

Inflation, monetary pain, fiscal relief

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SUMMARY: Katalin Botos, in issue 2023/4 of Public Finance Quarterly, examined the causes of inflation in the crisis years of 2020, its management, which she considers inadequate, and finally its fiscal impact. On the occasion of her assessment of the inflationary period, we reflect on her thoughts on impoverishment and fiscal sustainability with extended time series as the inflationary rollercoaster has passed. Our analysis is based on the Modern Monetary Theory (MMT), which was launched its scientific career in the USA. MMT paradigm is that dealing with high inflation through monetary tightening inevitably leads to recession or crisis, which also breaks the income trajectory, and instead proposes fiscal solutions to avoid side effects.

KEYWORDS: inflation, households, income, wealth, MMT, fiscal sustainability

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Managing double-digit inflation on the basis of MMT

One of the theoretical conclusions of the financial crises of 2008-2010 was that it was possible to drop the old economics textbooks – at least in the case of monetary policy – and look for new solutions. Unorthodox and unconventional central bank policies were some of the stages in the search. (Krekó et al., 2012) These gave rise to the MMT (Kelton, 2020), which until then had been written almost for the account, according to which the state is an unlimited issuer of money, so that there is no limit to its indebtedness, and the willingness to lend among economic agents determines the amount of (credit) money available. This has worked well in an environment of stable prices and low interest rates.

The economic policy perception of the 2010s, and hence the conclusion, was that there were no consequences of public demand stimulus: neither in the real economy, as inflation remained minimal for years; nor in the credit market, as interest rates remained low due to price stability. Meanwhile, stock market indicators are also performing well in a comfortable growth environment. After emerging from the crisis of twelve to thirteen years ago, economic optimism has remained unbroken over a decade, so that the functioning of markets has avoided a global inflation shock, a stock market crash or a major regional debt crisis in the long run. Although in the first half of the 2010s there was still considerable concern among economists about the inflation risks and stock market bubbles that the Fed's three waves of quantitative easing would create, this gloom has not been

reversed. The period of the big Lockdown due to Covid has also only reinforced the sense of stable prices and low interest rates, and the need for a spending and stimulative economic policy.

The paradigm of the MMT theory is that it is a fundamental mistake to believe that a rise in the central bank interest rate will lead to a disinflation. This is contrary to everything we have thought about monetary policy. If the effect of wage increases, rent increases and commodity price rises is assumed to lead to price increases through higher production costs, why do we think the opposite about a rise in the cost of capital and lending rates as a move to lower inflation expectations? In MMT's interpretation, rising central bank interest rates do not reduce inflation by affecting expectations, but by causing an economic crisis. As a consequence, consumption, employment, investment and hence their prices will indeed fall. The Fed chairman makes no secret of the fact that "pain" (Wallace, 2022) is needed to bring down inflation.

What does MMT say to the contrary?

1. Inflation – especially in 2022-2023 – is not demand-driven but supply-driven. That is why inflation is caused by rising energy prices in 2022 and the spill-over food price rises in 2023, coupled with the US housing and office rent hikes, but not by the excessive demand. And how can this be detected? The US activity rate is back on an upward trajectory after Covid temporarily discouraged Americans from looking for work, according to the Bureau of Labor Statistics.
2. It is not the amount of money that matters, but how much of it is wanted to be spent by economic actors. If they save, that money will not be used for inflation. But if they can buy on credit or with long payment terms, we will have inflation without money.
3. The central bank does not raise interest rates because it will bring down inflation, but because it is expected to do so by the financial markets, which would react very nervously by shacking exchange rates in case of absence of intervention.
4. The most effective way to regulate the spending of money is not to raise central bank interest rates, which will lead to a crisis, but to regulate it through the tax and spending items of the public finances. In the period of inflation, tax revenues that affect a relatively broad group of households and firms whose consumption, purchases or investment are sensitive to changes in their income or profits should be allowed to rise. For example, rising consumption tax revenues with rising consumption automatically drain money away from spending. Czechel et al. (2023) collects the instruments of anti-inflationary fiscal policy in details.

When analysing the management of inflation from the perspective of MMT, it is first of all worth noting that Hungary is a small open economy, so it cannot be independent from the effects of international economic developments. The above findings are based on observations of the functioning of the US economy. In the case of catching-up, small, open economies like Hungary, the exchange rate, the impact of credit rating agencies on government bond rates, the inflation rate

that society is used to and its policy implications result in a different policy room for the central bank and fiscal government than in the US. A direct consequence of this is that some details of the theory's basic context can only be applied with caution (Razmi, 2022). An important theorem of MMT is that, contrary to the prevailing approach, it views inflation as a supply-side problem in general, i.e. it is not "always a monetary phenomenon", as the famous Milton Friedman quote would imply. (Nersisyan – Wray, 2022) Supply-side causes have also dominated the inflation of recent years, including viral supply chain problems, the manifestation of the disadvantages of just-in-time production, or even the impact of the Chinese lockdowns and the war in Ukraine. All of these factors suggest that there is no way to avoid strengthening the supply side when dealing with inflation. For a country like Hungary, this could involve strengthening and developing domestic players in certain sectors of the economy, which would also help to reduce dependence on foreign countries, especially in sectors where domestic potential could be better utilized. The latter role is also reflected in the high import price inflation due to the weak forint. However, the supply-side context cannot be interpreted in isolation from demand factors. In the case of the demand context, the impact on demand of various government support measures in the recent past needs to be examined. From the MMT perspective, the question is whether demand has exceeded supply capacity as a result of the many thousands of billions of additional income. According to MMT principles, the problem does not arise from the Covid bail-outs and their aftermath, including all forms of state aid, but from the fact that they have not been targeted to the individual economic agents.

The three main claims by Botos (2023) are the following: (1) The past two years of inflation have impoverished Hungarian households through food inflation, labour market developments and exchange rate effects. (2) The management of inflation has worsened the fiscal sustainability of the public finances. (3) The economy has a fundamental current account problem, which has not been improved by the crisis years. In the following survey, we will quantify and monitor the impoverishing effect and the sustainability of public finances. To go one step further over the conclusions made by professor Botos, we will not merely present the income and wealth effects of inflation. In the background, the guiding idea is that the negative effects of high inflation are evoked by the conventional (orthodox) monetary response through interest rate increases, while the negative effects are softened by fiscal-driven economic policy through job preservation and the maintenance of a fluctuating real income.

Has inflation been impoverishing and unequalising?

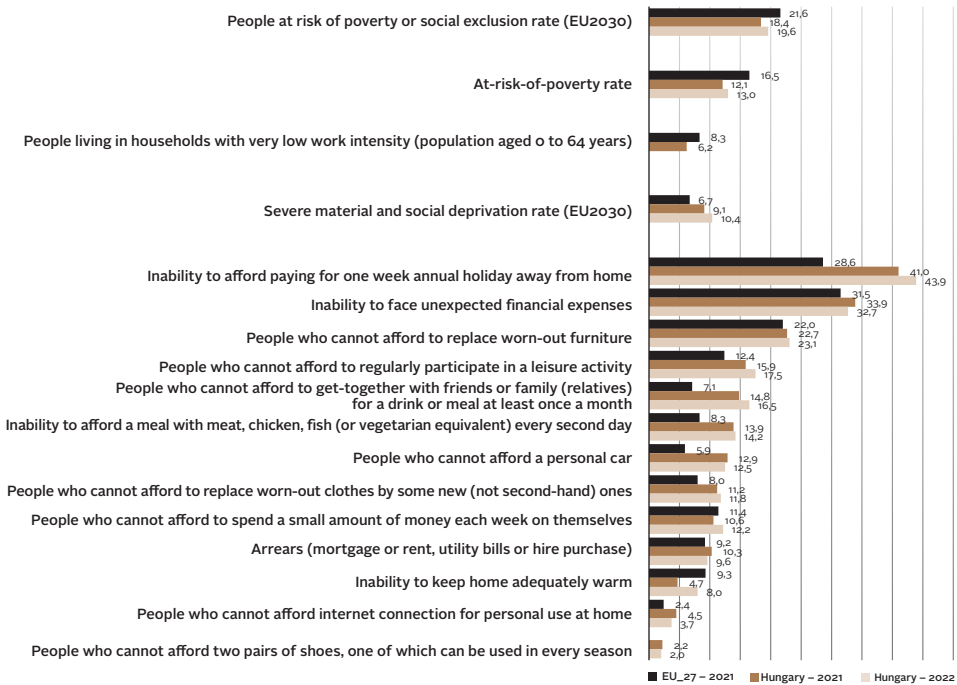
At the time of writing, we only have preliminary data on living conditions in Hungary for the reference year 2022. From the preliminary data, we know that in 2022 real per capita income increased by 2.0%. In 2022, the gap between the income of the bottom and the top fifth increased from 4.3 to 4.8 times. In other words, the scissors were opened in a year of wartime energy inflation. According to the latest Eurostat data for

2021, Hungary has the 8th lowest top to bottom quintile income inequality, well below the EU average, and has been steadily decreasing since 2014 until 2021. Below the Covid, domestic income inequality did not increase in 2021, unlike in many European countries, but started to do so in 2022, but still remained below the EU average.

Poverty should be assessed using the AROPE indicator developed by the EU.¹ The proportion of people living at risk of poverty or social exclusion increased by 113,000 in 2022, bringing it close to the 2019 level of 19.6%, but still below the EU average for the time being.

Among the sub-indicators of the complex measure, there was a decrease in the share of people living in households with very low work intensity. The other two areas worsened slightly (relative income poverty rate, i.e. the share of people living below the poverty line, 0.9 and the share of people living in severe material and social deprivation, 1.3 percentage points). The detailed data are shown in Figure 1.

Figure 1: Percentage of people at risk of poverty or social exclusion



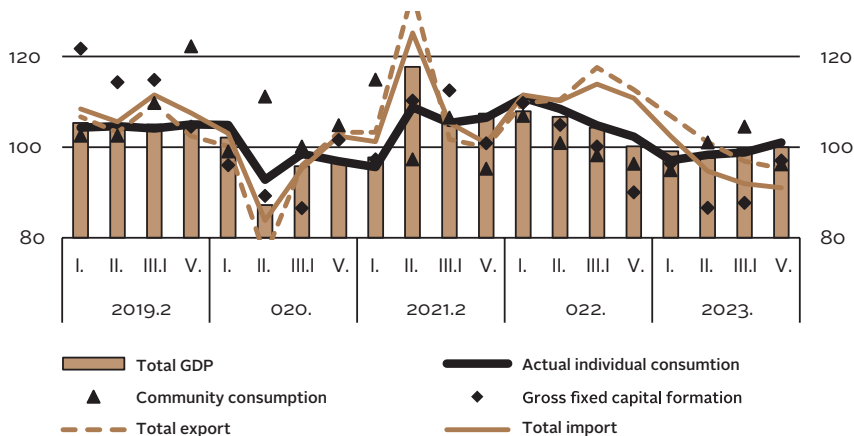
Source: Eurostat, Hungarian Central Statistical Office (HCSO), own ed.

Note: EU2030 is the indicator whose content has been changed in the European Union 2030 strategy compared to the previous 2020 strategy, and the figure shows the values according to the new content.

1 The evolution of families' living conditions was analysed in detail in Szalai (2024).

It is noteworthy that five of the 13 deprivation items have improved and the share of people at risk has decreased: lack of coverage for unexpected expenses, arrears on loan repayments or utilities, no car for financial reasons, no internet access at home for financial reasons, no two pairs of shoes. The most significant deterioration was in the area of lack of adequate heating in the home, for understandable reasons, as both prices and heating technologies, government communication and the overall social climate have encouraged compulsive energy saving. The proportion of people who could not afford to eat meat every two days worsened little bit, so food inflation had a much smaller role in increasing the risk of poverty than household energy price inflation. Overall, when taking into account the evolution of earnings, the household energy and food price increases in 2022 have had a small impoverishing and noticeable inequality effect on Hungarian society so far. (At the same time, a more favourable position than the EU average in terms of poverty or social exclusion and inequality has been maintained.) The quarterly evolution of actual household consumption as a share of GDP also confirms the temporary impoverishment of households as a whole in 2023 (Figure 2), which is clearly being offset by the attempt of community consumption to meet the fiscal side inflation crisis management under MMT. This was also due to the Hungarian Competition Authority's (GVH) measures to increase competition, which had the greatest impact on the food sector (Rigó, 2023). Thus, the annual harmonised price index for this product group, 47.9% in Eurostat December 2022, had already fallen to -0.6% by February 2024. (This is the second lowest decline in the EU.)

Figure 2: Volume change of GDP and its components, quarterly volume indices, 2015 average prices [same period of previous year = 100.0%]

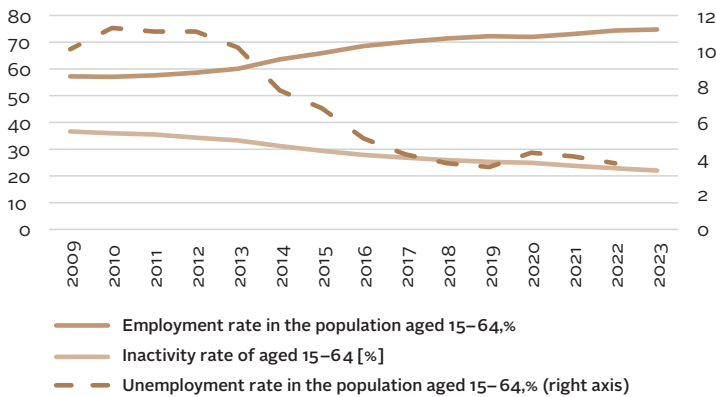


Source: HCSO, own editing

Was the fall in real earnings merely a temporary time inconsistency?

Government spending becomes targeted when it improves productivity, develops infrastructure and, through all these means, expands supply constraints (see Shirai, 2019). As long as the economy is operating below its full capacity, various forms of government stimulus may be justified. The limit is the capacity constraint, full employment, since stimulus beyond this point is already inflationary. From a consumption point of view, the social strata that receive the resources are key.

Figure 3: Trends in employment, unemployment and inactivity rates in Hungary for the 15–64 age group



Source: HCSO, own editing

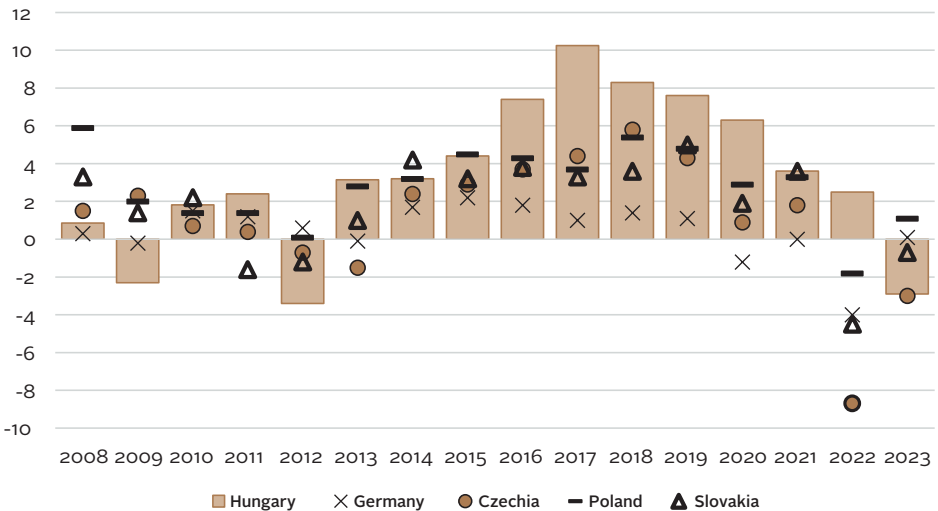
In Hungary, the labour market has been rather tight in recent years and although the crisis has not left the labour market untouched, the unemployment rate has increased only moderately, by less than 1 percentage point (see Figure 3). This is because far more jobs were created than lost. In the later years, the labour market is expected to become even tighter as it moves closer to full employment, which could raise the possibility of further inflationary developments. The key question is to what extent this can be achieved in parallel with capacity expansion, which leads to the notion of a so-called high-pressure economy. The two important pillars of this approach are stable demand created by strong employment and measures to support productivity growth. The main focus is therefore on the labour market, and the core of the approach is based on the long-term economic benefits of high economic growth combined with very low unemployment rates. Avoiding inflationary pressures is the key to productivity growth and capacity expansion (MNB 2016:16-17). It is also important here that investment (see automotive investment and battery plants) increases the performance of the economy and at the same time mitigates the inflationary consequences of the risk of overheating through its job creation potential. All of these measures, which maintain real GDP and preserve household

incomes, have dampened the recession caused by monetary tightening in response to inflation, consistent with MMT approach preferring the fiscal and real income measures.

In HCSO unemployment statistics, there are the reasons published for the last job losses at both annual and quarterly levels. These indicate that the rise in unemployment in 2023 was caused by an increase in fluctuation (HCSO Statat 20.1.1.22 annual and 20.2.1.9 infra-annual data). More people quit their jobs and looked for new ones in the hope of higher earnings than before. During the period of job change, more people were briefly unemployed, however they did not drop into the inactive population in this time, but found new jobs.

In Hungary, real earnings have been growing steadily for a decade, i.e. average gross and net earnings and median earnings have been growing faster than inflation on an annual basis. This implies that purchasing power has also increased significantly, and with it household consumption and savings. In our country, the first year of real earnings decline was 2023, while the other V4 countries already saw a significant deterioration in 2022, and in Germany, 2023 was the first year since the Covid outbreak in 2020 when real earnings improved by 0.1%, with real earnings falling back to 2015 levels (Figure 4). Hungary experienced 12 months of real earnings decline between September 2022 and August 2023, a shorter duration than most countries in the EU. On an annual basis, Hungary lost roughly the same amount of growth in 2023 as was gained in 2022. For 2024, the MNB's March 2024 Inflation Report already forecast a double-digit (10-11%) increase in average gross earnings (MNB 2024), which puts real earnings back on an upward path, with an average annual improvement of 5.7-6.5% in real terms.

Figure 4: Change in real earnings, % previous year = 100

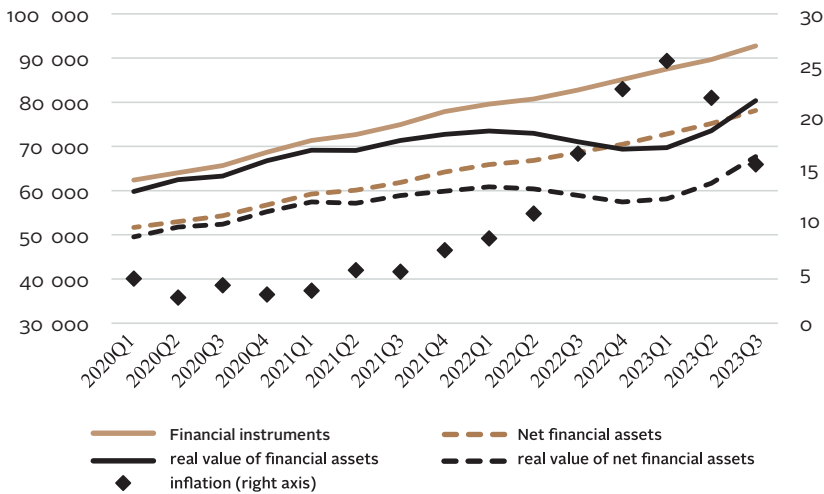


Source: national statistical offices, own editing

What happened to household savings and wealth?

For household financial savings, nominal financial holdings were adjusted by the three-month average inflation rate for the quarter in question to examine the impact of the depreciation of money in real terms. Figure 5 shows that the rate of accumulation of nominal financial assets and nominal net financial wealth, which has been increasing in a linear trend, has been far from sufficient to preserve the value of the wealth held in financial assets. The divergence between nominal and real value trends can be observed in early 2021, as inflation rises, but we see a real divergence between the two in the post-war energy and food inflation periods. That is, in terms of household financial savings, the price increase has caused a permanent depreciation, as nominal savings have not been able to grow at an exponential rate to compensate for inflation in the known periods. The latter is obviously also due to the negative impact of the recession on earnings and incomes.

Figure 5 Households' financial assets and net financial wealth in nominal and real terms (adjusted by quarterly three-month annualised average inflation), 2020Q1–2023Q3, quarterly, stock, end-period, HUF bn.



Source: MNB, HCSO, own calculation

The most important asset of Hungarian households is typically residential property (MNB 2023:25), which exceeds even financial savings in value. The wealth effect is worth examining even if for a significant proportion of households it is a passive asset, neither earning income from renting or selling nor used as financial collateral. According to HCSO (2023), the fall in the number of dwellings sold already suggests a recessionary impact on asset values and a postponement of property transactions due to inflationary risks and crowding out. Sales fell by 14% in 2022

and by a further 31% in the first three quarters of 2023. (Admittedly, this was mainly due to a sharp fall in sales of new dwellings representing entrepreneurial assets.) The price of second-hand homes that were already privately owned by households first fell nationally by a significant amount in the fourth quarter of 2022, but this rebounded in the first quarter of 2023 and stagnated in the following two quarters. In nominal terms, therefore, there was essentially no loss to homeowners. However, the real value of the housing price index calculated by the HCSO shows a continuous real depreciation of the order of 15% from the second quarter of 2022 onwards. It is true that the rise in energy prices has forced both households and businesses to bring forward their planned investments to reduce energy consumption. There has been a significant increase in the number and share of solar panel installations in energy production, production, renewal of heating systems, insulation, replacement of windows and doors, etc., according to the MAVIR (Hungarian Electrical Energy System) database.² This has obviously absorbed a significant part of the household savings and previously saved income, which could not be reflected in house prices during the inflation crisis, and any dispersion due to modernisation is not reflected in the price index.

The evolution of the real value of financial assets and real estate assets suggests that the population has suffered a significant and persistent loss of value due to high inflation in 2022 and 2023. In the case of financial assets, since we cannot expect the nominal trend to change from linear to exponential, we must conclude a clear loss of real value if the increase in prices becomes permanent, even if prices do not increase further. In the case of real estate assets, there may be effects that could even lead to price increases in the medium term (lower interest rates on housing loans, a fall in new housing construction and hence a contraction in supply, a cyclical upturn), which could restore the real value of household real estate assets some years later. For a while, real depreciation is the only certain effect at the aggregate level, even for real property.

Has public finances become more unsustainable?

In this context, it is important to add that MMT does not see a risk in the accumulation of fiscal deficits and, contrary to traditional approaches, does not consider debt sustainability as a threat. This is because, as Wray (2011) explains, when looking at sectoral balances, total expenditure equals total income at the aggregate level if the economy is decomposed into two sectors, namely government and non-government. It follows that if one of the two sectors spends more than its income, the other sector must necessarily spend less than its income. If the government is the actor that spends more than its tax revenue, it means that the non-government sector is a net saver. So, MMT says that the budget balance is not a constraint, mainly

2 <https://www.mavir.hu/web/mavir/aktualis-ver-adatak>

because the country has an independent currency, so it can cover its financing needs in domestic currency at any time. There is therefore always the possibility of money creation, which ensures the financing of deficit spending (Driessen – Gravelle, 2019). In an open economy, where the third spender is the foreign economy, there are limits to the theory as to whether the money supply can be controlled domestically.

It is very important to underline, however, that the temporary economic policy mindset after the Covid period, which was much more permissive towards high debt and deficit levels, does not in itself imply the use of MMT. It requires, as we have already pointed out, that government spending is targeted. The real constraint, according to the advocates of this line, is real resources (supply-side capacity) rather than tax revenues.

According to Eurostat data, the Hungarian budget deficit is projected to be -7.6% in 2020 and -7.2% and -6.2% in the following years, which would be unacceptably high in normal economic prosperity times, either according to the EU's Maastricht criteria or according to the European fiscal rules that exist in Hungarian public finances (Benczes, 2011; Benczes and Váradi, 2011). In Hungary, the public finances spent thousands of billions of forint during the years of the polycrisis.³ Has this destroyed fiscal sustainability?

Botos (2023) has tried to show from the raw numbers of the budget how much of a burden the fiscal management of inflation (and the Great Lockdown before that) is. In fact, fiscal macroeconomics is more dynamic and better adapted to changing economic circumstances in order to measure whether there has been an adverse shift in public finances. The real picture can be obtained by framing it in the context of the concept of fiscal sustainability. The main message of our analysis is that, crises or no crises, the real interest rate remained persistently in negative territory until the end of 2023, which strengthened the sustainability of public debt, whether public debt increased or domestic output decreased.

There is a well-developed and extensive literature on fiscal constraints, default risk, fiscal vulnerability and debt sustainability indices. This is the basis for

3 In the aftermath of the Covid crisis, the measures include payments linked to the 13-month pension, the PIT (SZJA) rebate, partial tax exemption for under-25s, various general and sectoral wage increases, and in 2022 the armed service bonus (fegyverpénz), i.e. a service allowance equivalent to six months' salary for defence and law enforcement personnel. In 2022, the combined impact of measures to increase household net incomes amounted to nearly HUF 1,700 billion (MNB, 2022) From 2023, the exemption from the social security contributions was extended to mothers with children under 30, further increasing the amount spent on family support. Also worth mentioning are the benefits for first-time married couples and for couples with four children. For pensioners, the inflation-linked pension increase and the 13th month pension were guaranteed, too, thereafter. Similarly, the role of income protection has been emphasised. In total, these have generated thousands of billions of forints of additional income for families in recent years. In a European Union comparison, Eurostat data show that Hungary has reduced employers' taxes on wages by the largest amount in the last decade, from 28.5% to 13% since 2016.

Blanchard's index of fiscal sustainability⁴, the primary gap indicator, which can be calculated using both primary balance and structural balance data (Benczes – Kutasi, 2010:67). Thus, the sustainability of fiscal policy depends primarily on real interest rates and economic growth. Unsustainable fiscal policy is risky for the national economy because the larger the budget deficit and the higher the level of long-term public debt, the less resilient the budget becomes to global economic shocks.

A negative real interest rate by itself reduces government debt and improves the sustainability indicator. It is true that a simultaneous fall in GDP dampens this effect, while a larger annual deficit also amplifies the debt-increasing effect. In the case of Hungary, the real interest rate was continuously negative from 2019 until the end of 2023, also because the central bank did not feel the need to raise money market interest rates as high as inflation, so that government bond yields did not reach inflation, at least in terms of the ECB's Maastricht interest rate criterion. (The picture is nuanced by the higher interest rates on residential government bonds, which account for 20% of debt, according to data from the Public Debt Management Centre, including long-term PMÁPs, which are above annual inflation but are a fiscal move that provides income to the public, which fits MMT's anti-inflation analysis.) Figures 6 and 7 illustrate, on the one hand, that the negative real interest rate was a strong determinant of the sustainability indicator, except in 2020, where the significant GDP contraction no longer allowed the positive impact of the negative real interest rate on sustainability to prevail. On the other hand, the Blanchard sustainability indicators confirm this, as between 2017 and 2024, the indicator remained in the sustainable range throughout the period, except for 2020, whatever the government balance. Thus, the concern that the years of crisis have put the long-term sustainability of public finances at risk is not justified. Assuming that the economy returns to growth path, the challenge for the coming years is that what extent of growth can strengthen the sustainability of public debt. Moreover, what room for manoeuvre remains for the central bank's interest rate policy to adjust the real interest rate at low inflation, if it also wants to meet financial market expectations to protect the forint exchange rate – as is the primary motivation for interest rate decisions according to MMT.

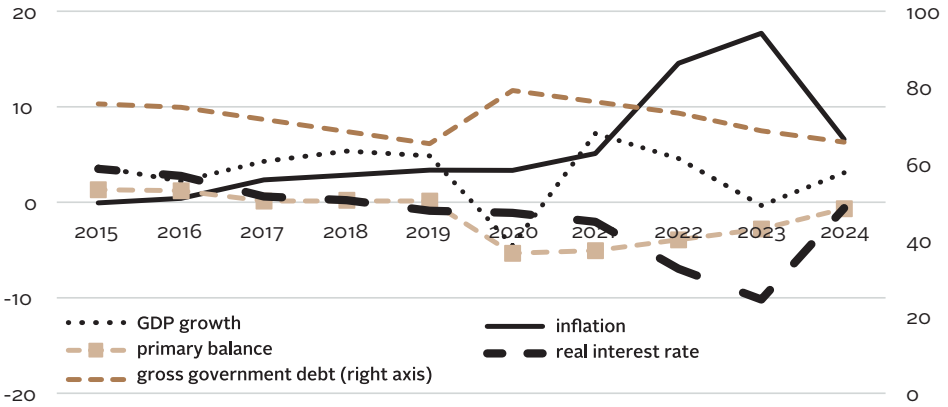
4 Blanchard's primary gap deficit indicator is rooted in Buiters' (1985) sustainability indicator, derived as the difference between the permanent (structural) deficit and the current primary deficit, measured as the ratio of the government deficit to net GDP. The primary gap indicator replaced the size of government finances with government debt.

Blanchard (1990) primary gap indicator:

$$\hat{d} - d_t = (n_t - r_t) * b_t - d_t,$$

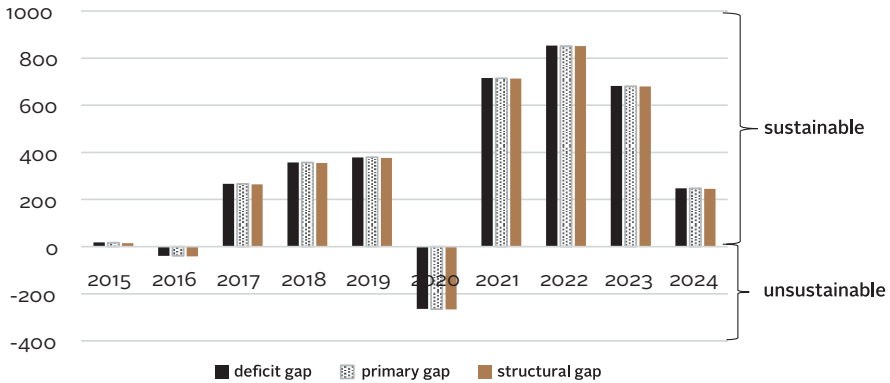
where d_t is the permanent deficit and d_t is the current deficit. If the current deficit exceeds the permanent deficit ($\hat{d} < d_t$), then public finances are unsustainable and the level of the current deficit destabilizes fiscal policy. The present analysis uses a primary gap and a structural gap for the above pattern, depending on whether the primary balance or the structural balance is applied for the balance.

Figure 6: Evolution of the variables determining fiscal sustainability, Hungary, 2015–2024, %



Source: IMF WEO, Eurostat

Figure 7: Blanchard's indicator of fiscal sustainability with general, primary and structural balances



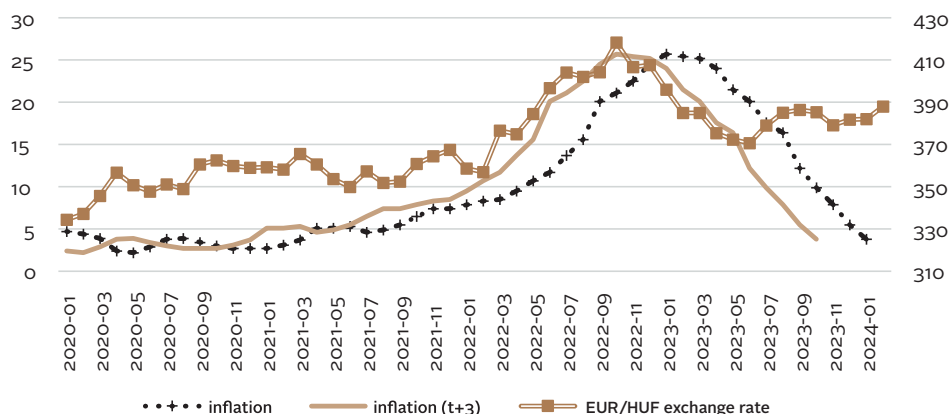
Source: own calculation

Does the absence of euro matter?

In their study, Balatoni-Soós (2023) argue that the exchange rate depreciation has been transmitted more rapidly into prices than in the past, due to a generally higher global cost environment and changed pricing behaviour. Their research shows that a 1% depreciation in the exchange rate contributes 0.25–0.35% to higher consumer

prices over a year, compared with around 0.1-0.2% previously. Overall, the effect has not only doubled, but has been twice as fast.

Figure 8: Exchange rate depreciation and inflation between 2020 and 2024.



Source: Eurostat, HCSO

Figure 8 shows that the depreciation of the forint and the inflation rate followed a similar path in the post-covid crisis period. The figure includes the inflation indicator $t+3$, which shows a lag of three months. This shows that inflation has followed the exchange rate trend with a lag of roughly three months. However, while inflation continued to decline from mid-2023, the appreciation of the forint exchange rate stopped and further fluctuations were observed.

From a fiscal point of view, taking into account the above real interest rate effect, the question is how large the negative real interest rate would have been for the Hungarian economy if the euro had already been introduced. If we start from the finding of Balatoni and Soós (2023) that “a 1 percent depreciation of the exchange rate raises consumer prices by 0.25–0.35 percent in one year”, the day before the outbreak of the war, Feb. The MNB central rate of 356.55 HUF/euro on 23rd Feb. 2023 weakened to 400.25 HUF/euro by 30th Dec. 2022, which corresponds to a depreciation of 12.26%, while if we take the rate on 29th Dec. 2023 (382.78 HUF/euro), this represents a relative depreciation of 7.36% compared to the pre-war period. In terms of the inflation surplus, this means that in 2022 Hungarian inflation was between 3 and 4.3 percentage points higher due to the exchange rate depreciation only because of the absence of the euro, while in 2023 it was between 1.8 and 2.6 percentage points higher (all else being equal). During all this time, the difference in nominal interest rates for government bonds, if we take the so-called Maastricht rate from Eurostat, was 1.87% in 2022 and 3.14% in 2023 for the euro area, and 7.57% and 7.51% for Hungary. In other words, the standard government bond spread was 5.7 percentage points in 2022 and 4.37 percentage points in 2023, which is significantly higher than the spread resulting from the euro deficit ($1.87 < 5.7$ in 2022; $2.6 < 4.37$ in 2023).

As mentioned above in the context of MMT, the larger scale of central bank interest rate hikes in response to inflation and the resulting increase in market interest costs have had a demand and investment restraining effect on both household and corporate credit and public finances. The higher exchange rate and inflation risks associated with the absence of the euro have led to a larger scale of central bank tightening than in the euro area. The European Central Bank did not bother to suppress inflation in small euro member countries with high inflation (for which the ECB was labelled populist (Drea, 2021)), which would have been beneficial for sustaining consumption and investment and financing public debt through the policy rate.

Conclusions and lessons learned

While the mobility and demand restraint caused by regulation and fears during the Great Lockdown in 2020 and 2021 led to price stability, supply restraint caused by war, sanctions and other supply chain problems created a typical cost inflationary situation. The first wave was an energy price boom in 2022, which was transformed into food inflation at the turn of 2022 and 2023. The US and European central banks, including the Hungarian central bank, which had until then been indulging in unconventional central bank instruments, managed the inflation shock with a sharp U-turn to orthodox monetary tightening, which – not surprisingly in MMT approach – led to an economic and welfare crisis in 2022 and early 2023. True, over the year period the result included a slowdown in price increases and even a downward adjustment in prices for some food groups.

The fiscal-monetary consistency of Hungarian economic policy after 2021 was broken with double-digit inflation. The central bank has pursued conventional solutions, while fiscal, regulatory and market surveillance activism has also begun to address the impact of the inflation shock partly in a manner consistent with MMT. Central bank policy responded to the rise in prices with high interest rates, and after a year the rise in prices slowed down, but at the same time anti-inflationary interest rate policy also eroded demand, welfare and the ability of fiscal policy to finance it. The public budget had already financed two years of job and income maintenance during the lockdown period, and then had to continue financing the high deficit with rising interest rates, that is why it was no longer able to immediately offset two more years of inflationary crisis in real income terms in a sustainable way. (Even EU funds were withheld in the case of Hungary.)

On the issue of impoverishment, it can be indicated that households in Hungary have suffered a temporary welfare loss in any case. This adverse break can be detected in the deterioration of poverty indicators, the reduction in household consumption, the evolution of real earnings and the real depreciation of wealth. Although, according to the current knowledge, there is a reversal in the indicators above by the end of 2023/beginning of 2024, this is partly due to the base year effect. The catching-up of real wages to the persistently higher price level is still ongoing in the

first half of 2024, while in the area of asset accumulation, a more persistent (multi-year) shift in the accumulation path is assumed to have been built into the path of financial returns and future real estate values. Moreover, monetary tightening may also have contributed to rising inequality. Those with long-term savings were able to preserve the real value of their financial assets and savings through the PMÁP (premium government bond), while those without were faced with high prices and a deterioration in their purchasing power during this period.

However, among European countries, this impoverishing effect was shorter-lived and the percentage decline in real income was not among the extraordinary levels. This is obviously due to fiscal activism and investment stimulus in line with MMT despite monetary tightening, but even more so to the concept of a work-based society with a focus on employment, which allowed a wide range of households to maintain their income security during the crisis. Thus fiscal, employment and investment policies have cushioned the welfare loss.

In the case of fiscal sustainability, contrary to Katalin Botos, we do not see the trends so unfavourable because it has remained sustainable precisely by the negative real interest rates, which of course could be understood as a crisis paradox. On the other hand, the sustainability effect of negative real interest rates may have less prevailed because of the small, open, non-euro and therefore risky economic state. Although it was beneficial to remain outside the euro area during the 2010s growth period and perhaps also during the Great Lockdown, this was reversed during the inflation crisis. While it is true that the ECB also raised its policy rate, it ignored the double-digit inflation in the smaller eastern member states, which allowed the creation of the crisis management solution proposed by MMT. Namely, the way, which addresses high inflation with relatively cheaper deficit financing at central bank rates much below inflation, allowing the avoidance of an inflation crisis and its welfare losses with less fiscal effort. If Hungary had been a member of the euro area during this period, it could have applied MMT's anti-inflation model more effectively. Neither would exchange rate risk have forced economic policy into crisis-inducing monetary tightening, as a penal reaction of markets to too low interest rates. ■

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