

The interaction between fiscal and monetary policy in Hungary over the past decade and a half*

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After the introduction of inflation targeting in 2001, fiscal and monetary policy were out of sync for 12 years, which wreaked havoc on the Hungarian economy due to the close relationship and interaction between the two. After 2013, on the back of the fiscal reforms of the previous two to three years, and the subsequent monetary policy reforms restored the desired harmony, which contributed to achieving the objectives of the two parties, including price stability, financial stability and sustainable fiscal policy, while also laying the groundwork for long-term growth. This paper investigates which mix of fiscal and monetary policy has shaped the past 15 years and the channels through which fiscal and monetary economic policy of different activity or dominance impacted each other, and the degree of success of their (co)operation. The model devised by Eric Leeper provided the conceptual and theoretical framework for our study, while the actual data and experiences are drawn from Hungary's economic history of the past 15 years. This paper also takes a closer look at the causes, objectives, main elements and impact of the turnaround in fiscal policy that took place between 2010 and 2013 and in monetary policy after 2013.

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1. Introduction

The relationship between two key areas of economic policy, fiscal and monetary policy, is decisive in terms of the success of economic policy. The theory of fiscal dominance¹ elaborated by *Leeper (1991)* provides a compelling theoretical framework for investigating their relationship. Put in simple terms, Leeper examined the type of monetary policy required and allowed by a restrictive and an

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¹ The latest Handbook of Macroeconomics dedicates an entire chapter to the topic of the fiscal dominance theory, a testament to its relevance (see *Leeper and Leith (2015)*).

expansionary fiscal policy (tight or loose) and vice versa, and also what happens when the two policies do not conduct compatible strategies.

In the following section, we present the past 15 years of Hungarian economic policy based on Leeper's theory. As we will see, Leeper's approach is highly suitable for demonstrating instances where harmony could not be achieved between the two economic policy decision-making powers, instances where it could be achieved but was deficient, and instances where true harmony was achieved. It is apparent that the success of economic policy hinges upon the cooperation of these two factors, and Hungary's most successful period was the time when fiscal and monetary policy took advantage of the available synergies, while its least successful period was the time when one functioned but pushed the other into a constrained situation, eliciting increasingly unsuitable responses.

The first part of this paper presents Leeper's theory in simplified terms, the second part addresses the period characterised by flawed fiscal policy (2002–2009), the third part looks at the three years when fiscal policy would have enabled cooperation but monetary policy failed to seize the opportunity (2010–2012), and the fourth part looks at the harmony between these two policies and the achievements of this constellation so far (2013–2015). In the final chapter, we draw our conclusions.

1.1. The fiscal dominance theory

In Leeper's theory, both fiscal and monetary policy can be active or passive depending on the degree to which they follow their original target. We can distinguish between fiscal or monetary dominance depending on which economic policy decision-maker is active and which is passive. We will now define these targets and behaviours more precisely.

The goal of monetary policy in the model is to steer the inflation rate towards the target at the end of the forecast horizon. Monetary policy is active (or tight) if it consistently follows this target in terms of the decisions made, and is passive (or loose) if it allows itself to diverge from the target towards higher inflation.² Leeper defines opposing active and the passive roles for fiscal policy as compared to the monetary decision-making. Fiscal policy is active (or expansionary, loose) if it allows a deficit which is higher than the sustainable budget deficit, and is passive (or tight)

² In keeping with the spirit of Leeper, in other words, according to the *monetary policy rule* (or Taylor rule), when inflation exceeds the inflation target by 1 per cent, then — as the real interest rate calculated as the difference between the nominal interest rate and inflation must increase — the nominal interest rate grows by more than 1 per cent (compared to the valid nominal interest rate alongside on-target inflation).

if it ensures long-term equilibrium.³ We can distinguish between fiscal dominance (active, expansionary fiscal policy and passive, accommodative monetary policy) and monetary dominance (active monetary policy and passive fiscal policy) depending on the casting of the active and passive roles. In addition, there are of course active-active and passive-passive economic policy mixes.

Monetary dominance refers to an active monetary policy coupled with a passive fiscal policy in the Leeperian sense. The central bank follows its inflation target strictly, and therefore fiscal policy has no other choice but to remain passive (or contractionary in the fiscal sense), otherwise its long-term sustainability would be disrupted. Leeper considers this type of economic policy mix to be the default case, which guarantees a stable cooperation possibility between the two main economic policy branches.

Fiscal dominance refers to the economic policy combination where fiscal policy is active (expansionary) while monetary policy is passive (loose). Fiscal policy therefore allows excessively high deficits which cannot be sustained over the long run. In order to maintain the long-term budget balance of the consolidated general government, Leeper's model calls for the central bank to abandon its inflation target and to allow higher inflation to emerge, i.e. to conduct a loose monetary policy. As a result, as the central bank generates seigniorage revenue which it can transfer to the budget, or otherwise put, can inflate away debt. Of course, this matter is far more complex in reality, with numerous legal and credibility constraints alongside economic ones, but Leeper's model addresses the question in the above specified manner. Fiscal dominance therefore ensures the long-term sustainability of the general government, not by keeping the primary balance in equilibrium, but by generating higher inflation than warranted, that is, at the price of the central bank – partly or entirely – abandoning its original target and adopting a passive (loose) policy.⁴

Fiscal dominance has prevailed in several countries during certain periods. For instance *Blanchard (2004)* demonstrates that until 2003, the Brazilian economy could be closely described using the theory of fiscal dominance, where active fiscal policy led to a high deficit, but the central bank essentially did not react to the inflationary pressure materialising around 2002 by raising interest rates. *Fan, Minford and Ou (2014)* argue that a model where a regime based on fiscal

³ Based on Leeper, according to the *fiscal policy rule*, when debt in real terms exceeds a threshold, the budget surplus must increase.

⁴ Under fiscal dominance, the so-called wealth effect also increases the prevailing inflation alongside an expansionary fiscal policy. In this sense, households hold more (nominal) assets due to higher transfers and/or lower taxes (or put more simply, "people have more money left") and this higher perceived wealth spurs households to spend more, further pushing up inflation.

dominance appears provides an accurate description of England in the 1970s. *Davig and Leeper (2008)* examine time series pertaining to the US and identify periods shaped by fiscal dominance before the 1980s. It should be noted that in the early 1980s, a change of monetary regime took place in the US: the former passive monetary policy (necessary for maintaining an active fiscal regime) was supplanted by an active monetary regime (after the appointment of Paul Volcker as chair of the Fed).

The question arises as to what happens when – in contrast to the previous scenarios – monetary and fiscal policy are both active or passive. It can be foreseen in the original model (*Leeper 1991*) that when monetary and fiscal policy are both active or passive, a state of equilibrium cannot be achieved.⁵ The central bank therefore plays a pivotal role in achieving system stability: it must know whether fiscal policy is currently active or passive and pursue an appropriate strategy.

We can see that the central bank is unable to give an adequate response in the context of active (expansionary) fiscal policy. It can only choose to either – partly or entirely – abandon its target or strictly follow the target (remain active). In the former case, inflation rises above the defined target, while in the latter case the long-term equilibrium of the consolidated general government is not achieved, and this may ultimately lead to bankruptcy or crisis in extreme cases.

Davig and Leeper (2008) generalise this analysis by investigating what happens when an economic policy mix is currently not sustainable, but has a certain probability of becoming sustainable in the future. According to their results, if the current system is unstable (for instance because monetary and fiscal policy are both active), the system nevertheless continues to remain stable if there is at least a small chance of fiscal policy becoming passive in the future. In other words, even a seemingly unsustainable economic policy combination may be tolerated by investors if they expect a future turnaround in policy.

The following section presents Hungarian economic policy of the past 15 years in the above specified framework, adding in advance that in our view, *Leeper's* terminology is not always fitting from an economic policy decision-maker's perspective. On the one hand, in *Leeper's* model active and passive policy means different things with regard to prudence on the fiscal and the monetary side. While monetary activity means keeping inflation on target at all costs, fiscal activity is an unsustainable and spendthrift policy. Consequently, fiscal dominance in fact refers

⁵ If both policies are active, the long-term budget balance of the consolidated general government is not achieved. Fiscal policy accommodates an elevated deficit, while the central bank keeps inflation low, ultimately disrupting the budget and leading to a crisis. If both policies are passive, the budget deficit is low but the central bank nevertheless accommodates high inflation. This is a less relevant combination.

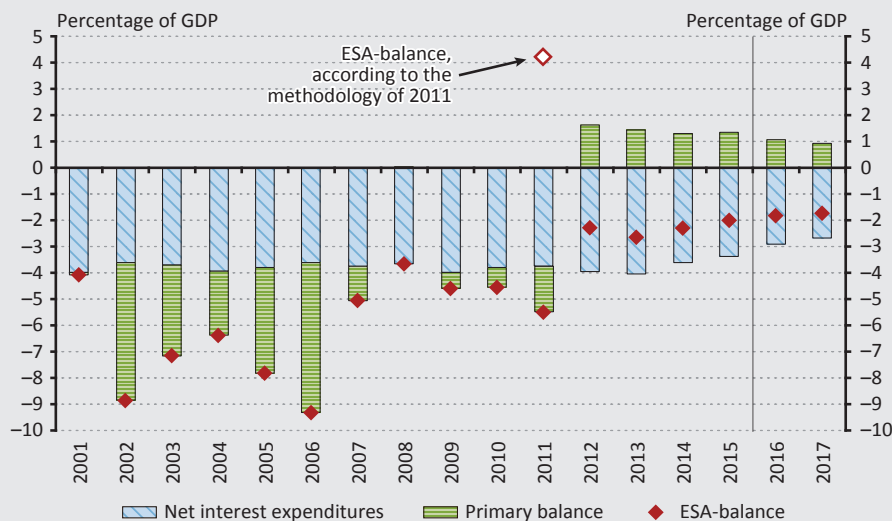
to a mix of the economic policy defined by fiscal policy, the most central element of which lies in the fact that fiscal policy is in and of itself unsustainable and requires a monetary policy response. At the same time, monetary dominance does not in fact refer to a dominant, decisive monetary policy, but rather to a central bank that purely follows the inflation target using the tools at its disposal. In a nutshell, true cooperation is not possible under fiscal dominance, as the central bank can either opt to allow inflation or to conduct an excessively tight policy, while cooperation is possible under active monetary policy (referred to as monetary dominance by Leeper). Finally, it should be emphasised that in Leeper's model, dominance refers to an economic policy combination, rather than to "importance".

2. Fiscal dominance, powerless monetary policy, lack of harmony between the two main branches of economic policy (2002–2009)

After presenting the theory of *fiscal dominance*, it is worth looking at the developments in Hungary's economic policy in practice within this framework, alongside the resulting developments in the main macro variables over the period between the introduction of inflation targeting in 2001 and 2010. In advance of the findings, it can be said that the period of Hungarian economic policy between 2002 and 2010 was a wasted period, mainly due to irresponsible fiscal policy (mildly referred to in Leeper's model as active). This cannot be offset by a loose monetary policy aiming to inflate away debt, nor by an excessively tight monetary policy sacrificing growth. The behaviour of irresponsible fiscal policy from 2002 in theory left no room for harmony between fiscal and central bank policies for most of the period under review. Needless to say, this does not exonerate monetary policy from the errors made in this period, which led, amongst other things, to the spread of foreign currency lending.

Looking at the relationship between real economic growth and a balanced budget, we can see that perhaps the two most essential factors of sustainable development and convergence did not concurrently prevail in the Hungarian economy during any single year in the 2002–2010 period. The external global boom strongly driving the 2000s and the consistently overly expansionary fiscal policy (from 2002) led to real economic growth (until 2006), but did not result in a balanced, responsible fiscal policy by any means (*Figure 1*).

Figure 1
Developments in the budget balance and its main components from 2001



Note: The years 2016–2017 are the MNB’s forecast included in the March 2016 Inflation Report. According to the statistical rules valid at the time, the budget registered a 4 per cent surplus, but the statistical methodology was later modified retroactively, resulting in a budget deficit for the year according to current figures. The reason for this was that after the EU’s adoption of the ESA2010 statistical methodology in 2014, the increase in wealth stemming from the assumption of pension fund assets by the state cannot be recognised as government sector revenue in the year of the transaction (in contrast to the earlier rule).

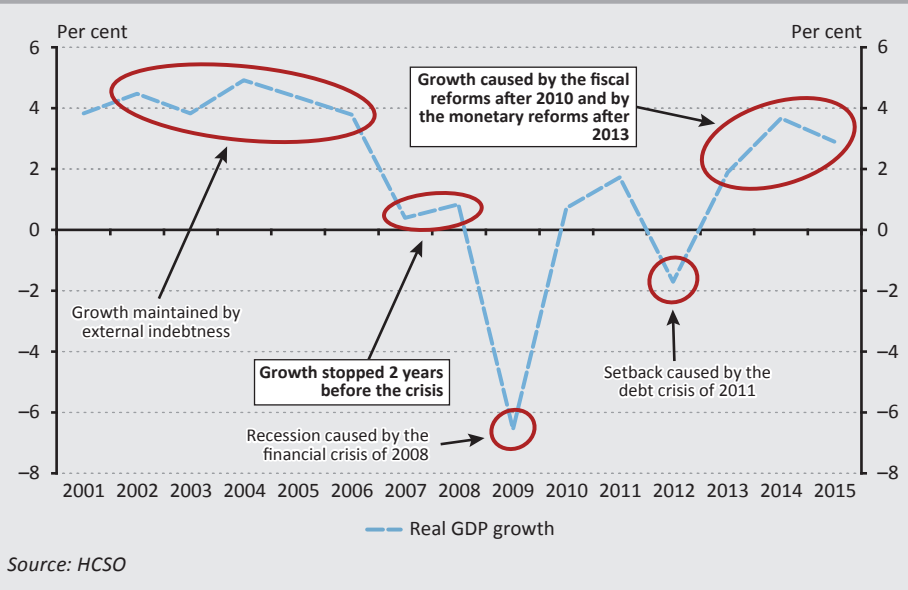
Source: Eurostat, MNB

The growth rate of the Hungarian economy, which expanded at around of 4 per cent until 2006, was unsustainable as the fiscal policy of the governments in office prior to 2010 generated permanent structural imbalances. Under fiscal dominance, they characteristically attempted to induce growth through a high general government deficit (averaging 7.9 per cent between 2002 and 2006 and 6.4 per cent between 2002 and 2010) and to conceal the mounting structural problems within the economy’s structure. As a result of the hefty tax burden on labour income – even by international standards – and the unwarrantedly lax social welfare system, by the mid-2000s Hungary had come to exhibit one of the lowest employment and activity rates in Europe.⁶ Low net lending of the household and corporate sector was typically coupled with an elevated budget deficit, resulting in a substantial twin deficit. The rapid rise in the national economy’s net external borrowing gave rise to

⁶ Matolcsy–Palotai (2014)

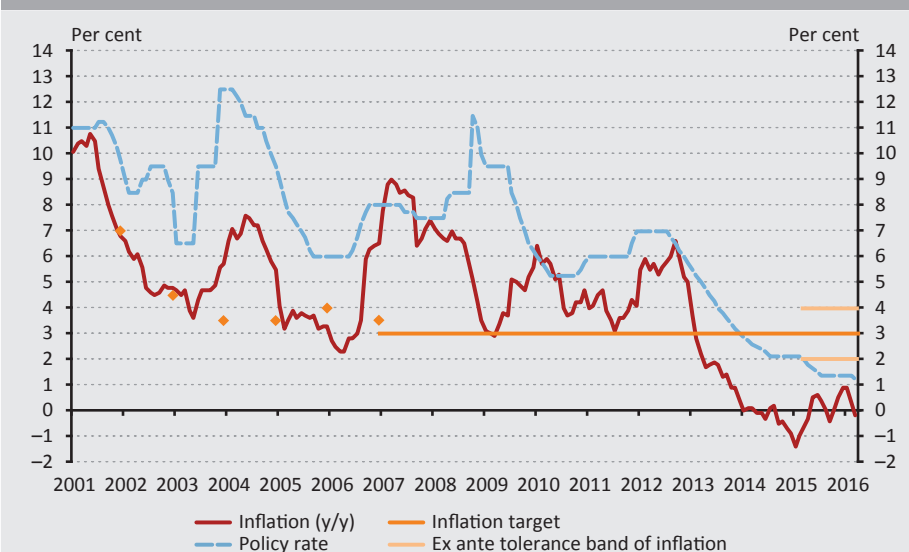
a growing external vulnerability risk, exacerbated after 2003 by the rapidly rising popularity and dynamic spread of foreign currency-based household housing loans (Figure 10). Growth without stable macroeconomic foundations – employment resting on a broad base, and internal and external macro-financial balance – therefore lost steam in 2006 and essentially ground to a halt in the two years preceding the onset of the global money and capital market crisis in 2008 (Figure 2).

Figure 2
Growth rate of the Hungarian real economy between 2001 and 2015



This flawed dominant fiscal policy, essentially founding growth on external indebtedness, with no structural reforms aimed at bolstering domestic factors of production, and which maintained an unwarrantedly high fiscal deficit, led to elevated inflation, which the central bank – unsuccessfully – attempted to offset with a persistent excessively high key policy rate, focusing solely on its primary statutory mandate (price stability). The Hungarian consumer price index typically exceeded the inflation target defined within the framework of the MNB's inflation targeting regime introduced in 2001 (Figure 3); in other words, the central bank was unable to fulfil its primary role despite the high policy rate.

Figure 3
Developments in the policy rate and inflation from 2001



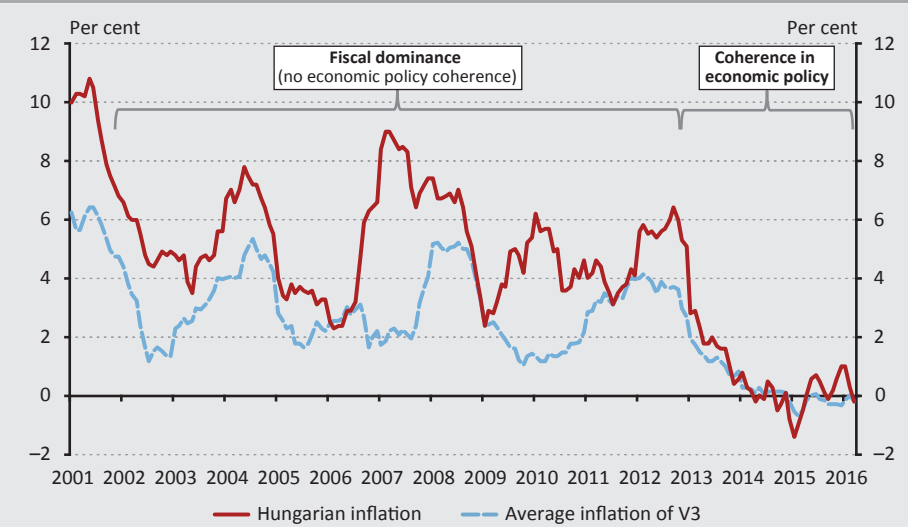
Source: MNB, HCSO

Persistently high inflation in Hungary is attested by the fact that in the 2001–2014 period, the inflation rate was, on average, 2.5 percentage points higher in Hungary than the average registered in Poland, the Czech Republic or Slovakia (V3) (*Figure 4*). This is a significant difference in inflation, which essentially disappeared from early 2013 once fiscal and monetary policy came into sync: the difference shrank to 0.3 percentage points in 2013–2015 compared to the earlier 2.5 percentage points.

Inflation remaining persistently far above the target was detrimental to the Hungarian economy, unnecessarily eroding not only the real value of property and investment instruments, but also real household wages and the profits realised by corporations, which also exerted a negative impact on aggregate domestic demand. The boosting of inflation by fiscal policy and its maintenance at an unwarrantedly high level served the purpose of reducing the real value of government debt in the absence of structural reforms and in lieu of cutting back the primary government deficit.

One of the most detrimental consequences of this flawed policy – by forcibly achieving a higher nominal base interest rate and yield curve higher than what would have benefited the economy – was to drive the Hungarian private sector towards foreign currency-based loans available at far lower interest rates than domestic loans, with Swiss franc loans accounting for the lion's share and euro loans for a smaller portion. For a long time – until the onset of the 2008 crisis – the significant interest spread, accompanied by a stable and relatively strong

Figure 4
Average inflation in Hungary and the Visegrad-3 from 2001



Source: Eurostat

forint, may have exacerbated foreign currency indebtedness, which prevented economic agents from perceiving the exchange rate risk. The pegged exchange rate regime prevailing between 2001 and 2008 may have also played a part in the aforementioned process and the emergence of the unfavourable economic policy mix.⁷ Economic agents' foreign currency indebtedness within the economy wreaked havoc and also substantially eroded the efficiency of the MNB's monetary policy transmission mechanism (as the majority of loans thus lost their direct interest rate sensitivity), and also resulted in high exposure to exchange rate risk in international comparison, in both the private and public sector. In addition, high forint interest rates burdened the government budget with high interest expenditures, further swelling the budget deficit and government debt.

Due to the flawed management of economic policy after 2002, Hungary's economy was weakened significantly in its fundamentals, was unable to grow in a stable manner, was characterised by high inactivity and exhibited a twin deficit and indebtedness, making it one of the most vulnerable economies in the entire European Union. In this condition, it found itself faced with the 2008 global money and capital market crisis. This significant negative external shock filtered through very rapidly to Hungary, and Hungarian economic policy was unable to react adequately.

⁷ Csajbók–Hudecz–Tamási (2010)

Due to this precarious vulnerability and in the wake of the sudden outflow of foreign institutional investors, Hungary's government securities market essentially froze immediately. To address this issue, to stabilise the capital position of Hungarian commercial banks and to increase the formerly insufficient central bank foreign exchange reserves, the Hungarian government and central bank management in power at the time were compelled to seek assistance from the IMF and the European Union, and to drastically hike the key policy rate. The loan package contracted from international creditors further swelled public debt (with the burden of repayment passed on to the government in office after 2010), and once again tied the hands of the government's economic policy.

Developments in the general government gross debt-to-GDP ratio can serve as a good measure of economic policy successfulness, as this macroeconomic indicator incorporates the impact of changes in the primary balance, general government interest expenditures, inflation, exchange rate and real growth changes. A testament to the fundamentally flawed economic policy conducted between 2002 and 2010 is that, despite the positive external global economic environment, the extremely expansionary fiscal policy and elevated inflation, it failed to stimulate the real economy to the extent that would have been needed to scale back the government debt ratio (or at least maintain it). Instead, the general government debt-to-GDP ratio, which stood at barely 52 per cent in late 2001, had climbed to 66 per cent before the crisis and to over 80 per cent by late 2010 (*Figure 5*), while Hungary continuously and increasingly lagged behind compared to the development of its regional neighbours in terms of GDP per capita.⁸ In this regard, we can confirm that the economic policy characterised by strong fiscal dominance conducted up to 2010 was a failure and was barely able to produce any economic growth after 2006, while disrupting the macroeconomic balance.

3. Turnaround in fiscal policy and consolidation of the budget (2010–2013)

A sharp change in the fiscal policy conducted during the first decade of the second millennium – which was characterised by high government deficits and a permanently rising general government debt ratio – occurred after 2010. The government that took office at that time defined the sustainable reduction of Hungarian general government debt, which was high by both regional and broader international standards, as a declared objective, in addition to bringing the general government deficit as a share of GDP to below the 3 per cent defined under the Maastricht criteria. Along with these key objectives, injecting dynamism into the real economy by increasing employment, combatting the shadow economy and reducing the economy's external vulnerability, and as part of this, phasing-out

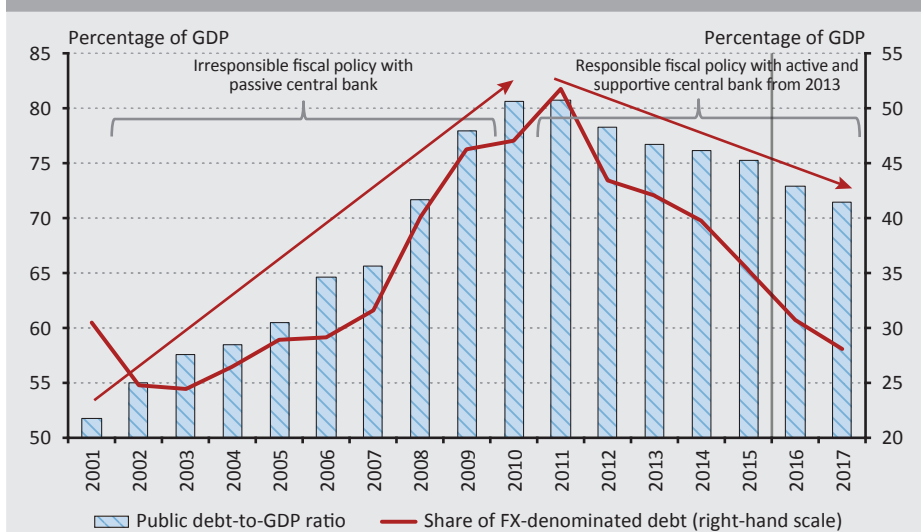
⁸ Matolcsy (2008)

foreign currency lending became priorities for economic policy. After the reversal of the negative macroeconomic trends prevailing prior to 2010, meaningful progress was made in all of these priority areas, and thus “the former growth model based on substantial external indebtedness was replaced by the opportunities for a more sustainable convergence path relying instead on domestic financing”.⁹

In terms of the link between fiscal and monetary policy, the most important consequence of the outcomes of fiscal policy was that they put an end to the earlier detrimental fiscal dominance and paved the way for cooperation between the two areas while respecting each other’s autonomy but ultimately serving the same objectives. Nevertheless, monetary policy was not yet aiming for harmony with government policies during this period, and was unable to make most of the opportunity afforded by fiscal consolidation. There was neither price stability nor financial stability, and the management of the Magyar Nemzeti Bank at the time also did not support the Hungarian government’s economic policy.

The primary objective of the fiscal turnaround that materialised after 2010 was to interrupt the negative trend of the sharply rising general government (gross) debt-to-GDP ratio prevailing since 2002 and to set this on a downward path (*Figure 5*), without impeding the economic recovery from the years of recession, but rather by

Figure 5
Developments in the government debt trajectory and the foreign currency ratio of debt from 2001



Note: The years 2016–2017 are the MNB’s forecast included in the March 2016 Inflation Report.
Source: MNB

⁹ Matolcsy–Palotai (2014)

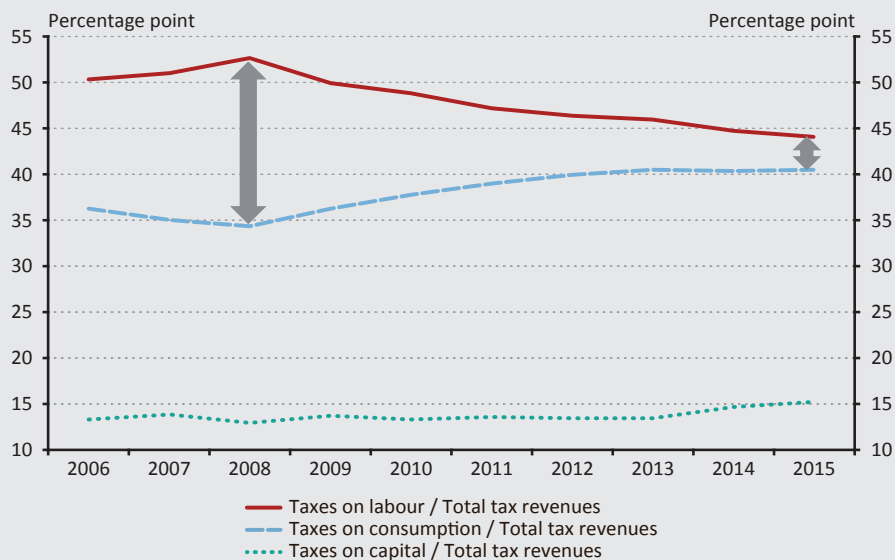
fostering this recovery. High government debt – and the elevated foreign currency ratio and the excessive non-resident portion within this debt – carried substantial macro-financial vulnerability and important real economic risks as well. The general government stressed the importance of scaling back public indebtedness by enshrining this objective in the debt rule and elevating it to the constitutional level in the Fundamental Law adopted in 2011.

The first and most important tool for reducing the debt ratio was to restrict the deficit ratio as a percentage of GDP to a low level. The drastic improvement in the general government balance was not only called for by the substantial indebtedness generated by the irresponsible fiscal policy of the 2000s, but also by the European Union's fiscal obligation. As perhaps the only case in Europe, right from the time of Hungary's accession to the European Union (in 2004), it was continuously under the Excessive Deficit Procedure (EDP), as it failed to meet the 3 per cent deficit ratio defined under the Maastricht criteria. The persistent breach of this criterion entailed the risk of suspension of EU cohesion funds, especially in the years following the global money and capital market crisis of 2008 and the European debt crisis of 2011, when Brussels strove to enforce compliance with the European Union rules more strictly than before. The government could not risk losing the EU funds, which significantly bolstered the economy, and therefore responded by consolidating the budget in meaningful and sustainable manner.

The government intended to consolidate the budget without negatively impacting households' disposable income to the extent possible, while creating a fair sharing of burdens based on the broadest possible base by involving multinational corporations. A set of so-called unorthodox fiscal instruments (including special taxes levied on the financial, retail, telecommunications and energy sector) were one of the key elements to create this fiscal leeway. The other key element was increasing the rate of sales taxes (including excise taxes and the upper VAT rate). Along with increasing the role of taxes on consumption, another core economic policy objective was to scale back the high taxes on labour incomes. This direction of the restructuring of the tax structure coincides with the competitiveness-boosting concept, as well as international experiences and recommendations, and aims to shift the centre of gravity in taxation from income-type taxes to sales taxes. The fiscal policy conducted after 2010 made sure to consistently enforce these two approaches, as a result of which these two types of taxation accounted for roughly the same weight within the Hungarian tax regime by 2015 (*Figure 6*).

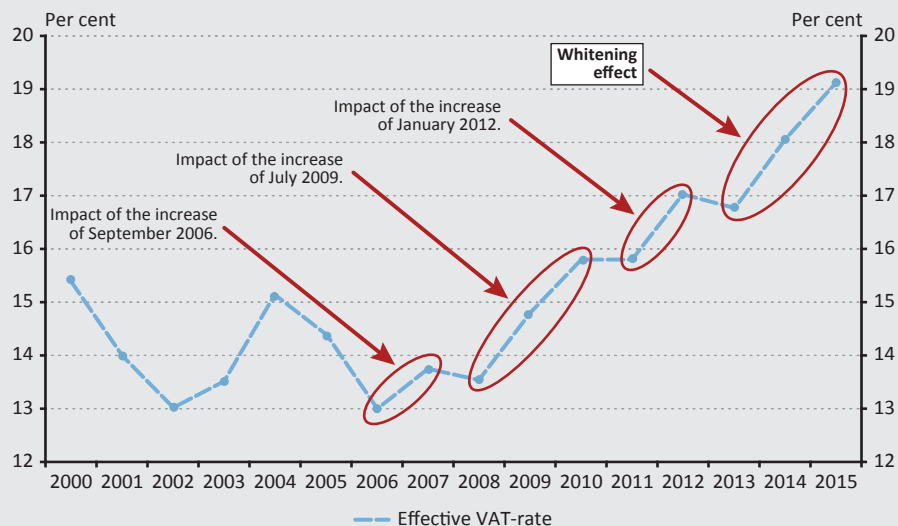
The linking of retail sector transactions to the National Tax and Customs Administration database using on-line cash-registers also significantly contributed to increasing the weight of consumption taxes. This step plays a major role in the fight against the shadow economy, as attested by the increase in the estimated effective VAT rate in 2014–2015 (of 2 percentage points), along with the increasing expansion of retail sales volumes (*Figure 7*). This means that sales tax revenues

Figure 6
Changes in Hungarian tax structure



Note: Eurostat data are only available until 2012, so the 2013–2015 figures are the MNB's calculation.
Source: Eurostat, MNB

Figure 7
Developments in the effective VAT rate and the underlying causes of its changes in Hungary



Source: MNB

linked to consumption were successfully increased without hiking the VAT rate, which also decreased the competitive disadvantage of companies lawfully paying tax compared to their tax-avoiding peers.

The social and economic target groups supported on a priority basis by the fiscal policy conducted after 2010 – similarly to the 1998–2002 cycle – were once again families and small and medium-sized enterprises (SMEs). In an effort to improve the income position of families, the government created a flat-rate, proportional personal income tax (PIT) regime, and introduced and is continuously expanding the institution of the family tax base incentive that offers significant support to families with children. The introduction of the flat-rate PIT regime not only reduces the burdens on labour, but also incentivises work intensity and reduces the concealment of income by reducing marginal tax rates to the regional level. Along with the PIT regime, the Job Protection Action Plan was also introduced, in the context of which the government specifically targeted the employment of groups characteristically disadvantaged on the labour market (the unemployed below the age of 25 or above the age of 55, mothers returning from maternity leave, unqualified individuals and the long-term unemployed) by vastly reducing employer contributions for these groups.

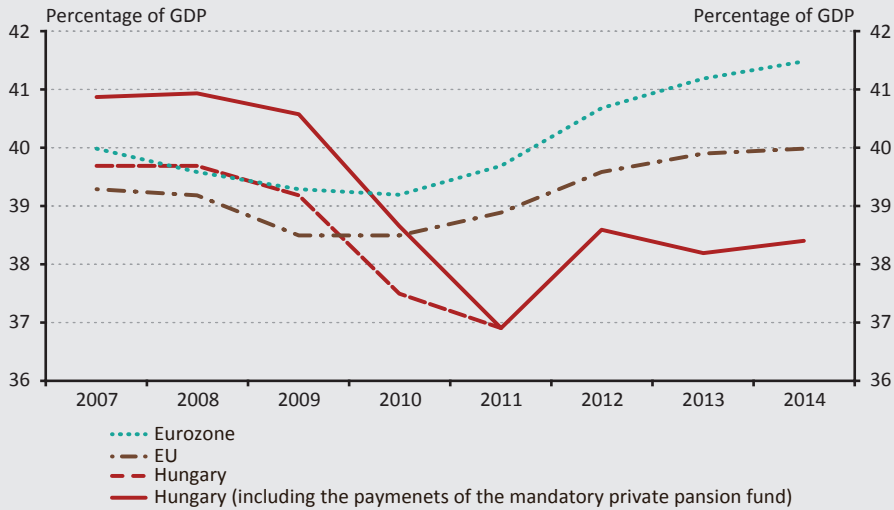
The government fostered SME sector profitability and competitiveness by significantly expanding the discounted (10 per cent) corporate tax rate – increasing the upper threshold to HUF 500 million – and by introducing discounted small entrepreneur tax schemes (KATA [“small taxpayers’ itemised lump-sum tax”], KIVA [“small business tax”]).

Coupled with an increasingly dynamic Hungarian economy and the reduction of the shadow economy, and despite the protracted global real economic slump, the tax and pension reform supported by these novel measures contributed to the increase in the revenue side of the budget balance, while implementation of the Széll Kálmán Plans ensured the structural reform and adjustment of expenditure side. One of the priority objectives of these schemes was to tighten the excessively lax social welfare system in place prior to 2010 and to channel individuals capable of working from inactivity back to labour market activity, in light of the fact that prior to 2010, Hungary’s activity and employment rate were among the lowest in Europe. The extension and state support of the public work programme and the addition of educational programmes was also a key element of the economic policy of providing “work instead of benefits”.

In the wake of the significant restructuring of both sides of the budget, in 2012 the general government’s primary balance as a percentage of GDP exhibited a surplus for the first time in 12 years, and the general government deficit-to-GDP ratio dipped well below three per cent, to 2.3 per cent, stabilising at a similar level in the subsequent years (*Figure 1*). A special achievement lies in the fact that the

restructuring and consolidation of the government budget was achieved while the total tax burden relative to GDP decreased by 1.5 percentage point according to Eurostat data, and by roughly 2.5 percentage points if we factor in mandatory private pension fund membership fees compared to the period preceding the 2010 change in government, thus dipping below the European Union average (Figure 8).

Figure 8
Developments in tax centralisation in Hungary and the European Union between 2007 and 2014



Source: Eurostat, MNB

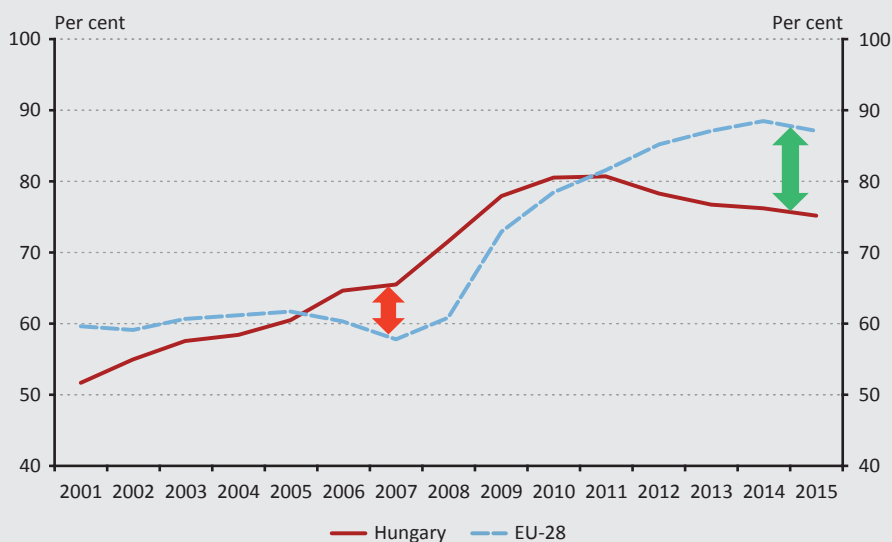
Following the fiscal turnaround, in 2013 the European Union's Excessive Deficit Procedure was finally lifted against Hungary after nine years. This is a significant achievement not only because the constant economic policy threat of suspension of EU funds was removed, but also because the Hungarian government's fiscal policy was finally also recognised as successful internationally, despite the criticism.

The (expected) developments in the central bank's profit/loss also played a role in the lifting of the Excessive Deficit Procedure. The opposition of the central bank and fiscal policy of the time is attested to by the fact that in late 2012 the MNB forecasted a central bank loss of HUF 203 billion for the following year, based on which the European Commission deemed additional budgetary adjustments as warranted. However, the new central bank management that took office in March 2013 demonstrated that this could be avoided, and the MNB closed 2013 in the black.

As a result of the sustainable consolidation of the government deficit and the government measures taken to foster and spark economic growth, government debt-to-GDP ratio was stabilised by 2010–2011 and gradually decreased from 2012 in spite of the European economic slump caused by the financial, economic and debt crisis.¹⁰ The debt ratio, which stood at a historical peak of over 80 per cent in 2011, was reduced by over 5.5 percentage points by late 2015 (*Figure 5*). Meanwhile, the foreign currency ratio of government debt also decreased continuously and substantially: it peaked in 2011 (52 per cent) before shrinking to 35 per cent by late 2015, which may have reached 32 per cent by 2016 Q2 with the repayment of the last instalment of the EU-IMF loan package.

It should be noted that the average debt ratio of the 28 European Union member states was still 11 percentage points lower than the Hungarian debt ratio, but the average debt-to-GDP ratio in the European Union has been continuously on the rise ever since, in contrast to Hungary, approaching 90 per cent. By late 2014, the average debt ratio in the EU was over 12 percentage points higher than the Hungarian figure, and this difference may have been sustained in 2015 despite

Figure 9
Developments in general government gross debt-to-GDP ratio in Hungary and the European Union



Note: There were no actual 2015 data available for the EU time series for the time being, so we used the latest 2015 European Commission estimate.

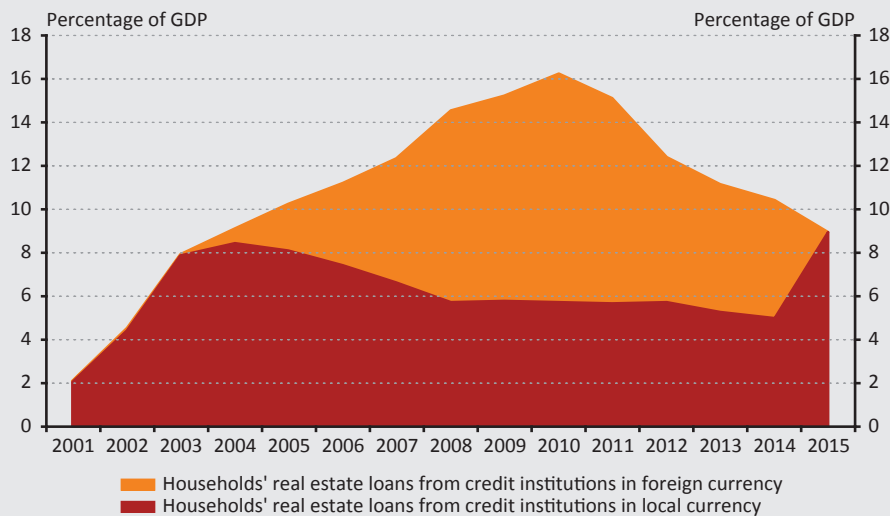
Source: Ameco, MNB

¹⁰ Baksay–Szalai (2015)

the expected decrease in the EU's average debt ratio (*Figure 9*). The upward debt trend in Hungary between 2002 and 2010 reveals that Hungary was unable to take advantage of the sound economic conditions of the 2000s, and not even real economic growth (of approximately 4 per cent) fuelled by external borrowing and characteristically above-target inflation were able to offset the debt-increasing effect of the budget deficits that were persistently high at the time (6–7 per cent on average).

Resolving the situation of foreign currency debtors and a gradually phase-out foreign currency-based lending was a key economic policy priority, along with comprehensive fiscal consolidation. This was warranted by the fact that by 2010, the majority of private sector loans were denominated in foreign currency, which rendered the entire Hungarian economy highly sensitive to exchange rates. Besides the fact that such a high prevalence of foreign currency loans significantly dampened the efficiency of the Hungarian monetary policy transmission mechanism, it also created an exceptional source of macro-financial vulnerability, salient even by international standards. The economy's exchange rate sensitivity became significant: in addition to the exchange rate depreciation, the rising burdens of foreign currency debtors substantially eroded households' and corporations' income position and profitability, while also posing a significant and systemic risk for the entire financial system, which was reflected in the rapid rise of non-performing loans after the

Figure 10
Developments in the household sector housing loans contracted from credit institutions



Source: MNB

onset of the 2008 global crisis. Foreign currency-based mortgage loans in the retail segment implied the biggest issue, as the weight of these loans spiked after 2003 (*Figure 10*) and the increasing related repayment burdens put hundreds of thousands of citizens at the risk of losing their home.

To address this issue, which had become pressing by 2010, as a first step the government essentially prohibited foreign currency mortgage lending to households and rolled out measures that helped avert a social catastrophe. It imposed a moratorium on evictions, reduced households' foreign currency exposure through the early repayment scheme, introduced the institution of the exchange rate cap and set up the National Asset Management Agency for the socially most vulnerable citizens. The government assistance did not provide a total solution in 2012, but broadly and materially improved the situation of foreign currency debtors. The government was unable to achieve a total solution, because in order to convert foreign currency loans to forint, the central bank's foreign exchange reserves were needed for the conversion in order to maintain financial stability. At the time however, the government could not count on the central bank's support.

The positive developments that occurred in the general government deficit and government debt as a share of GDP, and the significant reduction in external indebtedness led to a substantial improvement in Hungary's risk perception in the course of 2012. Hungary's improving market perception translated not only to a narrowing of risk spreads (e.g. CDS), but also to a significant reduction in government securities market yields (*Figure 11*).

The establishment of internal macro-financial balance created significant leeway, and the decreasing inflation outlook (to which the government measures contributed significantly) called for the easing of monetary policy in 2012. However, the key policy rate cut only began "hesitantly" in August 2012, prompted by the votes of external Monetary Council members at the time, in opposition to the votes of the internal members. The leeway for the easing cycle which subsequently lasted for over three years was therefore ensured by the progressively improving fiscal credibility created by the post-2010 budgetary consolidation, which in addition to falling inflation and increasingly anchored inflation expectations, was also fostered by the global rise in the risk appetite of international investors.

4. Satisfactory harmony between fiscal and monetary policy and the resulting outcomes (from 2013)

March 2013 marked a new period for monetary policy once the new central bank management took office, and also marked a new era in terms of fiscal and monetary policy cooperation in Hungary. From this date forward, the Magyar Nemzeti Bank (MNB) used, along with its main policy instruments, various novel

and innovative instruments and schemes to meet its primary objective (achieving and maintaining price stability), and attempted – without prejudice to its primary objective – to support “the maintenance of the stability of the system of financial intermediation” and “the economic policy of the government using the instruments at its disposal” (*Article 3 (2) of Act CXXXIX of 2013*). An adequate economic policy mix in combination with a prudent fiscal policy is one that achieves a positive equilibrium outcome (as in Leeper’s model) and the attainment of the objectives of both economic policy branches (sustainable budget, price stability).

Since 2013, several aspects of the central bank’s efforts have exerted a positive impact on fiscal policy. The following section presents the main steps of the turnaround in the monetary policy and the achievements thereof based on these key measures and schemes: (i) the easing cycles, (ii) the Funding for Growth Scheme (FGS), (iii) the Self-Financing Scheme, (iv) active cooperation in the forint conversion of foreign currency household loans, which also improved the monetary transmission mechanism, and more recently, (v) the Growth Supporting Programme (GSP).

4.1. Reform of monetary policy through active, innovative monetary instruments

i. The easing cycles. The persistently above-target inflation before 2013 started to fall in Hungary (and globally) after 2013, partly due to slack domestic and external demand and partly due to negative cost shocks, which posed the threat of deflation in other places. This risk only materialised formally in Hungary in the form of a negative consumer price index in 2014–2015, to which the multi-step government administrative price cuts – referred to as utility cost reduction – contributed significantly (*Figure 3*). The annual consumer price index had already fallen below the 3 per cent inflation target by early 2013 and had practically reached zero at the end of the year, therefore inflation fell significantly and persistently short of the level deemed optimal by monetary policy. This, in and of itself, warranted a steady easing of monetary conditions, as did the performance of the Hungarian economy, which fell short of its potential level.

In an effort to address these issues and promptly remedy them, the new central bank management decided to continue the prudent, consistent easing cycle launched in 2012 by the external members. To meet the inflation target and concurrently stimulate the real economy, the key policy rate, which stood at 7 per cent in August 2012, was cut to 1.05 per cent by late April 2016 (*Figure 11*). The reduction of the key policy rate to a historic low point occurred in several cycles.

Figure 11
Developments in the Hungarian central bank base rate and government security yields from 2011 onwards



Source: MNB, Government Debt Management Agency

ii. *The Funding for Growth Scheme.* Bank lending activity has slowed substantially due to the Hungarian real economy's performance, falling significantly short of its potential, and commercial bank deleveraging. In response, the MNB decided to implement novel instruments, starting with the rollout of the "Funding for Growth Scheme" (FGS) in June 2013, which was similar to the Bank of England's "Funding for Lending" scheme, but also different in many aspects. In the context of this scheme, the central bank grants refinancing loans at 0 per cent interest to commercial banks, which in turn lend to the SME sector at an interest margin of no more than 2.5 per cent, supporting purposes as new investment financing, working capital financing, EU grant pre-financing and foreign currency loan replacement. A total of some 31,000 companies accessed HUF 2,100 billion in funding under the two pillars of the scheme. The FGS, introduced as a provisional instrument, therefore achieved the market-building and growth objectives defined by the MNB at the time of its launch. At the same time, the FGS plays an increasingly decisive role in banks' standard product range, which may impede a return to market-based lending in the long run. The central bank therefore

launched its Growth Supporting Programme in early 2016 to help banks revert to market-based lending by gradually phasing out the FGS and announcing a new funding scheme providing positive incentives.

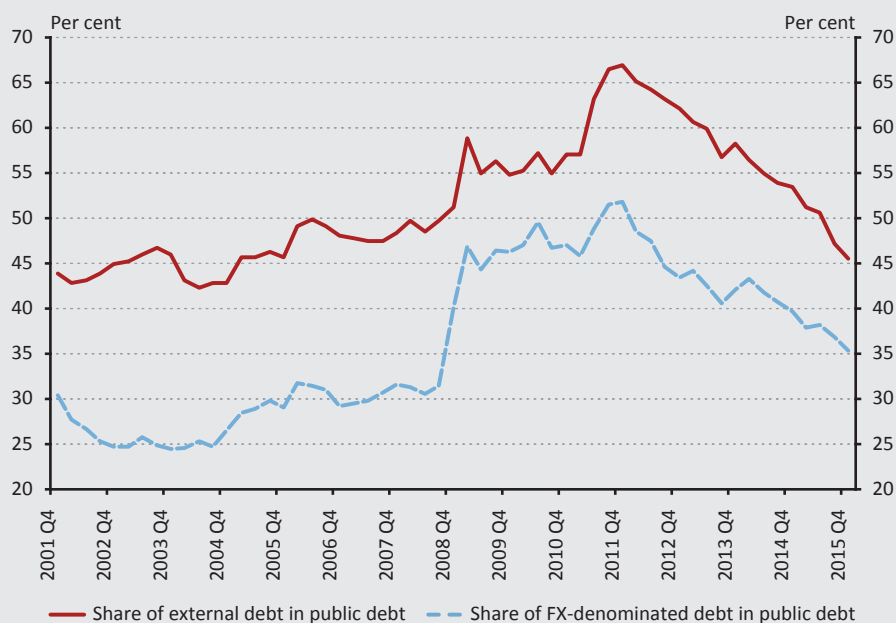
iii. The Self-Financing Scheme. The MNB rolled out additional unconventional instruments in 2014 in an effort to reduce Hungary's external vulnerability. The central bank's Self-Financing Scheme fosters the reduction of external and foreign currency-denominated gross public debt, which had continuously risen until late 2011; this programme was launched by the MNB in the summer of 2014 and expanded in 2015–2016 in several steps.

In the context of the scheme, the central bank's main policy instrument and other elements of its toolset were transformed with the intention of prompting Hungarian banks to keep their liquid funds in non-central bank liquid instruments eligible to be pledged as collateral, instead of the MNB's sterilisation instrument. Given the nature of Hungarian financial markets, this primarily meant government securities. As the first step of the Self-Financing Scheme, the main policy instrument, the two-weeks bill was converted to a deposit, followed by the introduction of the central bank's conditional interest rate swap (IRS) facility which drives Hungarian banks towards longer maturity non-central bank securities, primarily government securities, by managing interest rate risk. By announcing the second phase of the scheme in 2015, the MNB continued the transformation of its monetary toolset, spurring banks to reduce their funds held in central bank instruments. One of the main elements of this effort was to extend the maturity of the two-week main policy instrument to three months, further supported by additional measures.¹¹

The Self-Financing Scheme fostered a substantial improvement in the Hungarian economy's financing structure, and specifically of government debt, and greater reliance on domestic funding, which significantly reduces Hungary's macro-financial vulnerability. In addition to fostering domestic financing, the Self-Financing Scheme also allows the debt manager to finance the bulk of its foreign currency maturities from forint funding, allowing a reduction of the foreign currency ratio of government debt and thus significantly mitigating exchange rate exposure (*Figure 12*).

¹¹ The two other key elements of the transformation of the toolset implemented in the context of the Self-Financing Scheme are the gradual restriction and phasing-out of the two-week deposit at the end of April 2016 and the central bank IRS facilities.

Figure 12
Non-resident ownership and the foreign currency ratio within Hungarian government debt from 2001



Source: MNB, Government Debt Management Agency

iv. *The forint conversion of foreign currency household loans.* A constructive relationship is also essential in other areas besides the direct channels between the two main branches of economic policy and the mutual impact mechanisms. The forint conversion of foreign currency household loans is a prime example of an economic policy area affected by both fiscal and monetary policy. The central bank played a pivotal role in the introduction of the government measures to bail out foreign currency debtors and in the phasing-out of schemes involving substantial systemic – including monetary transmission, financial stability and growth – risks. As the leading institution of the Hungarian banking system, the MNB assumed a proactive, and even an initiatory role in the negotiations between the banking sector and the government, in providing professional guidance and supplying the foreign currency liquidity needed to phase out foreign currency household loans (supplying approximately EUR 9.6 billion).

The timing, the professional competence and the constructive negotiations between the parties were instrumental in the successful phasing-out of foreign currency household loans.¹² The uniformity decision by the Curia (which is the

¹² Kolozsi–Banai–Vonnák (2015)

Supreme Court in Hungary) passed on 16 June 2014 laid the legal foundations for implementing the series of steps preparing and allowing settlement and forint conversion. The implementation was preceded by numerous industry debates and consultations, given the many options and potential scheduling for the phasing-out of foreign currency loans. Due to the high level of foreign exchange reserve adequacy, the MNB opted for single-step conversion. In light of the nature of conversion, the conversion exchange rate first had to be fixed, which required close cooperation between the three parties (the government, banks and the MNB). What is more, the plan had to be implemented while making sure that money and capital market players did not obtain any information on the method, timing and fixed exchange rate of forint conversion, as any potential market speculation based on this information could have undermined complete and successful forint conversion.¹³

The foreign currency tenders linked to the phasing-out of household mortgage loans were conducted in autumn of 2014 and in early 2015, while the forint conversion tenders for personal and vehicle loans were conducted in August and September 2015; consequently, Hungarian households closed 2015 having essentially cleared their balance sheets of foreign currency loans.

- v. *The Growth Supporting Programme.* The new Growth Supporting Programme (GSP), launched on 1 January 2016, is aimed at promoting banks' return to market lending by gradually phasing out the FGS and by introducing the Market-Based Lending Scheme (MLS) as a positive incentive. The aim of the programme is to support a smooth return by banks to market-based lending as the FGS is phased out, and to expand the stocks of corporate and SME loans by a targeted amount of HUF 250–400 billion in 2016, corresponding to annual lending growth of 5–10 per cent. During the third, phasing-out pillar of the FGS, the MNB provides an additional HUF 300 billion in funding twice for the purpose of lending to the Hungarian SME sector (half in foreign currency). In addition, the Market-Based Lending Scheme (MLS) aims to provide positive incentives for banks' credit market activity. As part of the scheme, the central bank's toolset was supplemented with an interest rate swap conditional on lending activity (LIRS) and a preferential deposit facility to foster bank liquidity management. These targeted central bank instruments contribute to boosting lending through access conditions, as participating banks must commit to increasing their stock of loans granted to SMEs by one quarter of their LIRS volume used. The MNB is also working on creating a corporate credit reporting system that allows banks to assess credit risks as accurately as possible.

¹³ Nagy (2015)

4.2. Positive growth and fiscal impacts of the turnaround in monetary policy

The easing cycles of the key policy rate, the persistently low level of the main policy instrument and the rollout and extension of the FGS and the MLS also foster the real economy and an increase in growth potential by promoting investment and employment, along with the primary objective of achieving and maintaining price stability.

Stimulating the economy using monetary instruments in such a context not only serves the attainment of central bank objectives, but also of fiscal policy objectives, which are mutually reinforcing processes. As the real economy expands, so does employment, the outflow of wages, the volume of consumption and investment spending, generating sales and income tax revenues while budgetary spending on labour market benefits is reduced. These may all contribute to an improving budget balance on both the revenue and expenditure side.

In addition, an improving general government balance as a percentage of GDP reduces the government debt ratio, which in turn improves the country's risk perception. Improving investor sentiment reduces risk spreads and leads to a decline in the yield curve. These generate an improvement in the budget balance not only through the primary balance, but also by reducing interest expenditures. The decline in yields stemming from credibility creates more room for maneuver, *ceteris paribus*, for interest rate cuts, and the repeated feedback continues until inflation and real growth reach the optimal level desired by the economy's structural factors, which entails the appropriate adjustment of the central bank base rate.

The above impacts can also be estimated in quantified terms. According to the calculations of the MNB's experts, the central bank has supported nearly half of the economic growth achieved since 2013 through its monetary policy, and has contributed significantly to real GDP growth by supporting increased investments. The reduction in the key policy rate over the past three years substantially boosted the Hungarian economy's performance, by approximately 1.5 per cent, and contributed to bringing inflation closer to the target level by over 1.5 percentage points.¹⁴ This development was fostered by the growth impact generated by the Funding for Growth Scheme, which is estimated to have contributed to stimulating the economy in 2013–2015 to a similar degree as the easing cycles.¹⁵

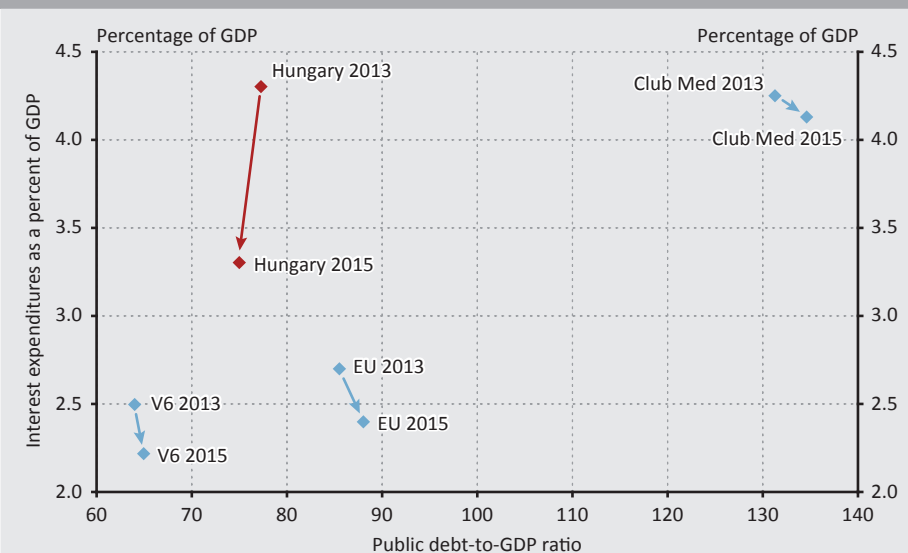
Likewise, the impact of central bank policy on the government's interest expenditures is also significant. Thanks to the greatly improving risk perception in the wake of the disciplined Hungarian fiscal policy, the central bank's easing cycles (totalling 595 basis points) and the Self-Financing Scheme, Hungarian government

¹⁴ Felcser–Soós–Váradi (2015)

¹⁵ Magyar Nemzeti Bank (2016)

securities market yields have decreased significantly over the past period of more than three years (Figure 11). Compared to a baseline scenario assuming the yields prevailing in August 2012, the interest savings generated by the declining yield curve may amount to over HUF 300 billion in 2015 and HUF 410 billion in 2016. The former amounts to nearly 1 per cent, while the latter amounts to 1.2 per cent of GDP, and this figure may reach up to 1.7 per cent of GDP.¹⁶ The fiscal leeway afforded by lower interest expenditures may allow the implementation of additional national competitiveness-boosting schemes while adhering to disciplined financial management and maintaining a low deficit. According to the European Commission's 2015 forecast, the reduction of the Hungarian budget's interest expenditures between 2013 and 2015 may be salient by both regional and European Union standards, and the reduction of its debt ratio, partly stemming from the former, is exceptional (Figure 13).¹⁷

Figure 13
Changes in interest expenditures and government debt between 2013 and 2015



Source: Kicsák (2015)

The reduction of the yield curve and of the central bank's key policy instrument is able to not only improve the budget position, but also influences the central bank's profit or loss. This is because the central bank pays interest on the majority of its

¹⁶ Kicsák (2015)

¹⁷ Kicsák (2015)

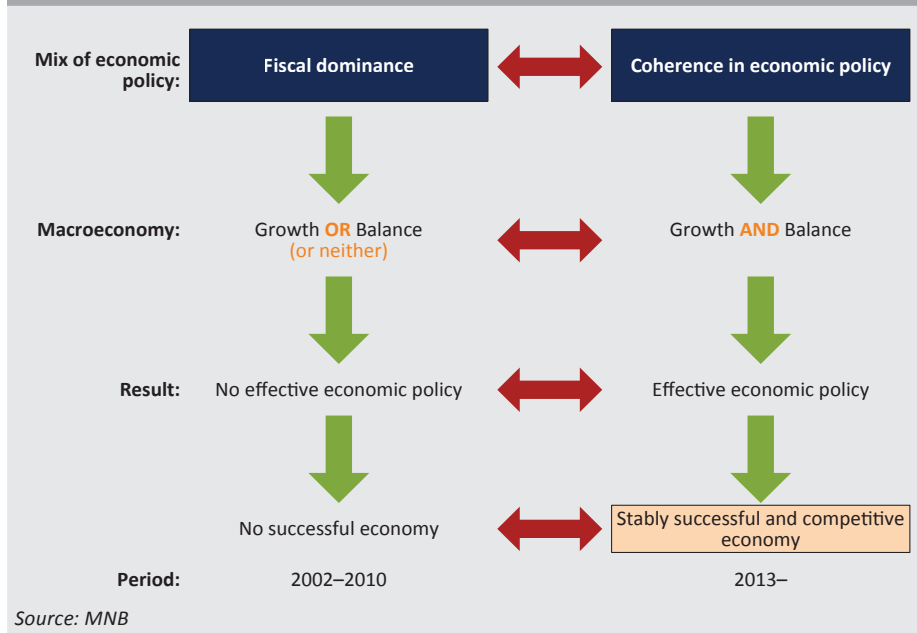
balance sheet liabilities through its sterilisation instrument, which features the key interest rate, and therefore a reduction in interest improves the MNB's profit or loss.

A positive side effect of the interest rate cuts started in August 2012 is that they help avoid central bank losses and the related budgetary reimbursement of losses. In the wake of the interest rate cuts continued in 2013, and of the rising exchange rate profit stemming from an exchange rate that was weaker than previously expected and higher conversion (such as the prepayment of the IMF loan), the central bank loss expected for the end of 2013 was annulled, with the MNB even posting a nearly HUF 30 billion profit that it was able to maintain in 2014 and 2015, thus avoiding being an additional burden for the budget.¹⁸

5. Summary

The relationship between fiscal and monetary policy, as well as the points of contact and correlations between these two branches play a key role not only on a theoretical level, but also in the effective conduct of monetary policy and the active shaping of macroeconomic developments. Due to fiscal dominance, fiscal balance and real economic growth could not be achieved simultaneously in the

Figure 14
Economic policy dominance and its outcomes in Hungary



¹⁸ Matolcsy (2015)

Hungarian economy between 2002 and 2010, and neither balance nor growth prevailed between 2007 and 2010. Following 2010, a fiscal turnaround, followed by a monetary turnaround took place in two steps. The former gave rise to fiscal balance, while the latter took the necessary steps for achieving price stability and financial stability, building on budgetary stability. The independent but constructive harmony that emerged between the two economic policies after 2013 is reflected in the sustained improvement in Hungary's macroeconomic developments (real growth, inflation, employment, government deficit, external and internal indebtedness, vulnerability, risk perception).

On balance, a harmonious and fruitful cooperation between the two economic policy branches forms an essential basis for concurrently achieving macro-financial balance and dynamic growth (*Figure 14*).

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