas prices on the world market. In the years after 2024, the cyclical component will already help fiscal processes to a small extent. As the debt ratio decreases after 2025, interest expenses will also decrease.

Figure 1 Budgetary deficit indicators in the case of the baseline scenario (as a percentage of GDP)



Source: CSO, own forecast

The high debt ratio strongly limits the country's room for manoeuvre in being able to neutralize possible external shocks. The openness of the country, as well as its embeddedness in international markets, means that the performance of the economy and the state of public finances are still very sensitive to external developments. In our analysis, we examined three alternative scenarios in addition to the baseline. These all represent external assumptions that are unlikely compared to our baseline scenario, but cannot be considered extreme events.

In the first scenario, we assume that high gas and energy prices will persist for a longer period of time and push the importing European countries into a serious recession. EU output fall in this scenario for three reasons. On the one hand, because high energy prices make part of the production unprofitable, on the other hand, potential energy supply problems also reduce production by causing a physical shortage, and thirdly, due to a lack of confidence, investments also drop. Due to falling production and high import prices, the external balance worsens, which leads to a weakening of the euro, and this - despite the weak growth - forces the real interest rate to rise. The high real interest rate is more pronounced in the more vulnerable countries of the EU (for example, Italy) due to the higher risk premium. This scenario significantly worsens the prospects for growth and fiscal sustainability in the entire EU, Hungary included, of course.

In the second scenario, we assume that the next decade will be dominated by international conflicts and the political and economic responses to them. In this scenario, globalization not only stops, but also reverses, i.e. governments and business decision-makers - even at the cost of efficiency losses - relocate production activities to the traditional source countries of FDI. At the same time, due to higher military expenditures, the budget deficit is increasing worldwide, so fewer resources are available for government expenditures that increase productivity (for example, infrastructure investments). Finally, in this scenario, the state interferes more in normal business decisions than in the baseline scenario. All in all, these developments significantly slow potential growth in the world: compared to the baseline scenario, we expect an annual average of 1.5 percentage points lower growth which, in the case of Hungary involves a slightly stronger slowdown. The growth effect disappears by the end of the 10-year period; however, the economies do not "catch up" on their previous lag, output shifts permanently downwards compared to the baseline scenario. This scenario has a similar effect to the previous scenario (assuming a temporary recession): although the consequences are more dramatic from the point of view of the real economy, the budget balance indicators and debt dynamics are somewhat more favourable. Moreover, because a lasting crisis requires a permanent solution (a lower deficit) on the part of fiscal policy while, in the case of a temporary recession, fiscal policy can "smooth out" the problem: it can afford a temporarily larger deficit, if the later booming real economy makes up for it.

In the third case, we outline an optimistic scenario: as an aftereffect of the coronavirus epidemic, technological development accelerates, which, among other things, leads to low energy prices. The forced situation of the coronavirus has shown that economic actors can quickly achieve significant positive changes, either in the development of specific products (new types of vaccines) or in organizational matters (remote diagnosis, distance education, remote work, etc.). In this scenario, we expect to experience faster development in the future, especially in areas important to governments, such as education and healthcare. Efficiency gains in these sectors could put fiscal policymakers in the developed world in a significantly better position, which could ultimately pave the way for tax cuts and/or better public services. These developments then could lead to higher growth worldwide. Fuelled by technological optimism and in response to current high energy prices, European governments and the EU are likely to invest heavily in gas transmission and other energy infrastructure to prevent a repeat of the energy crisis. The result of over insurance, on the other hand, may be that energy prices drop substantially and remain permanently low. This scenario puts the decision-makers in a significantly more favourable position than the baseline scenario, both in terms of growth prospects and budgetary processes. It should be noted however, that even in this case, eight years are needed for the debt ratio to reach its pre-coronavirus low point.

DR. MAGDOLNA CSATH[1]

SUSTAINABILITY, ECONOMIC AND SOCIAL DEVELOPMENT AND COMPETITIVENESS IN HUNGARY

Our age is characterized by rapid and multi-directional changes. The effects of the pandemic, which continue to this day, are amplified by the problems caused by the war and the related sanctions, while, the economic and social consequences of climate change are also being felt more and more strongly. Therefore, instead of the traditional interpretation of competitiveness focusing primarily on economic growth, the emphasis should be placed on sustainability and economic-social development. Based on statistical data and analyses, the study highlights that the direction of strong growth in Hungarian economic policy, coupled with significant energy and material intensity, is not sustainable. Instead of increasing GDP with a quantitative approach based on the import of knowledge and technology, we must move to a development path based on quality and internal resources. If we do not do this, the economy can be increased for a while, based on state-supported foreign capital investments, but in the meantime, due to the weak local knowledge creation and knowledge dissemination, we may fall into a development trap, which would make the economy's resilience and ultimately its chances of sustainable growth impossible.

Introduction

The purpose of the study is to analyse the evolution of Hungary's competitiveness, growth and development data, and whether, in an international context, the growth takes place in a sustainable manner. Examining these relationships is very important because the world economy is undergoing a dramatic transformation. Old sectors become uncompetitive, new sectors grow and create significant new value. The changes are fast, and the country that cannot engage in them effectively will be left behind. However, change is also a matter of mentality and values. If a country does not dare to look ahead, initiate the necessary changes for its future, and hopes that the continuation of past trends will be sufficient, it will be disappointed. An important element of the change in value system is the prioritization of development over growth. Development lays the foundation for the sustainability of future growth.

Therefore, different characteristics of development also must be measured. In accordance with the areas of sustainability, it is advisable to analyse the state of human and social capital, as well as the natural environment and the impact of economic decisions on them. Sustainability is related to the current economic structure and its effects on society and the natural environment. If an investment that significantly increases GDP involves significant environmental pollution or uses technology that is harmful to the health of the employee, then - if we also pay attention to sustainability - this investment should not be implemented. An important condition for development

[1] Leadership Kft. Manuscript submission date: September 15, 2022.

is the careful management of resources, including people, natural resources, and money, i.e. improving efficiency and productivity. The analyses prove that thrifty management that also pays attention to profitability increases competitiveness and contributes to sustainability. The study analyses these relationships in detail. Based on its results, it formulates proposals regarding the improvement of development indicators and the possibility of falling into a development trap. It points to the possibilities of increasing competitiveness based not only on economic growth, but also on human and social development, which also take sustainability requirements into account.

Competitiveness, resilience, innovation

Improving competitiveness is an important goal of countries, but mostly "in peacetime". However, when huge changes are taking place, improving competitiveness must go hand in hand with strengthening resistance and crisis resilience. Crisis resilience requires an economic structure that is flexible and easily adaptable to changes, economic-social and even governmental innovation and strong savings, i.e. an improvement in productivity and efficiency. All of this presupposes a disciplined economic policy with a low deficit and decreasing debt. An important condition for improving crisis resilience is also the reduction of dependence on external knowledge and technology, the new knowledge generated locally and its rapid spread in the economy. This can be achieved only if the proportion of knowledge investments increases within both state and company investments. This statement is also supported by the IMD competitiveness analysis.

Table 1 IMD Competitiveness rankings 2022 (63 countries)

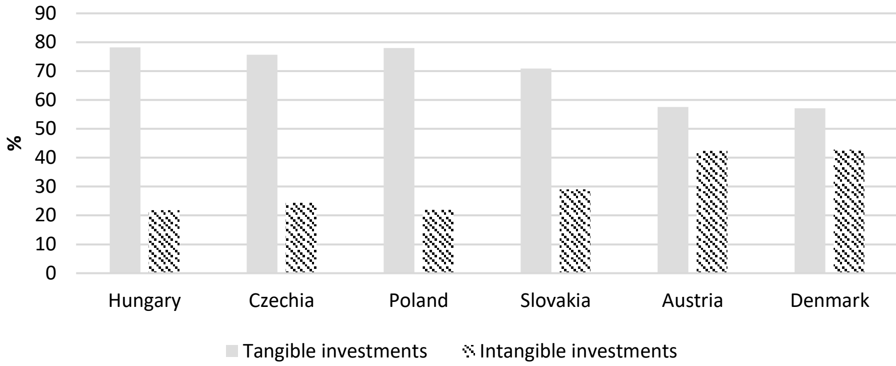
Indicators	**Hungary**	Czechia	Poland	Slovakia	Austria
Economic Indicators					
Overall ranking	**8**	18	29	52	24
Growth of GDP per capita (%, 2021)	**13**	29	22	50	43
Investments in % of GDP (%, 2021)	**11**	5	60	52	15
Foreign capital investment in % of GDP (%, 2020)	**1**	22	17	52	60
Corporate tax (%, 2021)	**1**	12	12	25	39
Areas of development					
Human assets					
Life expectancy (2021)	**46**	35	42	38	23
Proportion of people with higher education (ages 25-34, 2020)	**49**	47	35	39	37
Quality of healthcare infrastructure (2022)	**50**	18	61	53	1
Digital skills (2022)	**54**	23	61	35	40
Social indicators					
Social cohesion (2022)	**49**	23	51	58	17
Sustainability (2022)	**51**	34	62	41	8

Source: IMD, 2022

In Table 1, we see large differences in the Hungarian rankings for each indicator. While we perform exceptionally well on economic indicators, we rank very poorly on human, knowledge and social indicators.

This shows strong growth orientation and the low level of human-social investments. After all, there is a huge gap between the ratio of first and higher education graduates to the proportional value of foreign capital investments to GDP, as well as the 49th and 54th place achieved for indicators of digital skills. One of the obvious explanations for this gap is the significant difference between tangible investments - machinery, buildings - and non-tangible knowledge and skills - investments, as the latest report of the European Investment Bank warns.

Figure 1 Share of tangible and intangible investments in total investments (%, 2021)



Source: European Investment Bank, 2021

Figure 1 proves that while Austria and Denmark, which are far ahead of us in terms of competitiveness (Denmark first, Austria 20th), spend 42.41 and 42.85 percent of all GDP-related investments on knowledge investments, respectively, this ratio in Hungary is only 21.81 percent .

Importing knowledge and skills is not enough to quickly adapt to changes and strengthen resilience. They must be created locally - with the necessary knowledge investments. That is why it is also important for society to be a "learning society", that is, for people to constantly update their knowledge and improve their skills. And for this, it is necessary to invest in adult education. According to EUROSTAT's May 2022 report, in 2021 in Hungary, in the 25-64 age group, only 5.9 percent of the population participated in some form of further training in the month before taking the survey. With this, Hungary is only in 20th place in the EU. For the aforementioned Denmark, this value is 22.4, and for Austria 14.6 percent. The EU average is 10.8 percent (EUROSTAT, May 2022).

The data prove that more investment in knowledge would be needed to improve competitiveness. But the state of health, life expectancy, and mortality statistics should also improve. This would strengthen the most important element of national wealth i.e. human wealth. Without strengthening it, the economy can still grow for a while, but significant human and social development cannot be achieved. Developmental lagging is manifested in lower quality of life and sustainability, which - in the longer term - also hinders sustainable economic growth. In connection with this, we also have to pay attention to digital competitiveness, that if we spend significant sums only on building the infrastructure and not on acquiring the knowledge necessary for use, then we will not be able to take advantage of the opportunities for increasing productivity inherent in digitization. However, productivity and efficiency are important conditions for crisis resilience.

Innovation

The most important determinant of competitiveness is the level of innovation capabilities. The analysis of this shows that there are very few innovative companies in Hungary, although this ratio varies by sector to sector.

Table 2 The proportion of innovative companies in certain sectors in Hungary (2016-2018, percentage)

Sector	Share of innovative companies (%)	Percentage of companies with implemented innovation (%)	Percentage of continuously innovating companies (%)
Average value	28,7	26,0	9,4
Manufacturing industry	28,9	26,6	9,3
Food industry	26,9	25,5	6,2
Computer, optics, electronics	39,2	36,5	17,4
Pharmaceutical industry	**67,4**	**50,7**	**37,4**
Information and communication	51,5	44,7	21,7
Finance and insurance	32,1	30,2	14,2

Source: EUROSTAT, 2021

The most innovative sector, as can be seen in Table 2, is the pharmaceutical industry, where the proportion of innovative companies is 67.4 percent, while the national average is only 28.7 percent. In 2019, 10 percent of the total R&D expenditure in the national economy was in the pharmaceutical industry, and within the manufacturing industry it reached 29 percent[2]. However, the pharmaceutical industry contributed only 2.9 percent of the industrial production value in 2020. It is worth noting that this represents a decrease of 0.5 percentage points compared to 2010[3]. In the longer term, we see that while the production of the vehicle industry increased fivefold between 2001 and 2021, the pharmaceutical industry increased only 3.6 times. However, the pharmaceutical industry's high innovation expenditures are reflected in the higher added value and productivity level. The productivity of the entire manufacturing industry in Austria is only 36.8 percent, while that of the pharmaceutical industry is 57 percent. These data highlight the close relationship between innovation expenditures and the resulting innovation capabilities, as well as added value and productivity. The level of innovation is therefore closely related to the sectoral structure of the economy, with the proportion of sectors that produce high added value and are therefore more productive. This also affects resilience. In general, new value added locally and productivity are lower in sectors where assembly takes place. Along the value chain, – as it can be seen on Figure 2 – the least amount of new value is created precisely during

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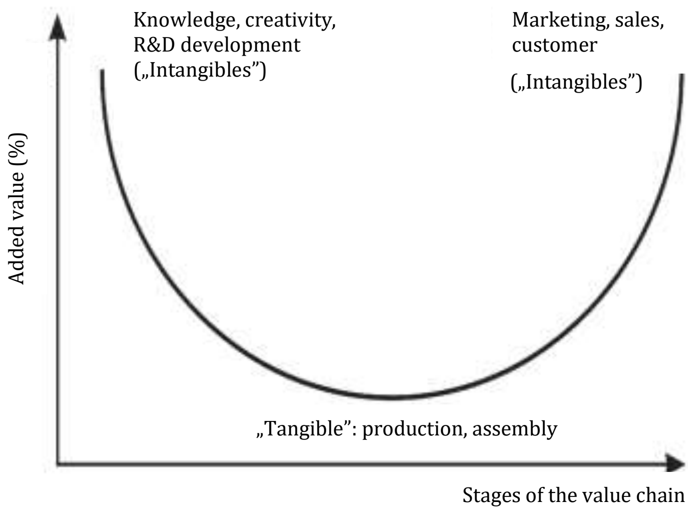
[2] CSO data
[3] CSO data in „Helyzetkép az iparról 2020”

assembly, since here employees perform mechanized, regulated processes as servants of machines and technology and not as creative partners.

Figure 2 Stages of the value chain



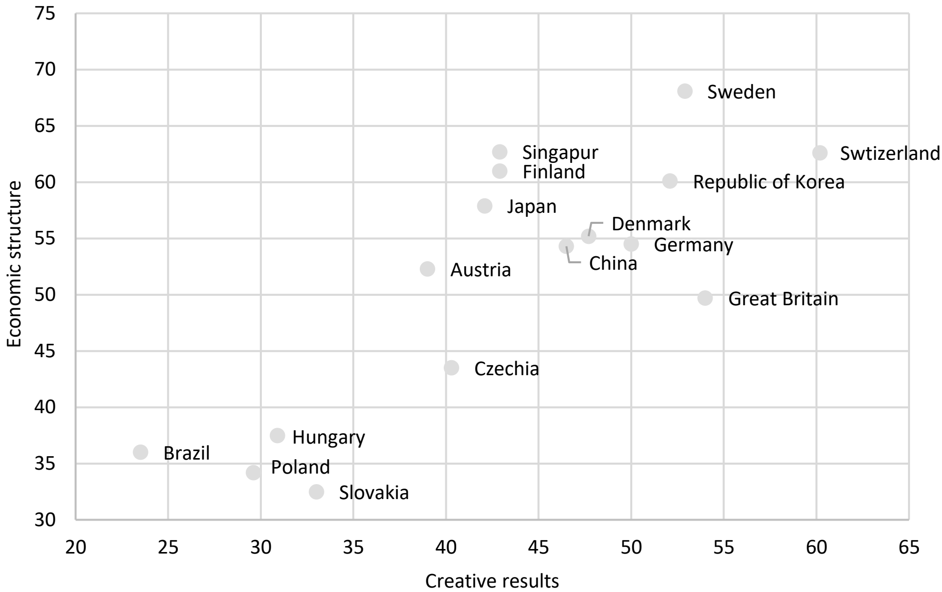
Source: ADB (2021, 17. pp., Fig. 1.6)

The international risk analysis organization FM Global also warns of the dangers of this.

The researchers use 15 indicators to examine the resilience of 130 countries to crises. One important aspect of investigation is which stages of global value chains are present in a country. The more only assembly activities are characteristic, the greater the chance that in the event of crises - see pandemic, war - the economy of the given country may be in trouble. According to the 2022 ranking, which was published on June 7, Hungary ranks poorly, 41st in terms of uncertainty caused by global chains. Among the V4, only Slovakia has a worse position than this. (57th place). Singapore, Denmark, Hong Kong and Finland lead the list. (FM Global, 2022). (Countries with low risk are at the beginning of the ranking).

From the above, we can conclude that a country's innovation results are related to the structural characteristics of its economy. This is also proven by WIPO's analysis.

Figure 3 The relationship between economic structure and innovation performance



Source: WIPO 2021

Figure 3 proves that there is a close connection between the complexity of the economic structure, i.e. which sections of the value chains which characterize the economy and the innovation achievements. In terms of the complexity of the economic structure and the creation of innovative results, Switzerland and Sweden are in a strong position, followed by Great Britain. Among the V4, the Czech Republic leads, Hungary, Poland and Slovakia are close to each other, with a low level of economic diversity and low innovative results.

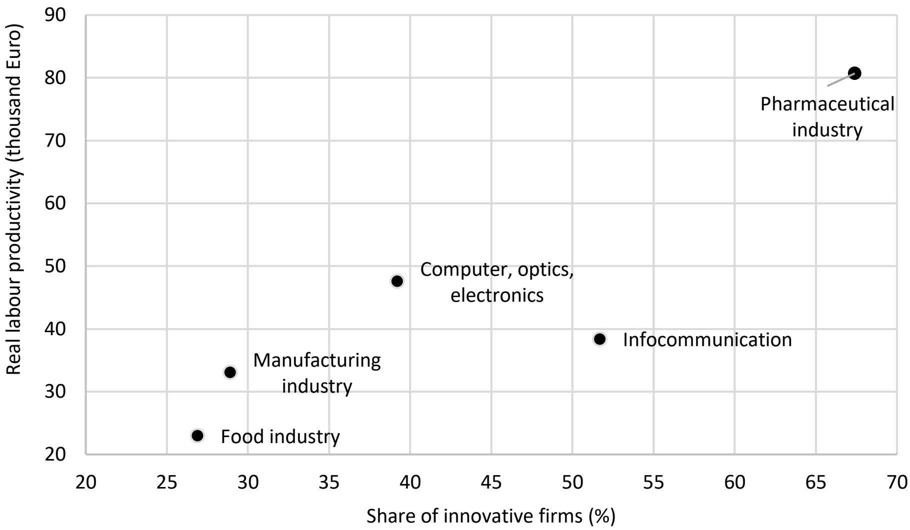
The innovation position of the Hungarian economy on the EU Innovation Performance Table has not been able to show significant improvement for a long time. The average Hungarian innovation performance in 2021 is 67.9 percent of the EU average. This is enough for 22nd place among the 27 member countries. We were also in 22nd place in 2020. The 2021 study specifically highlights that the government spends only 32.7 percent of the EU average on public sector innovation, but spends 151 percent of the EU average on supporting the innovation of companies. However, the results of this significant support are not reflected in the improvement of the innovation position. It is also necessary to mention the significant regional differences, which weaken both the crisis resistance and competitiveness of the economy. The value of the innovation index varies between 97.6 points in Budapest and 48.9 points in Southern Transdanubia.

Productivity, efficiency

As we mentioned earlier, in terms of improving competitiveness and strengthening resilience productivity and efficiency - the economic management of all resources, people, knowledge, money and materials - are key issues.

The productivity of businesses can be improved with greater added value, innovation, the use of more modern organizational and management methods, and digitalization. All of this requires knowledge and skills. At the level of the economy as a whole, productivity can be improved by increasing the proportion of innovative companies, that is, improving productivity is also a matter of economic structure. We see this in Figure 4.

Figure 4 The proportion of innovative companies and real labour productivity in some sectors in Hungary, 2019



Source: own calculation based on EUROSTAT data, accessed on 08.07.2021 and 18.05.2022.

It is also important to improve the efficiency of public expenditures. In the Hungarian economic policy "culture", this is not properly emphasized. After all, how many times do we hear proud statements about how much was spent on, say, the renovation of a community centre or the construction of a sidewalk. The declarant does not say how frugally, with little money, the given work was done, but how much money was spent on it. The MNB also points to this problem of attitude. In relation to R&D expenditure, the institution mentions that although Hungary spends the 12th most in the EU on research and development in proportion to GDP - and let's add, this is often presented as an excellent result by the authorities - the effects achieved are quite modest (MNB, 2022). For example, one obvious effect of R&D spending should be an increase in the number of registered patents. Despite the significant R&D expenditure, Hungarian patent results are modest.

For example, in 2021, 118 applications were submitted to the European Patent Office from Hungary while 956 from Ireland, 4919 from Italy, and 2317 from Austria. (EUROSTAT 12.05.2022). Considering the population, the Irish and Austrian values are especially interesting for us, since the population of both countries is lower than that of Hungary (Ireland's population is 5 million, Austria's is 8.9 million) and yet, there are much more patents according to their registration numbers: Ireland's is eight times that of Hungary, and Austria's is nearly twenty times that of Hungary. However, in the case of Hungary, attention should be paid to an unfavourable phenomenon. When the government grants R&D support to a foreign company operating in our country, e.g. for a car factory, as a result of which a patent is born, it will not be a Hungarian patent. In other words, the result of the Hungarian state's R&D investment appears as a foreign patent. However, as we pointed out earlier, the Hungarian state allocates 151 percent of the EU average to support corporate innovations.

In order to improve productivity and efficiency, we should step forward in many areas:

- Knowledge investments should be increased both at company and national level;
- Within the economic structure, the proportion of innovative sectors that create great new value locally should be increased;
- At the state level, return requirements should be formulated for all investments and state subsidies;
- In general, the impact of state investments and subsidies on the national wealth as a whole should be investigated.

If a public expenditure does not contribute to the increase of national wealth - including social and environmental effects other than economic effects - then that expenditure must be waived.

Sustainability

Finally, let's deal with the issues of sustainability, which are particularly important for the future. The basic condition for the sustainable operation of an economy is the economic management of resources. The Hungarian economy, in its current structure, cannot be operated sustainably in the long term. This is also proven by the EU's Sustainability Study (EU, 2022).

Table 3 The position of the V4 countries and Austria on some key indicators

Indicators	**Hungary**	**Czechia**	**Poland**	**Slovakia**	**Austria**
Human indicators Early school leavers (ages 18-24, 2021)	**23**	9	7	12	14
Proportion of people with higher education (ages 25-34, 2021)	**25**	23	18	20	16
Proportion of participants in adult education (ages 25-64, 2021)	**19**	20	22	25	8
Proportion of people with basic digital skills (16-74 years, 2021)	**23**	12	25	14	8
People considered to be in good/very good health (over 16 years old, self-reported 2020)	**22**	21	23	18	8
Preventable and/or treatable deaths under the age of 75 per 100 thousand people (2018)	**25**	18	19	22	15
Disposable income per capita 2020 (EU=100)	**21**	14	18	23	3
Industry, innovation Availability of high speed internet (2021)	**12**	22	17	20	24
Patent applications per million inhabitants (2021)	**22**	19	21	24	7
Added value of environmental products and services in % of GDP (2019)	**25**	14	11	27	3
Proportion of forested areas (2018)	**22**	15	17	8	11
Percentage of total waste collected (2020)	**20**	19	15	11	3
Number of lost years of life due to particles in the air (2019)	**24**	18	26	20	13
Share of renewable energies in final energy consumption (2020)	**24**	19	22	18	4

Source: Sustainable development in the European Union, 2022

According to the table, our worst positions are for indicators of human sustainability (higher education rate, mortality), environmental innovation (environmental protection products and services) and air pollution. The proportion of renewable energies in final consumption is also low.

EUROSTAT's data also prove that the energy and material intensity of the Hungarian economy is high, which is due to the large proportion of assembly activities and sectors that generally work with high energy and material intensity (chemical industry, battery production).

The sustainability of the Hungarian economy can only be improved if

- Its energy intensity decreases;
- Material intensity decreases (including water);
- The proportion of assembly activities decreases and the proportion of sectors and companies operating with new knowledge and technologies produced locally increases;
- The proportion of renewables within the total energy consumption increases;
- Afforestation is improving (in this regard, according to the available EUROSTAT data, we are in 22nd place)
- Human sustainability indicators improve (knowledge, state of health);
- The quality of the environment improves (e.g. quantity of airborne dust decreases).

The improvement of sustainability would be accompanied by a significant improvement in productivity and efficiency and thus, the improvement and development of competitiveness based on economic and social resilience.

Summarizing thoughts

Competitiveness and sustainability analyses consistently prove that the excellent results of the Hungarian economy are achieved with weak human and sustainability indicators. The number of foreign investments increases, the state spends a lot on physical, tangible investments, and overall GDP, which indicates economic growth, increases. However, we are lagging behind in the area of human capital and sustainability investments, which is also reflected in the low level of productivity and efficiency. The economy is energy- and material-intensive, and the proportion of locally produced sectors that create large new value is low. Newly arriving investments – e.g. battery factories – do not change the structure of the economy in the direction of reducing energy and material demand neither. Therefore, growth is not accompanied by development that allows us to catch up quickly enough. All in all, we can conclude that we are not yet in a growth trap, but due to low human and environmental investments, a traditional and difficult-to-change economic structure operating with poor sustainability data, we may fall into a development trap. This is shown by the SWOT analysis summarizing our socio-economic situation and opportunities.

Table 4 SWOT Analysis

Opportunities	Threats
utilization of unused innovation, productivity and digitization opportunities - encouraging the establishment of new sectors that contribute to environmental protection and produce high added value - the efficient utilization of EU funds, modernizing the economic structure - luring home highly skilled professionals working abroad - mobilizing the efficiency reserves of government work - strengthening the level of social trust	- geopolitical, war effects - the inflationary effects of a further increase in energy prices - strong dependence on the German economy - the spillover of the problems of the German economy - underutilization of new opportunities due to the rigid economic structure - increased crisis exposure due to the dominance of certain sectors - additional emigration of professionals due to the lack of high-quality jobs that require creativity - development trap risk
Strengths	Weaknesses
- economic results - development of digital infrastructure - increasing R&D expenditures - relative stability - some productive sectors producing high added value (e.g. pharmaceutical industry) - the potential of agriculture during the food crisis	- low level of knowledge investments and low level of intellectual capital - low life expectancy - quality problems of the healthcare system - low efficiency and productivity - high energy and material intensity - low level of digital knowledge and use of digital tools - low level of trust - frequent, sometimes unpredictable regulatory activity - slow adaptation to environmental changes

Source: own edition

We must draw the conclusion that Hungary cannot move up on the development ladder while it supports mainly extensive, quantitative investments and the establishment of additional assembly plants, including sectors with a particularly high energy demand. If we want to continue to compete with "cheapness", relying on foreign investments and not with knowledge, innovation, a sustainably operating economic structure that produces great added value, then we will not be able to catch up to the more developed countries in the quality of life and standards of living, and will lag behind in the competition based on knowledge and innovation.

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PÉTER HALMAI[1]

THE IMPACT OF THE EU RECOVERY PLAN ON THE ECONOMIC GROWTH OF THE EU AND HUNGARY

The slow and differentiated recovery of European growth processes and growth potential following the outbreak of the COVID-19 crisis was interrupted. The recovery process that started after the crisis was supported by previously unused EU financing schemes. At the same time, the war shock prevailing from the beginning of 2022 also carries the risk of a geopolitical recession. Some EU member states are experiencing persistent growth problems.

In order to provide a comprehensive response at the EU level, the Commission's proposal for the creation of the European Recovery Instrument (otherwise known as the European Recovery Plan, in the most commonly used form: New Generation EU, abbreviated as NGEU) was prepared in May 2020. The defining element of the NGEU is the Recovery and Resilience Facility (RRF, Hungarian abbreviation: HRE). The aim of the latter is to initiate a sustainable recovery, to support productivity-enhancing investments and reforms, to support the green and digital transition, cohesion and convergence. At 2018 prices, the NGEU includes EUR 750 billion for 2021-2026. The lion's share of it is the RRF, which consists of EUR 312.5 billion in grants and EUR 360 billion in loans. (At current prices, the RRF includes EUR 338 billion in subsidies and EUR 385.5 billion in loans.)

The creation of the NGEU and the RRF demonstrates the European solidarity and commitment of the member states. Together with other European and national political actions, the agreement strengthened confidence in the monetary union and helped calm the financial markets. (The latter can also be indicated by the decrease in the yield spread of the national government bonds.) The economic recovery starting in the second half of 2020, the adoption of the support policies of the member states and the Recovery and Resilience Plans (RRP) further increased the confidence of investors.

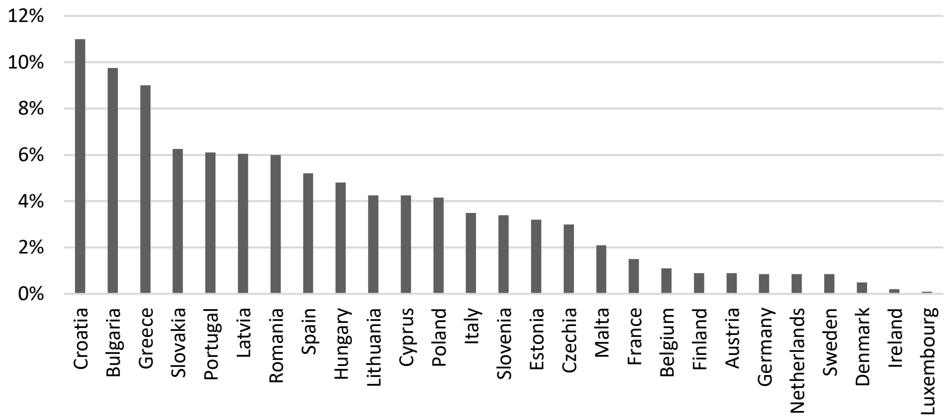
Recovery and Resilience Facility

The RRF is a performance-based tool. Conventional EU instruments reimbursed the incurred costs. The RRF - based on cost estimates - provides financing for investments and reforms in the form of grants and loans. Payments within the framework of the instrument will only be made after the achievement of established milestones and goals, upon completion of specific investments and reforms. This construction strengthens the incentive for major economic, social and environmental reforms. The tool encourages economic convergence through the asymmetric allocation of support. Member States' eligibility for subsidies was calculated from the 2015-2019 unemployment level, the inverse of GDP per capita and the population ratio. For the remaining 30% of the total budget, the impact of the crisis was taken into account: the

[1] Profconsult Kft. Manuscript submission date: September 15, 2022.

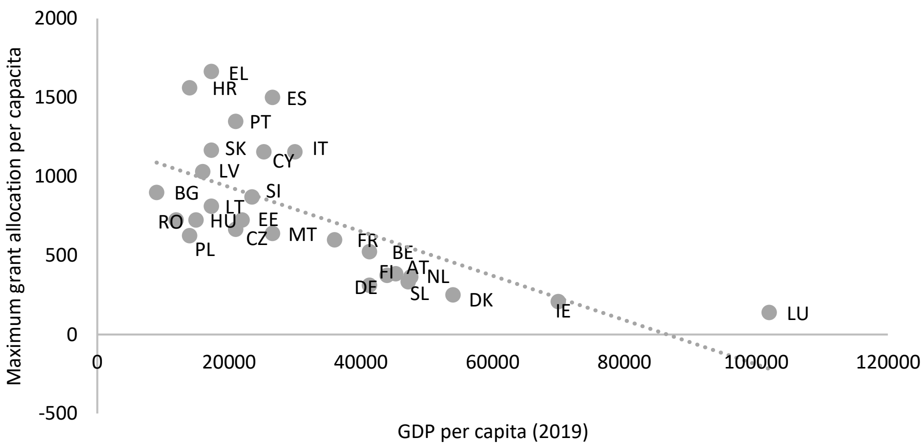
decrease in real GDP in 2020 and the cumulative loss of real GDP in 2020-2021. (See Figures 1 and 2)

Figure 1 RRF support as pre-COVID percentage of GDP



Source: European Commission

Figure 2 The maximum RRF subsidy per capita and GDP (EUR)



Source: European Commission

To apply for RRF support, EU member states must develop a national Recovery and Resilience Plan (RRP), with several components, reflecting coherent reform and investment packages. A sustainable recovery promoting the green and digital transition presupposes the compliance of national plans with a number of prescribed criteria.

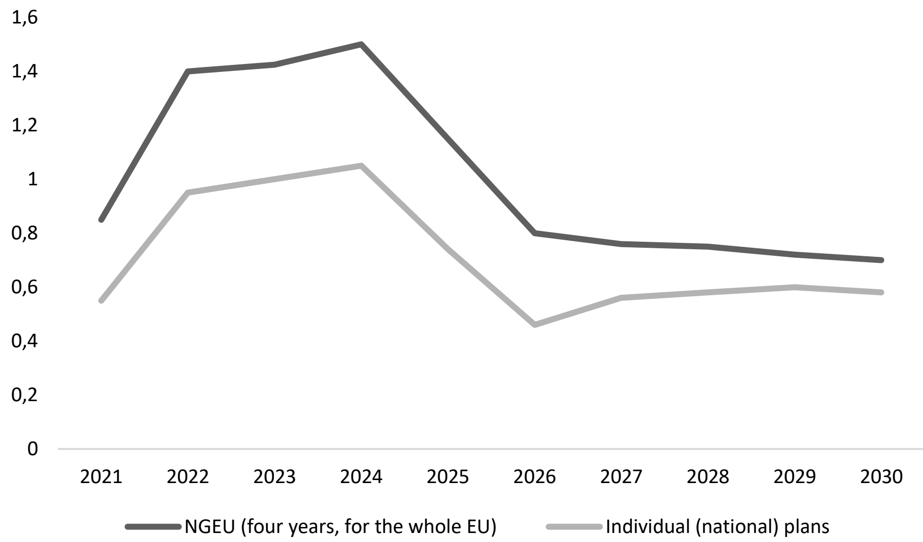
They are contained in the RRF regulation adopted by the Council and the Parliament. The Commission evaluates the individual national plans based on said regulations, with particular attention to the following, among others: in order to adequately cover the reform dimension, the national recovery plans must address all or a significant proportion of the challenges identified in the relevant country-specific recommendations (CSRs) accepted by the Council.

Model simulations

The econometric model simulations aimed at exploring the growth effects (Pfeiffer, P.; Varga, J.; in 't Veld, J.; also in Bańkowski, K.; Ferdinandusse, M.; Hauptmeier, S.; Jacquinot, P.; Valenta, V.; as well as in Afman, E.; Engels, S.; Langedijk, S.; Pfeiffer, Ph.; in 't Veld, J.; e.g.: Figure 3) identifies a significant growth effect of NGEU investments. In the fast NGEU scenario (four years), the level of annual real GDP in the EU can reach a level approximately 1.5% higher than without NGEU investment (in 2024). Because productive investment in public capital increases aggregate demand and stimulates potential growth. The latter supply-side effects last beyond the implementation phase and can lead to high, long-term multiplicative effects. In a 20-year perspective, the EU's GDP may be 0.5% higher than without NGEU investments.

By its very design, NGEU represents coordinated growth. A significant part of the expected effects is due to spillover effects, which is characteristic of the advantages of joint action. Simultaneous investment increases the effectiveness of this policy. As all member states grow, this generates growth in both imports and exports. According to modeling, spillover effects can explain about one third of all growth impulses. Aggregating the individual effects of the Member States' plans thus significantly underestimates the overall macro effects of the NGEU (see the pale gray line in Figure 3).

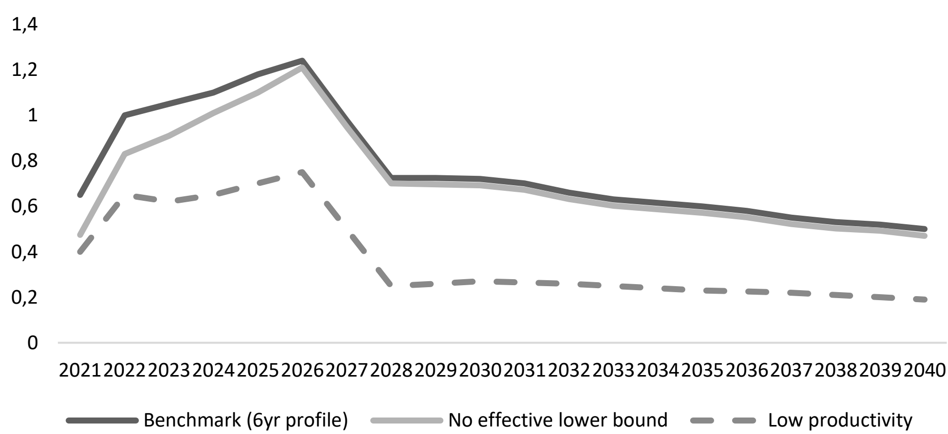
Figure 3 Impact of NGEU on EU real GDP % (4-year expenditure profile)



Source: European Commission

In addition to these spillover effects, several interrelated factors also contribute to GDP growth in the simulation. In order to quantify these effects, Figure 4 shows three additional scenarios as a sensitivity analysis.

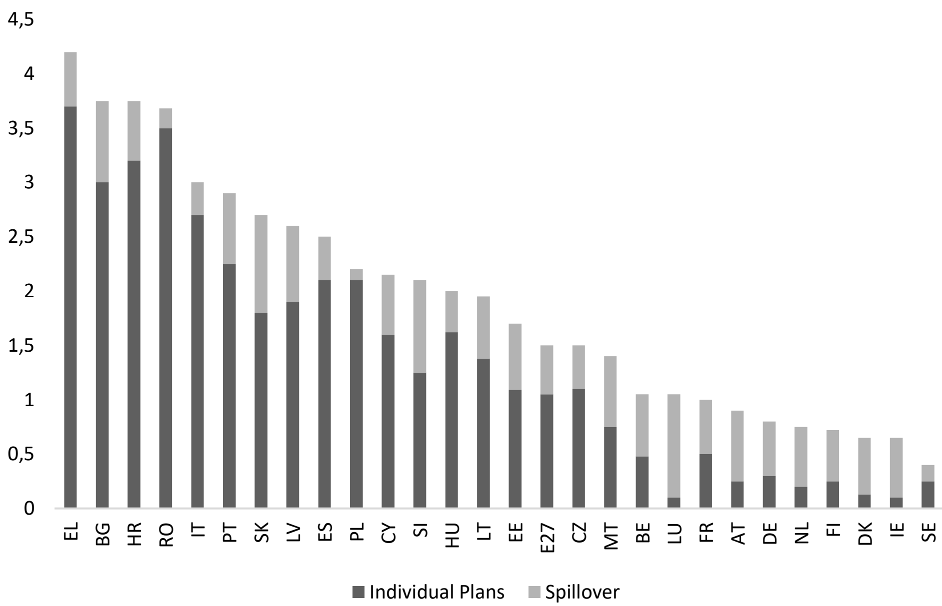
Figure 4 Impact of the NGEU on EU real GDP (%) Sensitivity analysis



Source: European Commission

According to the first scenario, the macroeconomic impact remains significant for the effective NGEU plan: a +1.2% GDP surplus in the EU as a whole in 2026 and leads to a long-term impact of a similar magnitude (dark gray line). Second, in the current situation, the policy interest rate at the effective (zero) lower bound involves at least a partial monetary adjustment, which limits the crowding-out effect in private consumption and business investment. In "normal times", far from the lower bound, the short-term output effect is smaller according to the simulation (light gray line). Third, assumptions about the productivity of public capital have a large impact on the estimates. (The low productivity calibration assumes a reduced output elasticity (0.05), compared to 0.12 used in the case of high productivity, parallel to the lower bound.) Even with more pessimistic assumptions, significant effects remain, but the growth effect is substantially lower, if the public investment is allocated for less efficient use (dashed line). This result is particularly evident in the medium to long term, when productivity effects unfold. Since the emission effects are smaller for each group in this simulation, the lower spillover effects imply further reductions in overall growth. All of this underlines the need to focus on high-quality investments.

Figure 5 Peak of annual impacts (%) of NGEU among Member States (four-year period)



Source: European Commission

The GDP effects, broken down into direct effects and spillover effects, indicate strikingly different patterns between the member states (see Figure 5). According to the design, the NGEU strongly supports convergence in the EU economy, as the divergence, which appeared during the COVID-19 crisis poses a particularly increasing risk. Considering the allocation key as a given, the strongest growth effects appear in those economies where GDP per capita is below average and which were most affected by the crisis. For example, applying the model to a four-year implementation and high productivity, the expected annual emission gain reaches its peak in 2024: more than 4% in Greece, approx. 3.8% in Bulgaria, Croatia and Romania, and approx. 3% in Italy and Portugal. In these countries, the role of spillover effects is relatively smaller (light columns), as their main trading partners receive smaller allocations and/or their economies are less integrated into international value chains and trade networks.

Impact and possibilities of NGEU

The presented simulations underline the significant impact and potential of the NGEU to boost Europe's economy. Compared to the baseline (without NGEU), a significantly better recovery path can be achieved through NGEU (mainly through RRF), both in terms of GDP and labor market conditions. If implemented as agreed, with a focus on high-quality public investments and additionality, the NGEU is expected to significantly increase GDP in the recovery phase. Although it results in significant growth for all Member States, the allocation of financial support ensures that funding flows to where it is most needed. The positive spillover effects are highest in small and open economies, whose allocation of smaller subsidies greatly supports growth throughout the EU. The modeling clearly indicates that high-quality public investments can significantly increase potential output beyond the implementation period, contributing to the management of medium-term challenges (climate change, digitalization, etc.).

The above analysis could not go into country-specific details, but these can be important aspects of future research. Other important notes are as follows. The modeling system does not capture the environmental benefits of green investments (e.g., promotion of biodiversity, use of renewable energy, more energy-efficient buildings). While the simulations cover NGEU investments in a general way, they do not include the positive effects of potential growth-enhancing reforms, as they are difficult to quantify, but they can probably contribute significantly more to GDP and employment effects in the long run. In this regard, the model-based benchmarking analysis yielded remarkable results. Halving the existing gap with regard to the member states with the best structural indicators would result in an 11% increase in GDP in the member states over 20 years. The gains may be greater for the Member States with the greatest potential for improvement. (E.g., in the case of Greece or Italy, a 17-18% higher GDP can be achieved in case of the indicated reduction of the performance gap. This is the "structural reform paradox".) All this can be illustrated: the general profit from the NGEU depends on the effective implementation of the reforms – for which the member states have committed themselves in their recovery and resilience plans (RRP) – it may be even higher than the previously indicated gains.

The Hungarian Recovery and Resilience Plan

Exploring the growth effects of Hungarian RRP requires a particularly careful analysis. The GDP effect is generated in the short term through the additional demand for individual products and services as a result of the implementation of RRP investments/reforms. In connection with this, it can be shown how much additional labor demand the implementation of reforms and investments will generate, and how much tax revenue it will generate for the budget.

According to calculations made in 2021[2]*, the short-term GDP effect calculated for two years after the start of each project, calculated at 2020 prices, exceeds HUF 2,100 billion.* Among the *demand effects*, Sustainable green transport, Energy (green transition), and Health care dominate, with a short-term GDP impact of more than HUF 130 billion.

The quantification of medium and long-term economic effects focuses on the supply side. For example, road development or improving the quality of the workforce generate excess demand during the implementation period of the projects, thereby having a short-term impact on emissions. At the same time, infrastructure is improving through road improvements. Through it, the productivity of the economy can be strengthened. As a result of the development of education, the productivity of the labor force can increase. Calculations can be performed at the level of projects (more precisely, project groups). In all cases, the medium-term effect includes the economic surplus generated within 5 years after the implementation of the individual components and reforms/investments, together with the short-term effect. The long term shows the total additional economic output generated over 10 years.

Quantifying the impact of RRP

The macroeconomic projection included in the 2022 Convergence Program can be considered the baseline for quantifying the impact of RRF. This course also includes the effects of RRP. The document indicates a GDP growth of 4.3 percent for 2022, which may be followed by an expansion of 4.1 percent in 2023. In 2024, GDP may grow by 4.2 percent. In the next two years, according to the document, the rate of annual expansion may be 4.3 percent.

The developed RRP contains a total of 57 projects. These reforms/investments were classified under a total of 9 national strategic goals/reforms. The implementation of the 57 projects in the framework of the RRF amounts to a total of about HUF 2,200 billion. Broken down by years, an amount equivalent to HUF 57 billion in 2021, HUF 265 billion in 2022, HUF 515 billion in 2023, HUF 655 billion in 2024, HUF 380 billion in 2025, and HUF 319 billion in 2026 can be invested.

Table 1 Macroeconomic prospects in the cases of implementing RRP and in its absence

	2021	2021	2022	2023	2024	2025	2026
	level	change in percentage					
GDP baseline (at 2020 prices, HUF billion, or % of the previous year)	51 655,7	7,1	4,3	4,1	4,2	4,3	4,3
GDP alternative scenario (at 2020 prices, HUF billion, or % of the previous year)	51 655,7	6,8	3,7	3,4	3,5	3,6	4,0
Number of employees (thousand persons, 15-74)	4 634,6	0,7	0,7	0,3	0,2	0,1	0,1

[2] See in detail Hungary's Recovery and Resilience Plan, submitted May 11, 2021. https://www.palyazat.gov.hu/helyreallitasi-es-ellenallokepessegi-eszkoz-rrf#

Source: Convergence Programme 2022-25, own calculations

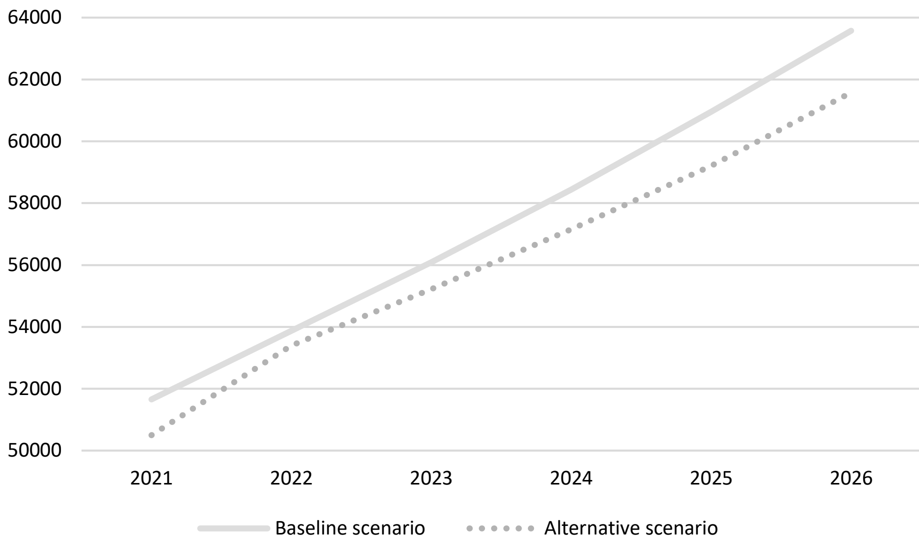
Notes: The baseline scenario calculated in the Convergence Program also includes the effects of the implementation of the RRP, while the alternative scenario is the former baseline scenario but without the short-term (demand) effects of RRP implementation.

Based on all of this, in a *broader context*, the growth effects of the RRP can be summarized as follows. According to the calculations carried out, in the short term (within 2 years following the implementation of the programs), RRP reforms and reforms/investments will contribute to the production of HUF 2,100 billion in gross added value. In the medium term (within 5 years), the growth surplus through the developments may be HUF 4,357.8 billion, taking into account the short-term effects as well. Some reforms/investments and reforms can have an effect even longer than this. According to calculations, the implementation of the RRP can result in the creation of a cumulative gross added value of 7,370 billion forints over a long period of time (10 years).

Along with the growth effects, the labor market effects of the implementation of the RRP are also significant. In the domestic economy, in the short term (that is, while the programs are in progress), labor demand of approximately 147,000 people will arise in connection with the implementation of the RRP. That is, an average of 73.5 thousand people per year. The latter accounts for 1.6 percent of the number of employees in 2021. At the same time, as a result of the already presented methodological peculiarities, the former does not mean such an increase in employment in the short term. Because of the methodology used, it is not possible to determine how much of the short-term employment effect appears in the creation of new jobs and what proportion of the jobs that have been preserved. Consequently, it is not possible to give an estimate of the expected development of unemployment either. Examining the long-term effects, however, it can be concluded that as a result of the implementation of the RRP, 27.1-31.5 thousand new jobs can be created in the medium and long term.

Based on Table 1 and Figure 6, it is clear: *the growth rate of Hungarian GDP* based solely on short-term demand effects *will be 0.6% in 2022, while in 2023-2025 years, it is 0.7 percentage points higher per year compared to the alternative path*, i.e., the growth level without the calculated RRP.

Figure 6 Economic growth in Hungary in case of implementing the RRP and in its absence



Source: Central Statistical Office, Convergence Program 2022-25, own calculation
Note: Baseline scenario: GDP figures with implementing RRP. Alternative scenario: GDP figures without implementing RRP

The mid- and long-term calculations indicate effects that significantly exceed the former. *Through the implementation of the RRP, between 2023 and 2027, GDP may exceed the level that can be predicted on the alternative path by 1.5 percent per year*. The long-term GDP surplus calculated between 2023 and 2032 may exceed the alternative path by more than 1.2% on average per year. (In the case of medium- and long-term effects, the EPC's forecast for 2023, the EPC's potential growth projection for the years 2024-2026, and an average annual GDP growth rate of 3% between 2027 and 2032 were used as an alternative path.)

The following need to be emphasized:

- The indicated calculations were made conservatively, with a limited consideration of possible spillover effects, so *the real effects of the RRP may necessarily be underestimated.*
- *Possible excessive optimism of growth projections can have a similar effect.* The growth path presented in the Convergence Program is impossible to achieve in the short term, given the global economic and balance problems that have arisen in the meantime. (The possibility of a technical recession in the Hungarian economy cannot be ruled out either.) Therefore, the short-term growth effects of the RRP can probably be much greater than the effects that can be indicated compared to the presented baseline. (Also, the potential anti-cyclical function of the program, which has now become especially important,

also needs to be underlined. In a period with the threat of a recession, it would provide a way to increase not only investment demand, but aggregated demand as well.)

- At the same time, in the case of medium- and long-term supply-side effects, the potential impact of spillovers and structural reforms that strengthen potential growth, which are not included – or only to a limited extent in the presented calculations, require special emphasis.
- *Because of all this, the macroeconomic significance of RRP can hardly be overestimated*. The presented estimates clearly show: in the case of full implementation of the RRP, it is actually a brutal quasi-fiscal impulse. In order to solve the current problems of the Hungarian economy and to avoid the danger of recession, the implementation of the RRP and the maximum efficiency of using the EU funds available under the program would be of great importance.

The above analysis only summarized the possible growth effects of the non-reimbursable support (grant) available within the framework of the RRP. Another important option, however, is *the use of a discounted loan* available under the NGEU. No decision has yet been made on the latter matter, and neither had it been included in the RRP originally submitted in 2021. The current extraordinary conditions, the serious geopolitical shock, and at the same time the fundamental balance problems of the domestic economy make the use of this opportunity a serious consideration.

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THE GROWING IMPORTANCE OF PRIVATE HEALTHCARE IN RELATION TO THE BUDGETARY SUSTAINABILITY OF THE HEALTHCARE SYSTEM

The present study is the executive summary of the study entitled "Budget sustainability and transformation of healthcare financing, with regard to the shift in the ratio of state-non-state services, the emergence of private insurance". The purpose of the latter is a critical analysis of healthcare financing, starting from the presentation of the financing system, its legal background and, an international comparison of the most important indicators. In its chapters, the factors influencing healthcare financing (demography, lifestyle, morbidity, mortality, income, prices, regulation, technological development), the financing structure of healthcare and its changes are presented, based on the three pillars of financing, of which private healthcare receives special emphasis. Finally, the financing problems of health care are presented, as well as suggestions for the transformation possibilities of health care financing. The actuality of the study is given in particular by the change in the structural ratios of certain financing pillars of the healthcare sector, and at the same time by the accelerating shift of the structure towards the private sector.

The healthcare system includes all activities whose primary purpose is to promote, restore or preserve health. Its main functions include management, supply and financing. The funds necessary for the provision of health services and the availability of resources must be created, and the coverage of the service must be made available to the provider. **There is no perfect, optimal financing technique; in all cases there are advantages and disadvantages concerning e.g. interest, activity, administrative costs.** Healthcare financing is a problem in any healthcare system in the world.

In Hungary, according to the Fundamental Law, everyone has the right to physical and mental health, which the state serves, among other things, by organizing health care. Healthcare resources must be managed legally and expediently, effectively and transparently, in compliance with the principle of the purity of public life, and this must be accountable, balanced and sustainable.

Hungary's healthcare system can be defined as a multi-actor system, of which the financier is a key player. The use of health services is supported by the state from the central or local government budget or from the Health Insurance Fund if various conditions are met, with the fact that there are services that can be used against a separate co-payment or additional payment fee. In order to reduce the expenses related to the curative and preventive treatments of the needy person, another option is to use public medical care to cover the expenses.

The implementation of financing is made possible by **four financing pillars, which are social insurance, business and health insurance, voluntary mutual health fund, and direct payment** (currently in private health care, previously gratuities were

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[1] GKI Economic Research Co., Ltd. Manuscript submission date: September 15, 2022.

also part of this). The state provides the foundations for the operation of the health sector based on the framework approved in the annual budget laws. Another form of financing is private financing, which can be realized from full reimbursement or co-payment, without payment of which the patient cannot access the services, regardless of whether the payment obligation is fulfilled by the patient or the health fund.

The range of regulations concerning healthcare is diverse and complex, and the legislation has been amended many times. The latter complicates the transparency of the legislative environment, while changing management would require further corrections. **Healthcare financing is burdened by budget problems; the gap between the needs of individuals and the carrying capacity of the central budget has been widening for many decades**. No changes to comprehensively improve cost-effectiveness and quality were made in the structure of the supply system and financing.

There are many influencing factors that have an impact on the development of healthcare expenditures, but since **these influence each other in a complex structure in addition to their independent effects**, it is difficult to identify and isolate the individual effects. In addition to the widespread availability of health technologies, demographic changes, the rise in administrative costs, changes in financing rules, the increase in personal incomes, and the rise in the price level of health care play a decisive role.

The increase in life expectancy and, parallel to this, the increase in **the proportion of older age groups places an increasing burden on the health care system** through the need for financing. This is especially true in view of the fact that, despite the fact that life expectancy is increasing, it does not matter whether the elderly live out their years in good health or illness.

Lifestyle-related risk factors are responsible for about half of the deaths in Hungary. In 2019, a quarter of the population smoked on a daily basis, which is the third highest rate in the EU. A quarter of the population is obese, with which rate we also occupy the third place among the EU27 countries. The latter is only partly explained by incorrect eating habits. In 2019, less than 60% of adults reported that their health was good, which is below the EU average (70%). **In 2019, 40% of adults lived with at least one chronic disease**, which rate is higher than the average in EU member states (36%).

In 2019, the SHH[2] index for circulatory diseases - which account for more than half of deaths - was the fifth highest among EU member states. **Malignant tumours are responsible for nearly a quarter of deaths in Hungary**. After 2011, the SHH index of these diseases was also the **highest among EU member states** in 2019. By May 2022, the COVID-19 epidemic had caused more than 46,000 deaths in Hungary, which is 4.8 thousand people per million inhabitants.

Economists and health experts typically agree that **we do not spend enough on health care relative to our economic weight**. In Hungary, after the turn of the millennium, **the ratio of health expenditure to GDP** gradually decreased; in 2003 it was still 8.1%, which **decreased to 6.3% by 2019**.

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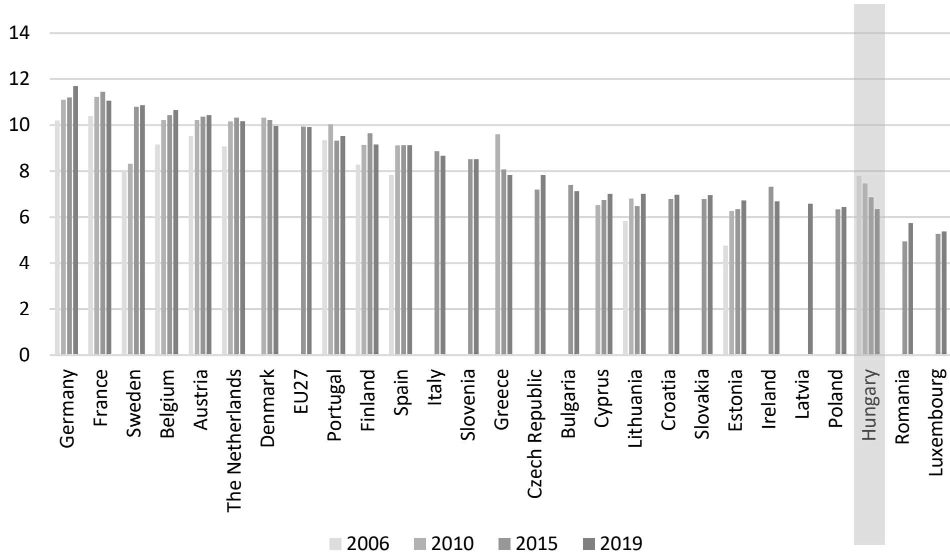
[2] The standardized mortality ratio (SMR) is the ratio of actual and expected mortality, which value is intended to express how much a given (territorial or otherwise grouped) population group differs relative to the values of a reference population (KSH Institute of Population Sciences).

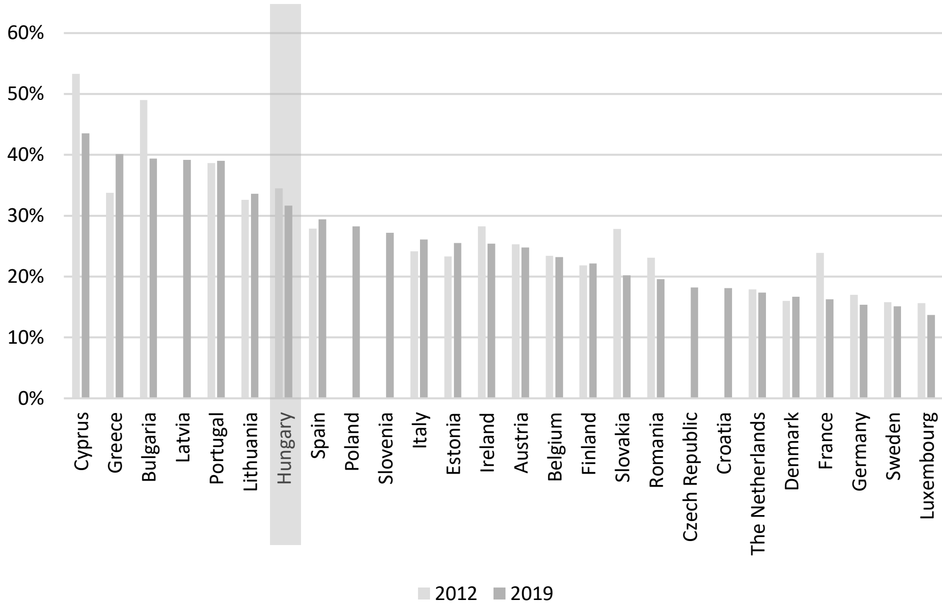
Figure 1 Health expenditures as a proportion of GDP
(2006-2019, percent of GDP)



Source: EUROSTAT

While **healthcare expenditures** doubled in nominal terms **on a 2003 basis**, in real terms they **increased by only 15%, while the list of tasks also expanded**. The proportion of each subsystem of healthcare expenditure changed only slightly, government expenditure decreased from 71% to 68% of all expenditure between 2003 and 2019, households financed 28% in 2019 (2 percentage points more than in 2003 in), voluntary funds 4% (also 2 percentage points more than in 2003). **In Hungary, about a third of healthcare expenses are thus covered by private sources** (in 2019, it amounted to HUF 956 billion), which is in the top third of the EU member states.

Figure 2 Private health expenditure as a proportion of total health expenditures (2012-2019, percentage)



Source: EUROSTAT

The health wage increases in 2020 and 2021 significantly increased the weight of the central budget (in principle) in terms of funding. Since many deferred interventions were not carried out during the pandemic, the part of the population that could pay sought treatment in private healthcare. This has significantly increased private health expenditure.

It is partly due to the above that **the ratio of government healthcare expenditure to GDP in Hungary is significantly lower than the EU average**, and since 2010 it has typically been 2.3-2.7 percentage points lower than that. Within this, in 2017-19, Hungary was behind by 2.7 percentage points, the average rate for EU countries is around 7-7.1%, and Hungary's is 4.5-4.7%. During the period of the COVID epidemic, and in 2020, the rate rose to 8% in the EU and to 6.4% in Hungary, which narrowed the gap to 1.6 percentage points. The fact that in the pre-epidemic period, the lagging behind of Hungary in the proportion of health expenditure is significantly greater than that of public expenditure as a whole, cannot be explained by the development and (cost) efficiency of the Hungarian health sector.

Household income has increased by nearly 3.5 times since the turn of the millennium, which means an increase of nearly 60% in real terms. Within this, a significant outflow of income has been experienced mainly in the period after 2015, which corresponds to the period of significant expansion of the private healthcare market. **Households spent an average of 4.9% of their income on healthcare in 2010, and 5.4% in 2020. Since the turn of the millennium, the price of health care**

services has more than tripled overall, while the price increase for all services has been 2.3 times.

The increasing proportion of direct government payments to the Health Insurance Fund allowed the Government to set its priorities freely and exercise greater control over spending, but it did not solve the legacy of instability in the financing of the health system. On the other hand, during the COVID19 pandemic, this system allowed the Government to provide additional resources to the healthcare system. The so-called Pandemic Defence Fund covered the costs related to the COVID19 epidemic, including a one-time extraordinary allowance for healthcare workers. As part of the reforms initiated during the pandemic, the government provided additional funding in the form of wages to general practitioners who established practice communities.

One of the most fundamental problems of health care financing in Hungary is that, **due to the aging of society, it relies more and more on the care system.** At the same time, **the shortage and, sometimes, overwork of general practitioners** puts a greater burden on the higher levels of care, the more expensive outpatient and inpatient care. Both public and private healthcare expenditures are significantly **increased** by the **costs of healthcare services** that rise above inflation. The rapid increase in health care expenses in recent years was significantly accelerated by **the partial settlement of the wages of nurses and doctors.** Another element of the set of problems is that the health sector has been struggling with the problem of **double financing** for many years. The system of investments and asset replacement works much worse than the financing of operating costs. Worn-out assets are largely replaced by operating funds, since **the current financing system of the operation does not provide coverage for amortization.** In addition to the above sources, the temporary financing of the health sector is ensured e.g. by the advance, the credit and the loan. In Hungary, **overdue debts to suppliers** are currently a permanent phenomenon in the healthcare sector.

In addition to the current care system and financing system, hospital debt is constantly being reproduced, so sustainability is not guaranteed. The **new priorities** that are gradually appearing in the health policy – besides their efficiency enhancing nature – **have the effect of increasing expenditure in the short and medium term.** Currently, one of the main elements of this is the additional funding for general practitioners created to encourage **practice communities**, which aims to respond to the dangers of the aging general practitioner workforce. **Digital healthcare developments** help to increase the number of patients receiving definitive care in primary care, contribute to reducing the number of doctor-patient meetings and make healthcare more convenient and data-driven. **The development of the hospital infrastructure and equipment park** also promotes the further spread of one-day surgery, the reduction of time spent in the hospital, the improvement of patient isolation options, and the further reduction of hospital infections.

Technological innovation is of great importance in healthcare and can be considered one of the most important drivers of healthcare spending. Technology has influenced the way healthcare services are provided in many ways: by increasing the number of treatable diseases, widening the range of patients suitable for treatment, improving, substituting, changing, and increasing the intensity of a treatment/care method. Digitization is a strategic objective in Hungarian health policy. Although modern instruments, IT systems, and cloud-based applications are available, rapid development and modernization are not perceptible in the management of hospitals, and cost accounting, record keeping, and sharing problems persist (the reason for this is partly the need to meet excessive administrative requirements).

The public health sector can only provide partial answers to the questions and problems listed above. **The organizational and stakeholder system, the supply structure of the healthcare sector, as well as the state organization dedicated to its operation, are often modified, the lack of a system approach, the replacement of strategic thinking with administrative methods is a fundamental problem**. **Increasing doctors' salaries** and **reducing gratuities** solved partial problems, but in the **absence of a general healthcare reform**, they only led to partial results, while also creating **new tensions**. For quality requirements – for example, threshold numbers for post-bleeding, hospital-acquired infections, etc. - it would be necessary to deal with the institutions and the doctors within the institutions as well.

At the same time, the demand for high-quality healthcare is increasing. As a result of the emerging problems, the **question of privatization (with some degree of) comes to the fore more and more often in policy decision preparation as a possible solution to the financing crisis of the healthcare sector**. Patients are flowing into private healthcare in increasing numbers. Due to the weakness of public health financing, the performance of state hospitals cannot keep up with the needs of **patients,** who **are** therefore **increasingly being forced out of the state care system with more and more illnesses** (as can be seen in the all the increase in waiting lists). The flow of doctors leaving the country has been replaced by the transition to the private sector (the salary increase of doctors must have had an impact on this situation, although statistical data are not yet available), which forces a corresponding flow of patients as well (which is embodied in the increase in waiting time in the state system).

There are many different models for financing private healthcare in Europe. There are places where this is supplementary insurance, there are places where private insurers finance the entire health care, and there are also places where it all depends on income. Domestic private providers are present in the following forms: informal private prescription in a state institution, private clinics, group practices, private institutions (clinics, hospitals, and diagnostic centres), and networks of private healthcare providers (e.g. occupational health). To complement the above, we cannot go beyond the institution of gratuity, which previously had deep social roots in Hungary, and which has been formally abolished since 2020.

In the private sector and public financing, the opposing points of view prevail. While public spending focuses on hospital care, in the private sector, outpatient appointments are the most prominent. This is not accidental at all; the main reason is **the prohibition of double financing.** For this reason, in Hungary today, care can be financed from either public or private sources, joint financing is penalized. For this reason, a **significant number of patients can only pay the costs of the relatively cheaper outpatient care from their own resources**; much less can afford hospital care, which is at least an order of magnitude more expensive.

Between 2012 and 2018, the sales revenue of legal, invoicing private health care providers was able to grow at an annual average rate of more than 10%, while gratuities and doctors' offices (that is, the grey and black part of the market) declined to varying degrees. In other words, **the market for private health care providers has whitened significantly. At the same time, the private health care market is concentrated**, as it is difficult for home clinics (that is, single-doctor private clinics) to keep up with complex institutions that are able to provide more and more complete care within the framework of private health care, either due to the high price of expensive and modern equipment or the lack of development of patient care management. Apartment owners have to face the ever-tightening tax environment, the ever-increasing patient expectations, while they can no longer obtain the diagnostics and surgical capacity of state care. Creating the background for inpatient care is an increasingly pressing task for multidisciplinary private outpatient care providers as well. At the same time, demands increasingly encourage these providers to specialize and cooperate. Merging into larger companies may mean the survival of doctors' offices. **However, all this is accompanied by the limitation of competition, which predicts rising prices**.

One of the driving forces behind the growing demand for private care is mistrust of public care, which is exacerbated by unpredictability. It also speaks in favour of private service providers that they use the latest technologies quickly and flexibly. The COVID epidemic also drove many patients to private providers. While previously only a small group used laboratory tests and screening packages, after the outbreak of the epidemic, a significant proportion of patients turned to private providers for PCR and antigen tests. Later, with the closure of hospitals, the postponement of surgeries, and the lengthening of waiting lists, more and more people turned to providers for more serious interventions. Thus, the use of private services has become less and less the privilege of only the most well-to-do families, as **more and more of the masses are forced to pay for private healthcare. Parallel to this, the influx of labour into the area is also increasing** (the latter can be inferred from the increase in the number of private healthcare providers and from the increase in private healthcare revenues). Some of the doctors work partly in the public sector and partly in the private sector since in the latter sector they receive a predetermined percentage of the income as wages. The result of this is that **waiting lists have already formed at private service providers in certain specialist areas**. It is no coincidence that **capacity limits** have already appeared **in private healthcare**, and prices have started to rise rapidly due to the surging demand. Since the majority of society will not be able to pay for the services of private healthcare either now or in the future (especially not for more serious interventions), **it is of utmost importance to ensure the financing of healthcare provided from budgetary resources and moreover, at a higher level than at present**.

In view of the very diverse set of problems, it would be advisable to formulate complex transformation proposals in the first round. The system of **institutional financing** should be rethought, including state institutions and the private sector (with reimbursement of the justified costs to those, who use it). A prerequisite for this **is the establishment of management capable of preparing and implementing the professional and budgetary strategy of the health sector**. Simultaneously with the transformation of the budget structure, it would be advisable, among other things, to prioritize healthcare.

An efficient supply structure, financing based on real costs and transparent and efficient hospital (and specialist practice) management can help avoid the reproduction and annual consolidation of hospital debt and ensure its sustainable functioning. One of the lessons of the COVID epidemic is that the health care system may unexpectedly need additional funding, which can be partially covered by the reserves accumulated during "quiet" periods.

The strict separation of private and public health care is an important problem for the renewal of financing, since by solving it, public and private care provided by the same doctor inside and outside the hospital can be separated and transparent. It is expected that digitization, the digital or even cloud-based recording of medical and patient data, will play a major role in solving these issues.

In any case, **the expansion of the business opportunities of healthcare providers** should also be considered in the case of services that relate to the sale of resources in excess of the capacities that must be provided and are within the decision-making scope of the state-owned but freely operating healthcare provider. In the case of new sources of income, in addition to economic interests, the principle of equal access to care is equally important. It is also a task to develop appropriate mechanisms and guarantees to mitigate these risks.

In some emergency periods, such as the COVID epidemic, the capacity of inpatient care can be used to handle suddenly increased tasks. However, the excess capacity committed in this case cannot generate income in other periods due to the fact that it is underutilized in a certain proportion of cases in the current financing system. It would be advisable to enrich the current financing system with methods that are able to handle non-recurring costs in addition to ongoing costs.

Due to the financing problems caused by the COVID crisis and the provision of transferred surplus capacities, it would be advisable to examine the possibilities of increasing the revenues of the Health Insurance Fund. Fears arising from health insecurity increase the value of health services for many, partly at the level of the individual but, at the same time, the provision of health care will be an even more important aspect for employers. The sustainability of the care system brings to the surface new solutions that allow access to publicly funded health care capacities even within a business framework (e.g. supplementary health insurance). Such a solution can also bring benefits to society, as the additional payment can be used to improve the care system.

We cannot ignore the fact that the changes by the Government concerning the reform of the health sector (**general practitioner practice communities, development of emergency care, digitization**), that point in the right direction also require additional funding. All of these are detailed in Hungary's Recovery and Resilience Plan, and their financing will be solved from EU sources if this Plan is accepted.

It would be advisable to switch to a management that recognizes the real operating costs. Within this framework, in the case of healthcare investments, **amortization should also be recognized as a cost element**, from which hospitals and specialist clinics, as well as general practitioner practices, could ensure their equipment purchases. This would also improve the utilization of the tools (since the interest in this would increase).

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