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Budgetary Risks of Monetary Policy with Special Regard to the Debt Rule

SUMMARY: Within its scope of activities the State Audit Office carries out a systematic analysis of factors that pose a risk to meeting the public debt rule criteria. The present article is based on the SAO study, conducted as part of the above-mentioned activities with the aim of exploring the budgetary risks of the monetary policy. The starting point of our study is the fact that the loss or negative reserves of the National Bank of Hungary must be replenished from the central budget. We demonstrate that the result of the central bank is mostly influenced by monetary policy instruments and show that the related interest expenditure has increased considerably since 2009. Furthermore, we conclude that accumulating foreign currency reserves also poses a significant risk. By analysing Hungarian and international data, we point out potential solutions for mitigating these risks. We go on to argue that budgetary payment obligations may also result from positive economic processes; therefore it would be advisable to change the calculation method of the debt rule in order to better manage the budgetary risks of the monetary policy.

KEYWORDS: monetary policy, budgetary risk, foreign currency reserves, debt rule

JEL CODES: E02, E59, H63

In accordance with Paragraph 5, Article 36 of the Fundamental Law of Hungary, “as long as the public debt exceeds half of the Gross Domestic Product, the National Assembly may only adopt a Central Budget Act which contains public debt reduction in proportion to the Gross Domestic Product.” This obligation is further specified in Act CXCIV of 2011 on the economic stability of Hungary by establishing the state debt rule (hereinafter: debt rule). During the review of the budget appropriation bill the State Audit Office (SAO) uses the Charts in the bill to examine whether the debt rule criteria are fulfilled. The role of the Fiscal Council is even more important, since it is obliged to veto the Act on the Budget prior to the final vote if it considers that the debt

rule criteria are not met. The SAO supports the Fiscal Council’s work by preparing analyses and studies; therefore it is the SAO’s role to explore the risks that threaten the fulfilment of the debt rule.

CORRELATION BETWEEN THE DEBT RULE AND THE BUDGETARY RISKS OF THE MONETARY POLICY

Regarding the fulfilment of the debt rule, an exceptional risk is posed by the obligation to replenish the reserves of the National Bank of Hungary (MNB) of the central budget if they are in deficit. In accordance with the law that was in force until 31 December 2010, pursuant to Act LVIII of 2001 on the National Bank of Hungary, the MNB’s losses had to

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be reimbursed from the central budget if such losses were not covered by the accumulated profit reserve and the MNB's "HUF exchange rate equalisation reserve"¹ and/or "foreign currency securities equalisation reserve" had to be replenished from the same source, if² either of them had a negative balance. The latter two transfers did not even appear among the expenditures of the current budget; instead they were accounted as public debt increase immediately after the transfer of the funds.

However, the risk arising from the budgetary reimbursement obligation is mitigated by the fact that the aforementioned obligation to replenish the HUF exchange rate equalisation reserve and the foreign currency securities equalisation reserve from the central budget has been amended by Act CCVIII of 2011 on the National Bank of Hungary (MNB Act). Pursuant to this, the reimbursement obligation shall arise when the balance of the sum of the equalisation reserves is negative and this negative balance exceeds the sum of the positive amount of the accumulated profit reserve and the balance sheet result. In such case the central budget shall make a disbursement to the MNB up to the level of the negative balance. If the accumulated profit reserve becomes negative, the central budget shall make a disbursement immediately (within eight days).

The unique feature of this replenishment obligation is that the government and the National Assembly have no direct influence over the amount of the replenishment. This is the result of central bank independence. Pursuant to EU law, the MNB Act, as well as the previous act states the independence of the National Bank of Hungary. The criteria of central bank independence can be established along three dimensions: personal, professional and financial independence (Bozó – Gyomai – Kármán, et al., 2002) (we do not cover the issue of personal independence in the

present paper). According to the MNB Act, professional independence in Hungary means that in carrying out their tasks and meeting their obligations conferred upon them by the MNB Act, the MNB and the members of its bodies shall neither seek nor take instructions from the government, any other bodies or political parties. The government or any other body shall respect this principle and may not attempt to influence the MNB or the members of its bodies in carrying out their tasks.

Financial independence primarily means that the MNB's activities may not be curbed by the central budget at any given time. In practice, this means two things. The first is that the MNB has considerable own revenues to finance its activities. On the other hand it also means that should its own funds (and the reserves generated from them) be insufficient to finance its expenditures, the loss shall be reimbursed to the MNB from the central budget.

This is not just a theoretical option, since the MNB – just like any central bank – has to carry out several activities where expenditures considerably exceed the revenues under the given conditions. We shall discuss this in detail later. First though, let us review the budgetary relations of the MNB from 2002 to 2011.

Since 2002, the application of regulations which already take into account the requirements of EU law, the budget had payment obligations on six occasions in excess of HUF 150 billion (*see Table 1*).

By 2011 a significant surplus (HUF 1,325 billion) had accumulated in the "HUF exchange rate equalisation reserve". Between 2007 and 2011 the amount of the reserve grew 26-fold, due to the significant weakening of the forint (at the end of 2011 one euro cost 22.8% more HUF compared to the same time in 2007). Consequently, in the short term there is no danger of the budget having to make reimbursements because of the negative

Table 1

THE MNB'S HUF EXCHANGE RATE EQUALISATION RESERVE, FOREIGN CURRENCY SECURITIES EQUALISATION RESERVE, ACCUMULATED PROFIT RESERVE, BALANCE SHEET RESULT AND THE PAYMENT OBLIGATION FROM THE CENTRAL BUDGET (2002–2011)
(HUF million)

Year	HUF exchange rate equalisation reserve	Foreign currency securities equalisation reserve	Accumulated profit reserve	MNB's balance sheet result	Payment obligation from the central budget
2002	-82,890	19,976	7,546	-4,886	82,890
2003	199,240	4,198	2,659	78,464	0
2004	19,506	-1,112	81,123	-42,766	1,112
2005	105,965	-14,816	38,357	-21,421	14,816
2006	49,595	-20,600	16,936	14,571	20,600
2007	49,857	-2,799	31,507	-16,582	2,799
2008	236,258	46,744	14,925	-5,464	0
2009	230,792	21,515	9,461	65,542	0
2010	415,937	-29,142	75,003	-41,577	29,142
2011	1,324,963	5,593	33,426	13,598	0

Source: the MNB's annual reports

balance of this reserve. However, during the period under review, the “HUF exchange rate equalisation reserve” showed fluctuations from one year to the other in the magnitude of HUF hundred billion; therefore it could become a risk factor if the forint appreciates. (In 2004 and 2006 the previously accumulated reserve decreased by HUF 180 and 56 billion respectively over the course of one year).

From 2007 to 2011 the MNB's gold and foreign currency reserves grew by over HUF 1,000 billion per year, amounting to HUF 12,000 billion by the end of 2011. As a result, a 1% gain on the forint, which means a fall in the exchange rate of the euro by 3 forints, would decrease the HUF amount of the foreign currency reserves by HUF 120 billion. This could easily lead to a negative balance of the HUF exchange rate equalisation reserve in a few years, carrying the risk of the budgetary reimbursement obligation.

During the 10 years under review, the MNB's balance sheet result was negative six times.³ This is a good indication of the budgetary risk in spite of the fact that in the past 10 years there was not one occasion when the MNB's loss had to be reimbursed from the central budget, because this loss was covered by the accumulated profit reserve.

WHY DO MONETARY POLICY AND THE ACCUMULATION OF FOREIGN CURRENCY RESERVES IMPOSE A BUDGETARY RISK?

It can be deduced in theory as well that not only in the case of the MNB, but in that of any central bank, there is a high risk of the bank's revenues from its core activities being below the costs of funds required for such activities.

Our study examines the use of two basic interrelated functions: the use of the

accumulation of foreign currency reserves and monetary policy instruments. The professional literature also argues that the accumulation of foreign currency reserves is often a loss-making activity for central banks, since – due to their functions – these reserves should only be tied up in relatively short-term and low risk instruments. The yield of such instruments, however, is usually low, often lower than the average cost of funds used to finance the accumulation of foreign currency reserves. The risk of a negative balance is somewhat mitigated by the fact that central banks can borrow at a relatively low price, at a cost that is lower than or equal to the central bank base rate.

The use of monetary policy instruments can increase the risk of a central bank’s negative balance, because these instruments are deployed with only one purpose in mind, to implement monetary policy goals, compared to which the risk of a loss-making central bank is minute, since the costs of such a scenario are ultimately borne by the central budget. It is obvious that responsible decision-makers consider this aspect as well; however, the moral hazard is present, at least in theory.

In the case of the MNB, the risk of the accumulation of foreign currency reserves being a loss-making activity is especially high.

On the one hand, claims in foreign currency represent a large part of the MNB’s assets, while HUF liabilities form a substantial part of its liability structure (*see Table 2*). Although the MNB pays an interest equal to or even lower than the central bank base rate for a large proportion of its HUF liabilities, this interest cost is still sizeable, due to the high base rate.

The MNB’s annual reports confirm the existence of these risks (National Bank of Hungary, 2007, 2008, 2009a, 2010, 2011c). Data from the profit and loss statements also reveal (*see Table 3*) that interest and similar income on claims in foreign currency were regularly exceeded by interest and similar expenditures, booked mostly in HUF and to a lesser extent in foreign currency on the liabilities, leading to the MNB’s result for the years 2007, 2008 and 2010 being negative. The MNB was able to avoid losses and replenish its accumulated profit reserve only in those years when it sold the foreign currency, purchased at a lower price in the previous years, at a higher exchange rate and in a large quantity. This is what happened in 2009 and 2011, when the revenues from the exchange rate, amounting to HUF 143.6 billion and HUF 101.9 billion respectively, were able to offset the difference between interest income and interest expenditures.

Table 2

MNB’S CLAIMS AND LIABILITIES IN HUF AND FOREIGN CURRENCY (2007–2011)

(per cent)

	2007	2008	2009	2010	2011
Claims in HUF	3.26	7.43	3.15	3.14	2.34
Claims in foreign currency	96.74	92.57	96.85	96.86	97.66
Claims in total	100.00	100.00	100.00	100.00	100.00
Liabilities in HUF	98.57	68.33	72.85	67.21	72.50
Liabilities in foreign currency	1.43	31.67	27.15	32.79	27.50
Liabilities in total	100.00	100.00	100.00	100.00	100.00

Source: own calculations, based on the MNB’s annual reports

Table 3

MNB'S MAIN INCOME AND EXPENSES (2007–2011)					
(HUF billion)					
Items	2007	2008	2009	2010	2011
Interest and similar income denominated in forint	12.2	22.3	52.9	24.7	20.0
Interest and similar income denominated in foreign currency	209.0	204.5	282.1	254.3	287.2
Income arising from exchange rate changes	13.5	26.4	143.6	53.1	101.9
Other income	5.2	4.3	6.2	6.4	4.2
Total income	242.7	272.2	537.2	393.6	495.8
Interest and similar expenses denominated in forint	161.8	183.7	329.6	270.0	332.6
Interest and similar expenses denominated in foreign currency	59.1	34.5	69.0	62.7	68.6
Expenses resulting from exchange rate changes	4.5	17.2	6.9	2.7	3.2
Cost of issuing banknotes and coins	9.1	7.0	8.2	8.5	4.9
Realised losses arising from financial operations	6.8	8.3	36.8	74.0	56.6
Provisions	1.7	8.4	0	0.1	1.8
Operating costs and expenses	14.7	15.3	15.2	13.0	12.1
Total expenses	259.3	277.7	471.7	435.2	482.2
Profit/loss before dividends	-16.6	-5.5	65.5	-41.6	13.6

Source: the MNB's annual reports

Table 3 also shows that the MNB's profit/loss was largely influenced by the interest and similar expenditures, booked in HUF on the expenditure side. There was a significant increase in these expenditures from 2009. Compared to this, the increase of interest and similar income was much smaller. Consequently, there was a much greater risk of a loss, which is larger than the MNB's accumulated profit reserve, thus generating a payment obligation for the central budget. In July 2011 the MNB forecast⁴ a loss of HUF 140 billion for 2011, out of which HUF 94 billion had to be reimbursed from the central budget by 31 March 2012 (MNB, 2011a). Floating an expenditure, equal to 0.3% of the GDP, added a great uncertainty to the budgetary planning for 2012 [in October

2011 the MNB estimated the reimbursement obligation at HUF 12 billion only (MNB, 2011b)]. Ultimately, the MNB avoided a loss, primarily by selling a large amount of foreign currency to domestic commercial banks as part of the final repayment scheme, thus realising close to HUF 100 billion as exchange gain.

In order to understand the budgetary risks, it is important to review the reasons for the sudden increase in interest and similar expenses denominated in forint. The following is stated on the subject by the MNB (2009a): *“The underlying reason for the substantial deterioration in the forint interest income was that the foreign exchange conversions carried out upon the use of the funds borrowed from abroad supplied the economy with significant additional forint liquidity, which was reflected in an*

increase in the two-week bills at the Bank. The annual average stock of forint liabilities with interest rates tied to the central bank base rate (forint deposits by the central government, minimum reserve, liquidity absorbing instruments) increased by approximately HUF 1,700 billion.” We wish to proceed with our risk analysis by further exploring the background of this quote.

Interest on the budget’s forint deposits is obviously not included in the budgetary

risks. Therefore our analysis is focused on the other two factors: the minimum reserve and the liquidity absorbing instruments. Liquidity absorbing instruments include two important monetary policy tools: overnight central bank deposits and two-week central bank bills. The monetary instruments are explained in *Box 1*.

We started by carrying out calculations, based on the MNB’s public data to review the interest and similar expenses on the mi-

Box 1

THE THREE CENTRAL BANK INSTRUMENTS

According to the MNB’s handbook (2009b), monetary policy instruments include a wide range of instruments used by the central bank to achieve monetary policy objectives. In creating and operating a set of instruments, the key aim of the MNB is to have short-term money market yields that are adjusted to the central bank’s policy interest rate or the expectations as much as possible and to use a range of instruments that support the implementation of the central bank’s interest policy.

Pursuant to the central bank regulations on the [minimum reserve](#), credit institutions with an operating licence in Hungary and foreign credit institutions with Hungarian branches shall deposit a determined ratio of their funds as a minimum reserve on an account held with the central bank. Credit institutions fulfil this reserve requirement by keeping a settlement account for a reserve period of one month at the central bank with a balance corresponding to their minimum reserve requirement.

The key purpose of this reserve system is to provide an averaging mechanism to assist credit institutions with their liquidity management and help mitigate the fluctuation of interbank yields. The minimum reserve system also contributes to securing a stable demand for base money. Following Hungary’s EU accession, the MNB pays the policy interest rate on the minimum reserves; thus the hidden taxation function of the minimum reserve system is discontinued. The minimum reserve system is regulated by the MNB decrees on the calculation of the minimum reserve and the minimum reserve ratio.

The [two-week MNB bill](#) is the MNB’s most important monetary instrument. The yield at issue for this instrument serves as the central bank’s policy interest rate; therefore this yield is the best reflection of the direction of the monetary policy or any changes therein. The policy interest rate is set by the central bank’s most important monetary policy decision-making body, the Monetary Council. The central bank uses the policy interest rate to influence short-term money market yields, thus indirectly affecting economic processes. The central bank issues its two-week bills for its clients on a weekly basis, at fix rate auctions. Clients are free to decide the number of bills they wish to buy at these auctions, without any limitations on the quantity.

The MNB maintains an [interest rate corridor with overnight maturity](#) in order to curb the extreme fluctuation of interbank rates. The interest rate corridor is ± 1 per cent wide around the rate of the key policy instrument, which is the two-week bill. At the top of the interest rate corridor the central bank satisfies the temporary short liquidity needs of commercial banks with overnight loans—in line with the banks’ collateral—thus limiting the increase of interbank rates. The bottom of the interest rate corridor is the interest rate of the overnight deposit with the central bank, at which credit institutions can deposit their temporary excess liquidity without limitations; thus the central bank can prevent interbank rates going any lower than the interest rate of this overnight deposit.

The MNB uses its two-week bills and overnight instruments without quantitative restrictions.

nimum reserve, the two-week bill and the overnight deposit between 2007 and 2011 (see Table 4).

The data of the table clearly show that at the beginning of the period under review, interests paid on the minimum reserve and the two-week bill were relatively significant. In 2009, however, interests paid on the minimum reserve dropped by 50%, compared to the previous year, while interests paid on the two-week bill grew threefold. Consequently, between 2009 and 2011 the most important expenditure item was the interest on the two-week bills.

Below is an overview of the interests recorded on the three monetary instruments and the analysis of the factors that influenced these interests. Let us start by analysing the interest expenditures of the overnight deposits.

Interest expenditure of the net amount of the overnight central bank deposit (2007–2011)

In the case of overnight deposits it is advisable to calculate the interest expenditure on the net amount of the deposits; therefore the loan amount has to be deducted from the deposit amount. Data after the calculations are shown

in Table 5. We also included the fluctuation of the central bank base rate for the given year for informational purposes.

Let us highlight one development from the table. Between 2008 and 2009 the average net amount of overnight central bank deposits grew by over HUF 200 billion, followed by a HUF 250 billion decrease in 2010. The increase of the deposit volume doubled the interest expenditure between 2008 and 2009 and led to a HUF 12 billion increase in expenses for the MNB.

We assumed that the increase of the average deposit amount was related to the global financial crisis. For this reason we examined the history of the overnight deposit volume during the months of the emergence of the crisis in Hungary. These data are shown in Table 6.

The data of Table 6 clearly show that compared to September 2008 there was a sharp increase in the average overnight central bank deposit in each of the following three months. This fast growth stopped in the first months of 2009, but the deposit volume exceeded the October 2008 level in almost every month, which indicates that this monetary instrument was used continuously to tie up a considerable amount of commercial bank liquidity. This

Table 4

OF THE INTEREST AND SIMILAR EXPENSES ON THE MINIMUM RESERVE, THE TWO-WEEK CENTRAL BANK BILL AND THE OVERNIGHT DEPOSIT BETWEEN 2007 AND 2011

(HUF billion)

Monetary instrument	(Net) interest paid by MNB					
	2007	2008	2009	2010	2011	5 years in total
Minimum reserve	50	61	29	20	55	215
Two-week bill	74	71	223	214	255	837
Overnight deposit	1	12	25	5	8	51
Total	125	144	277	239	318	1,103

Source: own calculations, using the operational Charts and the current central rates published on MNB's website

Table 5

**NET AMOUNT OF OVERNIGHT DEPOSITS AT THE MNB
AND NET INTEREST PAID**

Megnevezés	2007*	2008	2009	2010	2011
Average amount of the overnight central bank deposit (HUF billion)	45.1	183.7	422.2	156.4	226.6
Interest paid on the deposits (HUF billion)	0.5	12.1	24.8	4.8	8.2
Central bank base rate range per year (%)	7.5–8.0	7.5–11.5	6.25–10.0	5.25–6.25	5.75–7.00

*Data are not comprehensive. The MNB started to make these data public from October 2007.

Source: own calculations, using the operational Charts, the central bank base rate and the current central rates published on MNB's website

Table 6

**OVERNIGHT CENTRAL BANK DEPOSIT VOLUMES AND INTEREST EXPENSES DURING THE
MONTHS OF THE 2008 GLOBAL FINANCIAL CRISIS EMERGING IN HUNGARY**
(HUF million)

	September	October	November	December
Net average deposit volume	36,372	224,537	351,312	618,549
Net interest paid	224	1,766	2,937	5,279

Source: own calculations, using the operational Charts and the current central rates published on MNB's website

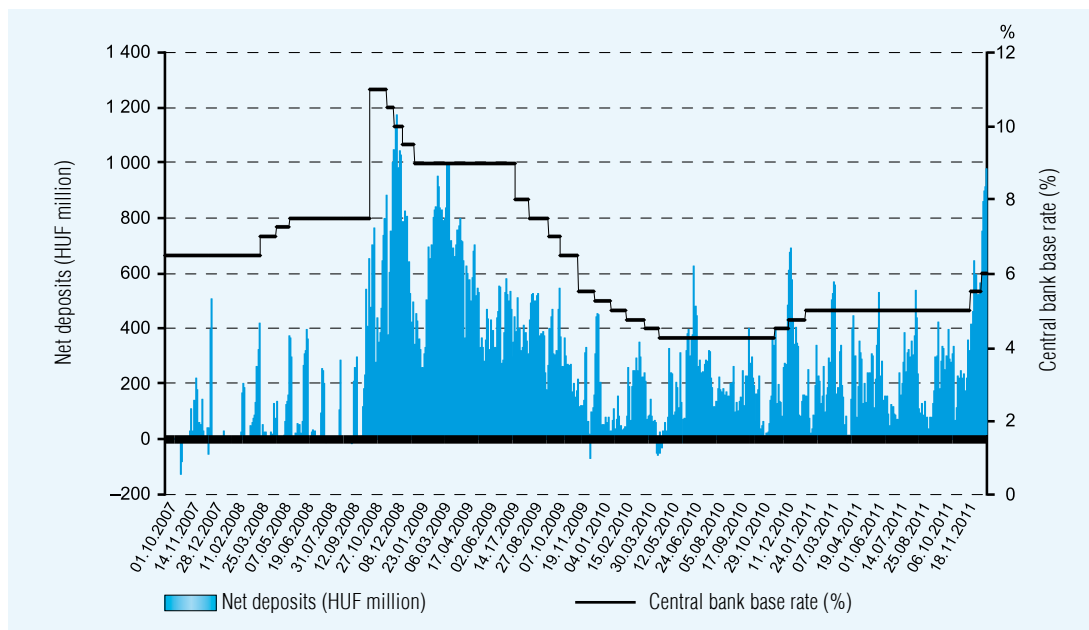
meant an additional expenditure of HUF 2–4 billion per month for the MNB, compared to having the deposit volume stabilise at the pre-crisis level.

It is not the Charts that make this development interesting, but rather the dilemmas as to why there was such excess (forint) liquidity at the domestic commercial banks during the financial crisis, when interbank money markets “dried up”, and also why these banks kept their excess liquidity in overnight deposits, rather than in central bank bonds with a higher interest rate. One possible explanation is that in an unpredictable financial situation commercial banks needed a deposit option with maximum liquidity. Overnight deposits were also favoured by the fact that in October 2008 the MNB narrowed the width of the interest rate

corridor from one to half a per cent, which was only restored in November 2009. However, we cannot exclude the possibility that the sudden raise of the central bank base rate in October 2008 encouraged commercial banks to tie up their temporary savings in high interest deposits with maximum liquidity. This correlation is supported by *Chart 1*, which shows that – although with some delay – the base rate and the deposit volume moved in synch not only at the turn of 2008–2009, but also in 2010 and 2011. If this correlation exists, it means that due to the high base rate and the narrow interest rate corridor, the MNB not only tied up the surplus liquidity of the commercial banks, but also encouraged banks to keep their liquidity in this particular monetary instrument.

Chart 1

NET VOLUME OF THE OVERNIGHT CENTRAL BANK DEPOSIT AND THE CENTRAL BANK BASE RATE IN 2007–2011



Source: own calculations, using the operational Charts and the central bank base rate published on MNB's website

Interest expenditure of the two-week MNB bill (2007–2011)

MNB introduced the two-week bill in early 2007. The interest of the two-week bond is the same as the central bank base rate. The aim of this bill is to tie up the excess liquidity of the banking system. Key data on this monetary instrument are summarised in *Table 7*.

These data show that the sudden increase in volume occurred between 2008 and 2009 for this monetary instrument also. However, the volume of two-week bills continued to expand in 2010 and 2011. We examined the link between this process and the outbreak of the global financial crisis, as well as central bank base rate history. These data are shown in *Chart 2*.

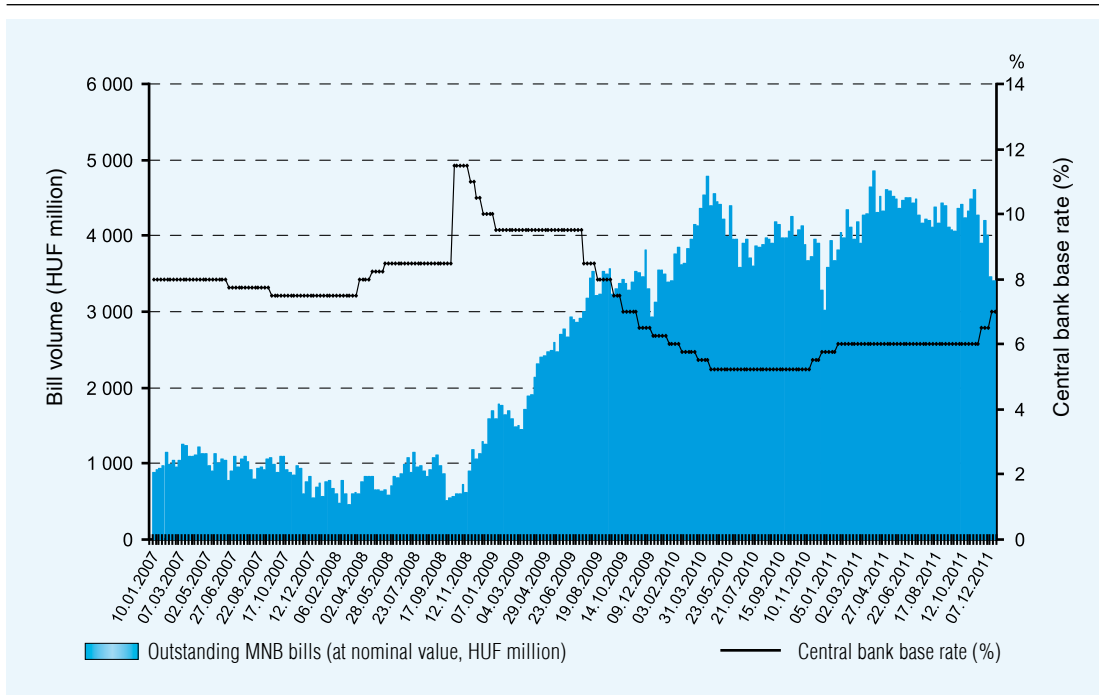
Table 7

AVERAGE VOLUME OF THE OUTSTANDING TWO-WEEK MNB BILLS (AT NOMINAL VALUE) AND THE INTEREST PAID

	2007	2008	2009	2010	2011
Average volume of the outstanding two-week bills (HUF billion)	946.1	782.0	2,681.5	3,936.3	4,227.3
Interest paid on the bills (HUF billion)	75.1	71.4	226.7	213.8	255.2
Range of the central bank interest rate per annum (%)	7.5–8.0	7.5–11.50	6.25–10.00	5.25–6.25	5.75–7.00

Source: own calculations, using the operational Charts, the central bank base rate and the current central rates published on MNB's website

**OUTSTANDING TWO-WEEK BILLS AND THE CENTRAL BANK
BASE RATE IN 2007–2011**



Source: own calculations, using the operational Charts and the central bank base rate published on MNB's website

The Chart shows that the rise in outstanding two-week bills did not occur immediately at the outbreak of the financial crisis. Instead it occurred later, in early 2009 and lasted for almost a year. It has remained at a high level ever since, albeit with some fluctuation. This indicates that Hungarian commercial banks had an increasing amount of liquidity which they chose not to reinvest into lending, or to use to buy discount treasury notes or government bonds, but rather to keep in two-week central bank bills. Financing this behaviour cost over HUF 200 billion in interest expenditure per year for the MNB.

According to the MNB's handbook (2009b), the two-week bill is the MNB's most important monetary instrument. The yield at issue for this instrument serves as the central bank's policy interest rate; therefore this yield

is the best reflection of the direction of the monetary policy or any changes therein. However, based on Chart 2 there is no provable positive link between the rise of the central bank base rate and that of bill volume. What is more, we see that there was a surge in the growth of bill volume at the time when the central bank base rate started to decrease. *Balogh* (2009) concluded that there is no direct link between bond volume and the base rate, because a change in the overall volume of MNB bonds can only be triggered by a change in another balance sheet item of the central bank.

The handbook also explains that *“the total volume of outstanding MNB bills does not play a prominent role in monetary policy. The primary reason for this is that the volume has no direct effect on economic developments.*

(...) apart from being a policy instrument, it is also an instrument for tying up structural excess liquidity, therefore its volume is typically influenced by factors over which the MNB has limited control”.

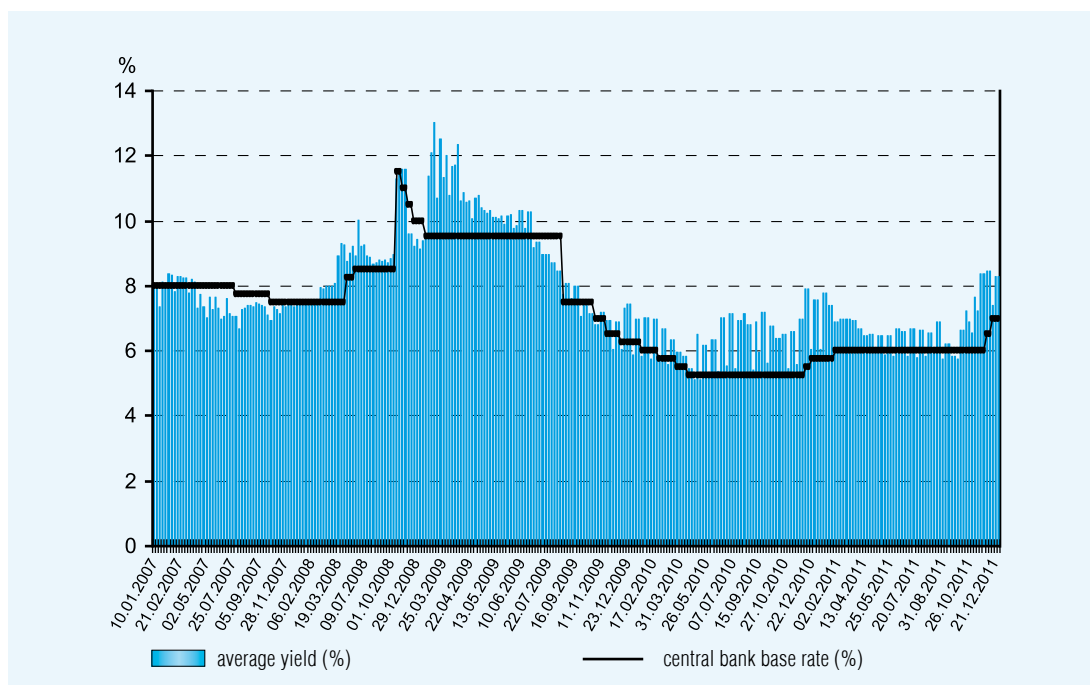
In this respect we might ask that if the bill volume does not play a prominent role in monetary policy, is it justified when it comes to the financing expenses that the central budget has the same unlimited reimbursement obligation as in the case of real monetary policy instruments. According to the current central bank regulation, an effective monetary policy is for the public’s benefit; therefore it must be financed by the taxpayers, irrespective of its costs. However, does this rule apply to an instrument, the main objective of which is to maintain a certain level of the commercial banks’ profitability?

A further question arises: if commercial banks permanently have such high liquidity, why don’t they use it to buy discount treasury notes or government bonds? We explored this issue by examining the link between the average yield of short-term discount treasury notes and central bank base rate history (see Chart 3).

According to the Chart, the average yield of the 3-month discount treasury notes was usually higher than the central bank base rate; therefore purely on the basis of profitability commercial banks would have been better off buying discount treasury notes instead of central bank bonds. However, in the same period no discount treasury notes with a term of less than 3 months were issued; instead public debt was financed to a large degree from longer-term bonds denominated in

Chart 3

AVERAGE YIELD OF DISCOUNT TREASURY NOTES AND THE CENTRAL BANK BASE RATE IN 2007–2011



Source: own calculations, using the operational Charts and the central bank base rates published on the websites of MNB and Government Debt Management Agency Ltd

foreign currency and exchanging these into forints – through various transmissions – further increased the forint liquidity of the Hungarian banking system.

Interest expenditure of the minimum reserve (2007–2011)

The minimum reserve rate of the banks was 5 per cent in 2007, which was reduced to 2 per cent by the MNB in November 2008. From 1 October 2010 banks had the options of 2, 3, 4 and 5 per cent minimum reserve rates; after that they were allowed to modify their choice every six months. The MNB introduced the higher optional reserve rates in order to address the previous asymmetry of the minimum reserve system caused by the uniform minimum reserve rate (Varga, 2010). The MNB pays the central bank base rate on the minimum reserve of the banks.

The deposited reserve amount was 5 per cent until November 2008, followed by 2 per cent all the way until October 2010, which is also shown in the volume tendency of the deposited reserve. In 2009 the reserve amount dropped to half of what it was in 2008. From the end of 2010 the forint value of the reserve started to grow again, as a result of the optional 2-5 per cent rates. The summary of the key data is presented in *Table 8*. The table clearly shows that the reduction of the mini-

um reserve rate resulted in interest savings amounting to HUF 30 billion in 2009 and HUF 40 billion in 2010, compared to the interest expenditure in 2008. The increase of the banks' forint liquidity was apparent even in 2011, after the introduction of the higher options, leading to a HUF 25 billion increase in interest expenditure over the previous year.

INTERNATIONAL COMPARISON OF THE CONDITIONS OF USING MONETARY INSTRUMENTS

In order to assess the budgetary risks of the MNB's monetary policy, it is advisable to review the relevant regulations of the European Central Bank (ECB) and the central banks of other EU Member States which are not part of the euro area. For this comparison we used data published on the websites of the central banks under review (please find specific references in the literature list). During our comparison we focused on the monetary policy instruments analysed in relation to MNB's monetary policy (minimum reserve, two-week bill, overnight deposit) or similar facilities.

First of all it is important to know that central bank instruments can be discretionary or standing facilities. In the case of the former, the central bank decides whether and to what degree to use it. In contrast, standing facilities are available to market participants without

Table 8

AMOUNT OF THE MINIMUM RESERVE AND THE INTEREST PAID BY THE MNB

	2007	2008	2009	2010	2011
Deposited reserve in total (HUF billion)	637.5	706.8	339.8	366.6	452.0
Interest on the deposited reserve (HUF billion)	49.6	60.9	29.4	20.0	54.5
Range of the interest rate per annum (%)	7.5–8.0	7.5–11.50	6.25–10.00	5.25–6.25	5.75–7.00

Source: own calculations, using the operational Charts, the central bank base rate and the current central rates published on MNB's website

limitation, meaning that they are “activated” in accordance with the banks’ needs. A 2001 study by the MNB’s experts states (Antal – Barabás – Czeti – Major, 2001) that active liquidity management, which relies on discretionary tools, is becoming more and more general in countries with developed money and capital markets. Within this operational framework – as the authors argue – the central bank decides how much liquidity it is ready to supply or withdraw from the system. A precondition for the efficient operation of active liquidity management is the accurate forecast of interbank liquidity and the net liquidity position.

The ECB’s express intent (similarly to the MNB) is to maintain price stability and support the economic policy of the European Union without jeopardising this goal. In order to achieve these goals the ECB uses various instruments that can be divided into three groups: open market operations, standing facilities and minimum reserves.

Based on the ECB’s guidelines, there are no major differences between the practices of the MNB and the ECB, since the reserve requirement of both institutions is determined in relation to elements of their balance sheet, the minimum reserve system enables institutions to make use of averaging provisions and pay a fixed rate⁵ on their reserve holdings.

Regarding the standing facilities, both the MNB and the ECB offer the banks the options of overnight loans (with sufficient collateral) or deposit arrangements. It should be noted that since May 2009 in absolute terms the ECB uses a narrower interest rate corridor (+/-0.75%), compared to the MNB (+/-1%).

In terms of open market operations, the collection of fixed-term deposits for fine-tuning purposes is the closest to the characteristics of the MNB’s two-week bill. A key difference is that unlike the MNB, the ECB does not use this as a policy instrument

(MNB, 2009b), however both instruments generate interest expenses for these banks; therefore the comparison is justified.

The ECB’s deposit has an adjustment function and is used by the banks to tie up their liquidity within the Securities Markets Programme (SMP). In 2012 the ECB offered the option of one-week deposits denominated in euro, on a weekly basis. Deposit limits are adjusted to the number of bonds purchased within the SMP and only the maximum yield is set,⁶ which can therefore vary according to the required volume.

For the purposes of cost efficiency, both the volume limit and the variable interest rate provide a better facility for the ECB, compared to offering deposits without limits with a fixed interest rate. The volume limit prevents banks tying up their liquidity arising outside of the SMP in this facility. Variable interest rates also proved to be effective, because interest on these deposits was only 0.01 per cent in 2012 and due to its very nature, it never exceeded the maximum limit of 0.75 per cent.

The primary aim of the [Central Bank of Sweden \(Sveriges Riksbank\)](#), similarly to the MNB, is to maintain price stability with the current target inflation rate of 2%. However, there is a significant difference in the monetary instruments used because, although it could, the Riksbank does not prescribe a minimum reserve; instead it prescribes that banks balance their accounts in the central bank’s interbank settlement system (RIX) after each daily close (Bowman – Gagnon – Leahy, 2010). In order to do so, banks can use overnight deposits and loans, similarly to the MNB’s interest rate corridor. Just like the MNB, the Riksbank also sets the interest of these overnight deposits and loans at the policy interest rate (currently at one per cent), but it uses a narrower interest rate corridor (+/-0.75 per cent).

However, there is a difference between the practices of the two central banks when

it comes to the operating costs of monetary policy. In contrast to the MNB's policy two-week bill, which generates considerable interest expenses, the Riksbank makes repurchase (repo) transactions or issues so-called Riksbank certificates with a one-week maturity at the policy interest rate, according to the liquidity of the banks (Nessén – Sellin – Sommar, 2011). The main difference, similarly to the ECB, is that the Riksbank limits the number of available certificates with the additional benefit of being able to limit the related potential costs.

Apart from the above, it is also typical behaviour for other European central banks to try and implement their monetary policy objectives with as much cost efficiency as possible. One widely used solution for this is to limit the number of available short-term central bank bonds.

The main monetary policy instrument of the [Czech National Bank](#) is the two-week repo tender, which is used for monetary policy purposes only, with the aim of absorbing excess liquidity. However, only a limited number of bids is accepted according to the central bank's rules. The bids are ranked using the American auction procedure, i.e. those with the lowest interest rate are satisfied as having priority. Those with successively higher interest rates are accepted until the total predicted liquidity surplus is exhausted. The central bank either completely refuses the bids at the highest interest rate or reduces them pro rata. Bids over the maximum interest rate published by the national bank are refused. Although this method definitely makes the tendering more complex, it obviously generates less interest expense compared to unlimited bond issues.

According to its regulations on the use of monetary policy instruments, the [Bank of Latvia](#) may introduce limits on overnight and one-week deposit facilities at any time or may refuse to accept such deposits.

The regulations of the [National Bank of Romania](#) on open market operations also provide the option of limiting the number of deposit facilities granted. The regulation distinguishes two types of tenders: fixed or variable rate tenders. In the case of fixed rate tenders, when the aggregate amount bid exceeds the amount to be allotted by the national bank, bids shall be satisfied pro rata. This shall be based on the ratio of the amount to be allotted to the aggregate amount bid. In the case of variable rate tenders, bids shall be satisfied increasingly, starting with the bid with the lowest interest rate. Deposits shall be granted by the national bank up to the limit necessary for the monetary policy objectives to be fulfilled.

In summary, our international outlook suggests that all the national banks under review, as well as the European Central Bank limit the acceptance of commercial bank deposits; therefore Hungary's monetary policy regulations allowing an unlimited amount of commercial bank liquidity to be tied up – irrespective of its costs – is an unprecedented practice or at least a rarity in Europe.

Apart from limiting the access to facilities that generate interest expenses, central banks in Europe use additional means to curb the costs incurred during the implementation of their monetary policies. *Table 9* gives an overview of solutions used by the national banks under review to reduce their interest expenses when setting the interest rate corridors for their overnight facilities.

The table shows that two methods are used to curb interest expenditure. One is the asymmetric interest rate corridor, where the width of the corridor is larger for deposits and smaller for loans. Examples of this are Latvia and the Czech Republic. The other method is to adjust the width of the interest rate corridor to the policy interest rate: if the policy interest rate is relatively high, the interest rate corridor

is also relatively wide; however, if the policy interest rate is cut, the interest rate corridor is also narrowed. This is clearly shown by the numbers: Romania set a ± 4 per cent and Poland a ± 1.5 per cent interest rate corridor to their respective 5.25 and 4.0 per cent policy interest rates. In contrast, in the Czech Republic, Sweden, the United Kingdom and Denmark, where policy interest rates are low, the interest rate corridor is only ± 0.2 – 0.75 per cent.

As the MNB’s (2009b) handbook also points out, the Hungarian banking system has structural liquidity, which also means that banks obviously use the overnight deposit facility to a larger degree than overnight loans. However, this correlation also implies that a wider interest rate corridor generates lower interest expenditure for the MNB, because the interest paid on deposits is lower. This means that a wider interest rate corridor that follows the European practice and is wider than the Hungarian policy interest rate would generate less interest expenses for the MNB. For example, if in the autumn of 2008 the MNB had widened the interest rate corridor pro-

portionately when it raised the policy interest rate from 8 to 11.5 per cent, it would have saved billions. In contrast, as we have mentioned previously, the MNB narrowed the interest rate corridor in October 2008 with the specific aim to “prevent credit institutions from incurring significant losses from managing liquidity in a more adverse environment” (MNB, 2009a, pp. 21–22). It is true that during the financial crisis the ECB and the central banks of several other European countries also narrowed down the interest rate corridor of their liquidity management facilities; however they reintroduced a wider interest rate corridor after the financial turbulence subsided (Bindseil – Jabłęcki, 2011). *Chart 4* shows the changes in the ECB’s interest rate corridor.

The Chart shows that at the end of 2008 the ECB reduced the width of the interest rate corridor drastically in order to improve the shaken liquidity of financial institutions. After the crisis the interest rate corridor was widened again and a smaller reduction was reintroduced when the policy interest rate reached a very low level. The ECB’s practice shows that the width of its interest rate

Table 9

ON OVERNIGHT DEPOSITS, INTEREST ON OVERNIGHT LOANS AND THE POLICY INTEREST RATE, USED BY THE CENTRAL BANKS IN SOME EU MEMBER STATES (JANUARY 2013)

(per cent)

Country	Interest on overnight deposit	Interest on overnight loan	Policy interest rate
Czech Republic	0.05	0.25	0.05
Poland	2.50	5.50	4.00
Latvia	0.05	3.00–6.00–9.00 ⁷	2.50
Romania	1.25	9.25	5.25
Sweden	0.25	1.75	1.00
Denmark	-0.20	0.20	0.00
United Kingdom	0.00	0.75	0.50
Hungary	4.75	6.75	5.75

Source: central bank websites

corridor is set in proportion to the policy interest rate, meaning that in the ECB’s practice a higher policy interest rate goes with a wider interest rate corridor.

Conclusions on the basis of our international comparison

The international comparison shows that the European Central Bank and all the countries under review aim to use their monetary instruments by keeping interest expenditure within reasonable limits, instead of subjecting them to the purpose of “having short term money market rates adjusted to the key policy rate” which basically focuses on the profitability of commercial banks. Monetary policy instruments serve monetary policy objectives only; central banks take on the

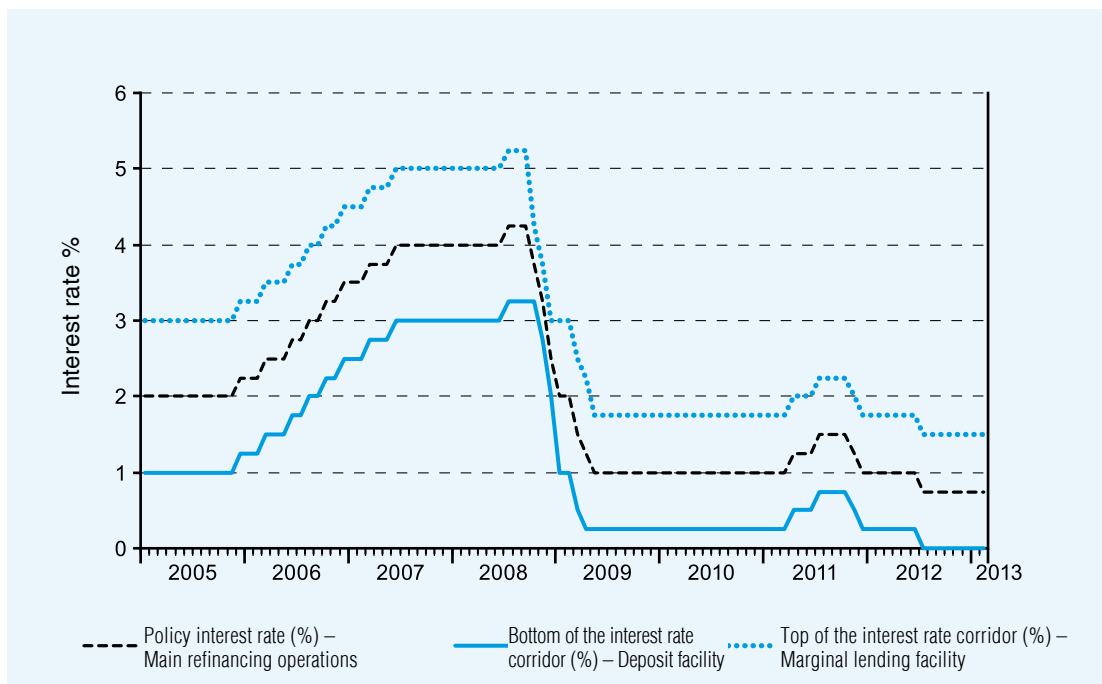
excess liquidity of the banking system as a whole, instead of the individual banks, thus encouraging commercial banks to trade with each other.

When compiling the study of the State Audit Office serving as the basis for this article, we consciously avoided making critical remarks on monetary policy, steering well clear of a scenario which would have suggested that the SAO exceeded its competences. However, in the present article we can elaborate – by sharing our private opinion – on the lessons learnt from the international comparison regarding the use of monetary instruments in Hungary.

The first lesson is related to the width of the interest rate corridor. The international comparison shows that other central banks set a relatively wider interest rate corridor compared to their policy interest rate, especially

Chart 4

THE POLICY INTEREST RATE AND THE INTEREST RATE CORRIDOR OF THE EUROPEAN CENTRAL BANK



Source: own chart, based on the data published on the ECB’s website

in the case of central bank deposits, in order to prevent commercial banks keeping their daily excess liquidity in the central bank, so that liquidity shortage/surplus is balanced out by the interbank money market. In Hungary the corridor is too narrow; therefore it does not act as sufficient incentive for commercial banks to go down the above route. The MNB itself had a study stating that in Hungary “at the moment, the role of the interbank markets responsible for redistributing HUF liquidity is significantly weaker than it would be in an ideal situation, and market participants prefer central bank instruments to interbank trading” (Molnár, 2010, p. 28). The author explains this with two reasons: the distrust and the uncertainty of market participants. Without disputing the above, we must point out that distrust and uncertainty are risk factors that commercial banks will not take on when they can use central bank facilities with a relatively small loss of interest, without any risks. The Hungarian interest rate corridor, which is rather narrow, compared to its international counterparts, is unfavourable not only because of the risks of its budgetary costs, but also weakens the adaptability of the entire banking system.

In our view, the option of unlimited two-week central bank bills similarly weakens the adaptability pressures of commercial banks. Buying two-week bonds from the central bank is a liquid and risk-free investment option for commercial banks, since by definition its interest rate is tied to the policy interest rate. The unlimited availability of this bill means that it would be expedient for commercial banks to invest in those instruments only, which provide better liquidity and yield, plus have less risk than the central bank bonds. Consequently, compared to more risky and less liquid investment alternatives, commercial banks will have higher yield expectations, meaning that they would only be willing to

invest their excess liquidity in the market into facilities that offer a high interest premium, such as government bonds. We are probably not mistaken when we say that – among other reasons – other central banks do not offer the unlimited sale of excess liquidity at the policy interest rate because they do not want to drive up the yield expectations of the commercial banks.

Using the balance correlations, the MNB’s analysts (for example Balogh, 2009) deduce that the growth of the state’s foreign currency reserves, resulting from the state’s indebtedness in foreign currency, inevitably leads to the increased volume of monetary policy instruments, especially the two-week central bank bill, which is used to finance this indebtedness. The starting point for the correct deduction is the fact that in the autumn of 2008 the Government Debt Management Agency Ltd decreased the issue of HUF nominated bonds, relying more on international borrowing instead.

Since then, however, the forint liquidity of Hungarian banks has improved considerably. The question arises whether this liquidity could be re-channelled into financing public debt in a more direct and a less expensive way by introducing a limit on the MNB’s two-week bills. This would make commercial banks interested in finding alternative investment options for their liquidity and buying government securities (treasury notes). Naturally, this could only be envisaged as part of a longer adjustment process, during which cheaper domestic borrowing would replace the more expensive external borrowing to finance public debt. Consequently, the reduction of foreign currency reserves would go hand in hand with the reduction of two-week central bank bills used to finance them. The aim would be to achieve a new equilibrium, where budgetary risks are mitigated, but the foreign currency reserves do not fall below the

necessary level. The new equilibrium has two driving forces: the cooperation between the central bank and the government debt management agency in choosing the optimal debt management instruments and the reduction of the commercial banks' yield expectations by introducing limits on the available central bank bonds.

CORRELATIONS BETWEEN MONETARY POLICY INSTRUMENTS AND THE FINANCING OF FOREIGN CURRENCY RESERVES

When financial markets operate in a well-balanced manner the central bank's liquidity regulation instruments do not generate either robust liabilities (deposits, central bank bonds) or large claims (loans) in the central bank's balance sheet; therefore these monetary instruments do not play a crucial role in the funding of central bank operations. It is an entirely different situation, however, if commercial banks tie up their excess liquidity in central bank facilities for a longer term and in larger volumes. In such a scenario the deposits they make and the bonds they purchase become important elements on the liability side of the central bank's balance sheet. Since this is the current situation in Hungary, our analysis cannot ignore the role of monetary instruments in the funding of foreign currency reserves. We wish to present this in *Table 10*, which provides a summary of the yearly changes in gold and foreign currency reserves (hereinafter: foreign currency reserves) and their key financing sources.

Data in the first row of the table show that between 2007 and 2011 Hungary's gold and foreign currency reserves grew by over HUF 1,000 billion every year. Data in the second row show that around 80% of this increase on the asset side was financed from external bor-

rowing (denominated in foreign currency) in 2008 and 2010 (IMF/ECB loan, net foreign currency inflow from the IMF's SDR allocation). In contrast – as shown by the data in row 3 – the growth of foreign currency reserves was financed from domestic borrowing (given in forint⁸) up to 90 per cent at the end of 2009 and 100 per cent at the end of 2011. The developments of the year 2009 should be mentioned, because this was the time when Hungary drew EUR 5.9 billion from the IMF/ECB loan facility. Having changed this into HUF and spent it, this amount appeared in the Hungarian economy as HUF liquidity, which was then tied up in the MNB's two-week bill. In four years the volume of domestic borrowing, financing foreign currency reserves, grew in total by HUF 4,000 billion (13 per cent of the GDP).

The year end HUF value of central bank liabilities, related to the three monetary instruments under review (deposits and bonds), appears as the "credit institution deposits" and "other deposits and liabilities" item in the MNB's balance sheet.⁹ The table shows that in 2009 foreign currency reserves grew by almost exactly the same amount as "other deposits and liabilities". Consequently, the increase in the volume of two-week central bank bills played a crucial role in the increase of the financing of foreign currency reserves (the radical drop in "credit institution deposits" is linked to the previously shown developments, according to which the volume of overnight central bank deposits grew to HUF 1,100 billion by the end of 2008, followed by a series of drops, taking it below HUF 600 billion by the end of 2009).

The 2011 growth in the financing of foreign currency reserves was due to the growth of several sources of domestic borrowing. First of all we have to clarify that out of the HUF 2,300 billion growth of the foreign currency reserves (given in HUF) HUF 900 billion

Table 10

**YEARLY CHANGES OF THE MNB'S FOREIGN CURRENCY RESERVES
AND THEIR KEY FINANCING SOURCES (2007–2011)**

(HUF billion)

Description		2007–2008	2008–2009	2009–2010	2010–2011
1.	Gold and foreign currency reserves	2,205	1,897	1,087	2,324
2.	Liabilities in foreign currency	1,639	133	816	–126
3.	Liabilities in HUF <i>from which:</i>	788	1,527	182	1,528
3/a	<i>central budget deposits</i>	–69	120	25	324
3/b	<i>credit institution deposits</i>	59	–366	75	487
3/c	<i>notes and coins in circulation</i>	105	–123	191	332
3/d	<i>other deposits and liabilities</i>	694	1,896	–109	385
4.	HUF exchange rate equalisation reserve	186	–5	185	909

Source: the MNB's annual reports

was the consequence of the depreciation of the forint. From the remaining HUF 1,400 billion, HUF 487 billion was financed from the volume growth of “credit institution deposits” and HUF 324 billion from the volume growth of “central budget deposits”. In total, the growth of foreign currency reserves was financed from the growth of the commercial banks’ HUF liquidity, tied up in monetary instruments, to the tune of HUF 870 billion.

The table reveals a contradiction, namely that while the government tried to stimulate the economy in 2011, there was a significant HUF 324 billion increase in “central budget deposits”. This also includes single items (such as a large transfer from the European Union). The central bank pays the state interest on the deposits, which is equivalent to the policy interest rate; however, the excess liquidity of the budget generates a loss for the national economy (the cost of funds inevitably exceeds the yields of the instruments).

It goes against the normal operation of the economy that the volume of “notes and coins

in circulation” grew by HUF 332 billion, continuing the 2010 trend, when the volume of notes and coins in circulation increased by HUF 191 billion. There was a sharp increase in notes of large denomination in particular, which supports the assumption of the MNB’s experts that cash in circulation was increased with the purpose of accumulating liquid assets, meaning that a large number of citizens, having lost their trust in the banking system, wished to keep their savings in cash (the Government Debt Management Agency Ltd only started promoting the role of household savings within the financing of public debt in 2012).

The above findings reveal that in 2011 in Hungary households, companies and the state also assumed the role of saver and their savings ultimately and inevitably contributed to the growth of the MNB’s funds. In 2011 the growth of foreign currency reserves was basically financed from the savings of domestic economic operators. It can be deduced from the balance correlations of the macroeconomy

that if all economic operators start saving, while a significant surplus is achieved in the foreign trade balance and foreign exchange debt is paid off from foreign exchange bonds, savings will be manifested in the growth of foreign currency reserves. It should be noted that the MNB was able to finance this significant growth of the foreign currency reserves from borrowings, the interest of which was equal to or even lower than the policy interest rate. Not to mention the growth of cash holdings in excess of HUF 330 billion, which is basically free borrowing for the MNB. In spite of the fact that the MNB only managed to avoid a negative balance by generating a HUF 100 billion exchange gain from the sale of foreign currency at the end of the year.

BUDGETARY RISKS IN THE COMING YEARS

The significant growth of foreign currency reserves between 2009 and 2011 increases the risk of the MNB's negative balance in itself, because the larger the volume of the foreign currency reserves, the greater the difference between the interest income on the loans from foreign currency reserves and the interest expenses on the borrowings for the foreign currency reserves. The European Commission noted this budgetary risk in its 2012 autumn forecast. According to the Commission's forecast, the MNB will have a negative balance in 2013; therefore the central budget will have a payment obligation in 2014 which will be equal to almost half a per cent of the GDP (HUF 150 billion). As a result, the European Commission's (2012) forecast predicts that by 2014 Hungary's budget deficit will increase to 3.5 per cent of the GDP. A similar deficit is foreseen by the MNB itself, noting that the main reason for this deficit is the growth of the foreign currency reserves (MNB, 2012, p. 58).

We also have to point out two additional risk factors, arising from the situation, analysed in our study. The first is that the MNB will only be able to finance a smaller amount of the foreign currency reserves from borrowings with an interest rate that is equal to or even lower than the policy interest rate. For example the deposit volume of the central budget will shrink, cash holdings will decrease again and the forint liquidity of commercial banks will become tighter. The other risk factor is that the growth of the foreign currency reserves occurred at a time when the forint was relatively weak. Consequently, the average purchase rate of the foreign currency reserves has become higher. As a result the MNB will be able to realise a relatively smaller exchange gain on the sale of foreign currency, compared to when most of its foreign currency reserves were purchased with a stronger forint. At the same time, however, the risk of a negative balance is mitigated by the lowering of the central bank's policy interest rate.

In light of the risk of a negative balance it is paramount to consider whether solutions that mitigate interest expenses should be used with the monetary instruments, following the example of several European central banks.

It would be interesting to explore the possibilities of better harmonising the use of public debt financing instruments and monetary policy instruments in order to optimise the costs of their joint utilisation. What do we have in mind? We think that if the foreign currency borrowings of the state exceed its foreign currency repayment (and payment) obligations, this will increase the foreign currency reserves. Financing larger foreign currency reserves is a direct loss for the MNB and an indirect loss for the central budget. This extra expenditure should be considered when choosing instruments to finance public debt even if it appears indirectly and not immediately among central budget

expenses. In our view, considering the current safe amount of foreign currency reserves, cost-efficiency on a national economy level should be given a higher priority when deciding on the financing of public debt.

There is another risk, posed by a higher average purchase rate for foreign currency reserves, related to the “HUF exchange rate equalisation reserve” becoming negative, because the reserve will be reduced at a time when the HUF exchange rate is higher. This is the most severe budgetary risk, because if the international perception of the Hungarian economy improves and as a result the forint gradually becomes stronger, the decrease in the forint value of the large foreign currency reserves could lead to a situation in a few years, where the central budget has to top up the MNB’s “HUF exchange rate equalisation reserve” in the amount of hundreds of billions of forints. A stronger forint could also lead to the deficit of the foreign currency securities equalisation reserve in a short time and – as seen before – the MNB’s accumulated profit reserve might not be able to throw a lifeline with its balance being positive enough to cover the negative balance of the two other funds.

It should be stressed that the above does not mean that the MNB’s management or the performance of the Hungarian economy are bad. On the contrary, serious payment obligations, related to monetary policy and accumulating foreign currency, will arise when the Hungarian economy starts to grow. The problem is that these payment obligations decrease the debt ratio and force the Fiscal Council to approve the budget appropriation bill only if the balance of the current budget improves with the amount that corresponds to the above-mentioned payment obligation.

This, however, could lead to austerity measures which would curb economic growth.

The debt rule “trap”

We have to point out here that a dangerous “growth trap” is hidden in the current debt rule. What is it? It is the fact that Act CXCV of 2011 on the Financial Stability of Hungary prescribes to calculate the public debt ratio by intentionally filtering the effect of the exchange rate out of the debt Chart forecasts, since it stipulates that debt components denominated in foreign currency shall be used in the calculations at a uniform exchange rate. Legislators obviously wanted to eliminate an uncertainty factor from the strict regulation and avoid setting an impossible requirement in a situation where the forint weakens and the forint value of the foreign currency denominated public debt increases. In this case, however, a stronger forint will not improve the debt ratio. This, in itself, would not be a problem. The difficulty is that a steady HUF gain sooner or later would inevitably lead to the negative balance of the MNB’s “HUF exchange rate equalisation reserve”, thus generating a payment obligation for the budget, but the exchange rate effect, with which it could be counteracted, is not included in the debt ratio. Consequently, in the case of a significant and steady HUF gain, there is a high risk that the current debt rule could be observed only if other areas of the economy achieve savings to the tune of hundreds of billions. This would slow down economic growth. Therefore it would be advisable to reconsider the calculation method of the public debt ratio, taking into account the risk factors revealed in our study.

NOTES

- ¹ Difference between the MNB's claims and liabilities denominated in foreign currency, calculated according to the official exchange rate and the average purchase rate.
- ² Difference, determined on the basis of the market valuation of claims in foreign currency securities.
- ³ "The financial result of the Bank is primarily determined by the domestic and international macroeconomic developments and the objectives of the monetary policy along with the measures taken, consequently this Chart is not a reliable tool for measuring the success of central bank operations." (MNB, 2009a, page 9)
- ⁴ "According to the projection updated in the Quarterly Report on Inflation, due to the expected 2011 loss of the MNB, the central budget will have a HUF 94 billion loss refund obligation in 2012. Compared to this year, this represents an additional expenditure in the cash-based balance: in the multi-year outlook prepared for the 2011 budget appropriation bill the government has not planned any appropriation for this purpose, and the effect of the refunding of the loss was not included in the convergence programme disclosed last spring either." (MNB, 2011a, page 24)
- ⁵ In the case of the MNB the fixed rate is the policy interest rate and for the ECB it is the interest rate for the main refinancing operations (MRO).
- ⁶ The maximum interest on deposits is the interest of the ECB's main refinancing operations (MRO), which is currently 0.75 per cent.
- ⁷ Interest rates are differentiated by the bank according to the number of working days a particular monetary policy instrument was used in the previous 30-day period: less than 5 working days, no more than 10 working days, more than 10 working days.
- ⁸ The two notions should be differentiated, because foreigners also have HUF deposits.
- ⁹ These are year end data on the volume, compared to the data on the average volume – previously shown in our analysis – which have a stronger correlation with the interest expenditure.

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