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Central Bank Profitability and Budget Deficit

SUMMARY: This paper investigates central bank profitability primarily focusing on its impact on the government budget. It compares the accounting profit of the four euro area countries running the highest debt and three new EU Member States in the period 1999–2013 following the introduction of the euro. The analysis points out that despite autonomous monetary policy and higher seigniorage revenue, countries with higher levels of (external) government debt, such as Hungary, are often faced with central bank losses. The paper summarises and systematises the main findings of the 2013/I thematic issue of the *Public Finance Quarterly* titled “Monetary Policy” on the relationship between the National Bank of Hungary (MNB) and the budget. Furthermore, it delineates the European Union’s relevant recognition rules and evaluates the domestic processes in an international context by describing the profitability of the ECB and the selected European central banks.

KEYWORDS: central bank, budget, government debt

JEL CODES: E58, M48

In their assessment of the advantages and drawbacks of introducing the euro, *Csajbók* and *Csermely* (2002) pointed out, similarly to other Central European monetary policy professionals, that as a result of abandoning its autonomous monetary policy, a central bank joining the euro area will incur losses by losing the seigniorage from the issue of national currency. A central bank with an autonomous currency may indeed earn a higher interest income on its operations relating to the monetary base than a euro area central bank, but ultimately this will not necessarily be reflected in its accounting profit.

Following the identification of the key factors determining the profitability of the ECB, and a brief explanation of the requirements for accounting and recognition to be met by euro area central banks, we examine the profitability of the National Bank of Hungary as well as that of the central

banks of seven euro area countries over the 15 years since the introduction of the euro. Such examination is justified by the fact that under certain conditions, central bank profits may also be used to reduce the government deficit indicator in an excessive deficit procedure, and as such, they could generate savings for public finances, while guaranteeing the independence of the central bank from the budget.

APPROACHES TO SEIGNIORAGE

Seigniorage may be quantified in three ways:

- ① based on the annual real growth rate of the monetary base;
- ② in a fiscal approach to seigniorage, i.e. as central bank revenue from the interest rate spread of central bank assets and liabilities corresponding to the monetary base;
- ③ as profits made on the total asset holdings of the central bank (including currency operations), which may be paid into

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the budget and is thus also quantifiable in accounting terms (Walsh, 2010).

The first two approaches bear relevance to economics and are respectively referred to in literature as the monetary and fiscal approaches to seigniorage (Czeti – Hoffmann, 2006). For practical reasons, the starting point of our paper is the statistics of the third approach as the annual profits of central banks are publicly available data, but reference is also made to the euro area’s approach to seigniorage. At the same time, we point out why the Central Bank of Hungary, despite its autonomous monetary policy and seigniorage understood in the traditional sense (arising from the growth of the monetary base), failed to improve the balance of the budget in the period under review.

RECOGNITION OF CENTRAL BANK PROFITS IN THE BUDGET UNDER EU REGULATIONS (ESA 95)

In a given year, the operations of a central bank may be profitable provided that the central bank, like any other financial institution, manages the assets in its portfolio effectively. Naturally, in the case of a central bank, assets and liabilities are primarily managed to meet monetary policy targets rather than to generate profit; however, successful management could indeed have an impact on the balance of public finances. The extent to which the profits may be recognised in statistical terms is relevant for our purposes in light of the ESA 95 methodology used across the EU, which is the prescribed basis for the calculation of the Maastricht indicators of government deficit and government debt.

The ESA 95 also contains strict provisions in this respect. Its basic principle is that dividends and tax revenues paid by the central bank into the budget cannot be recognised as items

to reduce deficit, i.e. as general government revenue, to the extent that such dividends and tax revenues result exclusively from financial transactions and are not generated by means of production or income distribution. Otherwise the central bank might be inclined to engage in such operations specifically for the purpose of reducing deficit. In turn, the central bank may incur occasional losses by generating interest income or other capital gains that provide insufficient coverage for its operating expenses. In such cases, the central bank may need to be recapitalised using general government funds as opposed to the central bank contributing to public finances through dividend payments.

Within central bank profits, capital gains (e.g. foreign exchange gains) need to be treated separately by determining the net operating surplus, which does not include the former, being comprised only of the central bank’s interest income and other operating revenues and expenses. In the euro area and in countries which are not members of the monetary union but have adopted the euro area’s practice for the recognition of central bank profits, this is done by deducting the item “net result of financial operations, write-downs and risk provisions” from the net profit or loss. Obviously, for compliance with the practice of recognition adopted by the EU, each Member State must employ some method to deduct the estimated and actual profit and loss of financial transactions for the calculation of operating surplus.

The profit transferred by the central bank, to which the state is eligible as a shareholder, is to be recognised as income on assets among the items of public finances if it is equal to or less than the net operating surplus. If it is greater, only the net operating surplus may be recognised as income, while any additional dividends paid in are to be recognised as a withdrawal of equity. The same applies to

the euro area, where the profit of the ECB may represent several governments' revenue at the same time; in such cases, the profit is to be split by each Member State, at the ratio specified by its central bank, between income on assets and withdrawal of equity. Where owing to its capital loss, the central bank does not distribute the entire net operating surplus as dividends, the difference cannot be recognised in government statistics as an increase in participating interest. Outside the euro area, the practice of dividend payments varies by Member State: in some cases the government is eligible to a certain percentage, while elsewhere national central banks (NCBs) determine the rate of payments based on the levels of reserves and provisions. Where corporate income tax is paid on the profit of the central bank, such payments shall be recognised as income tax or property tax.

The transfer to the government of income from the sale of gold and foreign exchange reserves cannot be used for the reduction of deficit but, qualifies as a withdrawal of equity regardless of the form of payment (whether as tax or dividend). The separate treatment of this item is also justified by the fact that it represents national assets and not simply those of the central bank. This also explains the possibility that even if the government does not qualify as a shareholder of the central bank under the laws of the country concerned, it may nevertheless be eligible to income from the sale of foreign exchange reserves.

With banknotes remaining in circulation, the procedure is similar to that of gold and foreign exchange reserves. Where previously issued banknotes are no longer valid, accepted as legal tender or expected to be exchanged and the central bank consequently writes off the relevant liabilities, the item will be recorded as a positive entry on the government's other equity account, provided that it receives the item in the form of a regular income transfer.

The operation has no impact on government deficit and government debt. By contrast, pursuant to the provisions of the excessive deficit procedure, the coins remaining in circulation, while having no impact on deficit, may influence government debt, but only in the case of a coin replacement where the old coins were recorded as the liability of the government (rather than that of the central bank) and can still be exchanged to new coins (government debt will obviously increase by the amount actually exchanged).

The ESA 95 contains no specific provisions concerning the recognition of loss payments to central banks, but dedicates a subchapter to take account of the capital transactions related to state-owned (public) undertakings, including central banks. Pursuant to the provisions therein, as a general rule if a state-owned company receives a capital injection from the government in the form of an unrequited non-financial capital transfer, the transaction will have a negative impact on the balance of public finances. Such capital transfers occur when the government

- ① does not receive assets of equivalent value in exchange;
- ② cannot expect an investment carried out funded by government support to generate a meaningful return (one that may be expected in the private sector from a similar investment, or is at least equivalent to the interest on long-term bonds);
- ③ the beneficiary has been making losses for an extensive period (in which case bond purchases by the government may also represent a capital transfer).

Even then, the operation qualifies as a non-financial transaction only if its sole purpose is to cover the loss and its amount does not exceed the loss covered (otherwise it will be recorded as a financial transaction).

Naturally, any loss payment to NCBs mostly involves non-financial transactions,

and as such it influences the (primary) balance of public finances.

RECOGNITION OF THE MNB'S PROFIT IN THE BUDGET

The national rules for settlements between the MNB and the budget are specified in a government decree¹, which requires the accumulated profit reserve to include “the amount transferred to cover the loss for the year and paid directly by the central budget, the shareholder’s capital transfer credited to retained earnings, as well as the amount of revenues from the fines imposed by the MNB that has not been used for the purposes set out in the MNB Act.” [Article 5(8).] The profit/loss for the year is the part of the MNB’s annual profits that is not used for the payment of dividends. However, the budget does not only provide a capital transfer to cover the loss for the year (where it is not covered by retained earnings), but covers essentially all components of the MNB’s equity in case their balance should become negative. The central budget is required to credit retained earnings with the combined negative balance of the separately calculated Revaluation reserves due to exchange rate changes, which under the MNB Act include the foreign exchange gain/loss resulting from the revaluation of the central bank’s claims and liabilities due in foreign currency at the official rates applicable on the last day of the year, and Revaluation reserves of foreign currency securities, which include the difference resulting from the market valuation of claims on securities due in foreign currency (MNB Act, Articles 146 and 147), or, before the effective date of the 2011 Central Bank Act, their separate negative balances. Such a loss payment may be made up to the negative balance of the

two revaluation reserves provided that the balance of the profit/loss for the year and retained earnings is negative, otherwise up to the amount above the positive balance of the former two items.

The dividend payments of the MNB also depend on the balance of the revaluation reserves. Namely, the central bank may only pay dividends to its shareholder on the amount of the annual profits or retained earnings above the negative balance of the reserves; however, interim dividends are never paid.

Consequently, similarly to the rest of Europe’s central banks, foreign exchange gains resulting from MNB’s operations cannot generate budget revenues, while in Hungary, foreign exchange losses incurred by the central bank typically add to the budget deficit. (*See Table 1*)

THE ECB'S PROFITABILITY IN THE PAST FIFTEEN YEARS

The ECB’s operations to date have demonstrated the consistent strength of the central bank of the euro area.

The three main drivers of the profitability of the ECB and the Eurosystem controlled by it have been portfolio management and the underlying financial market developments, the operations implemented during the global financial crisis, and banknote issuance (Vergote et al., 2010). Throughout its operations to date, the ECB has maintained its financial independence and its reserves (its provisions in particular) have been sufficient to offset losses; it was forced to offset its losses against Eurosystem monetary income only in 1999 and 2004 (Vergote et al., 2010). In other years, there was no need to compensate for foreign exchange losses, which were prevented by the strict accounting system of the European System of Central Banks (ESCB); it could

MNB'S STYLISTED BALANCE SHEET	
ASSETS	LIABILITIES
I. Claims in HUF	VI. Liabilities in HUF
1. Claims on the central government (HUF government securities)	1. Central government deposits
2. Claims on credit institutions (O/N and longer-term loans, swaps, debentures, etc.)	2. Deposits by credit institutions (minimum and excess reserves, O/N deposits)
3. Other claims	3. Banknotes and coins in circulation
II. Claims in foreign currency	4. Other deposits and liabilities (two-week MNB bill, swaps)
1. Gold and foreign currency reserves	VII. Liabilities in foreign currency
2. Claims on the central government (foreign currency government securities)	1. Central government deposits
3. Claims on credit institutions	2. Deposits by credit institutions
4. Other claims in foreign currency	3. Other liabilities in foreign currency
III. Banking assets	VIII. Provisions
IV. Prepaid expenses/accrued income	IX. Other banking liabilities
	X. Accrued expenses/deferred income
	XI. Equity
	1. Share capital
	2. Retained earnings
	3. Valuation reserves
	4. Revaluation reserves due to exchange rate changes
	5. Revaluation reserves of foreign currency securities
	6. Profit/loss for the year
V. Total assets	XII. Total liabilities and equity

Source: MNB

rely on its revaluation accounts as a buffer against losses on foreign reserve holdings. In accordance with the accounting rules of the euro area, the ECB also uses its revaluation accounts to record revaluation arising from exchange rate developments, the net value of which is recorded separately for each asset, i.e. not netted against the valuation gains or losses on other assets. This does not involve the realisation of any actual gains or losses except

where the losses exceed the previous valuation gains, and consequently the item is recorded as a realised loss. In such cases, the market value of each item is compared to its “average cost”, i.e. average purchase price.

Over the past fifteen years, the ECB realised a profit on euro-denominated items due to the reinvestment of their provisions or previously generated income. The portfolio created from the ECB's own assets derives

its funds from provisions (for exchange rate, interest rate and gold price risks), the general reserve and previously accumulated central bank surpluses. Overall, the ECB aims to use these to outperform a benchmark return (such as the interest on the MRO, its main refinancing operation and policy instrument). Such items are invested in euro-denominated assets and recorded as other assets. (In the frames of its securities markets programme and its two programmes for the purchase of covered bonds, the ECB engaged in the intense purchasing of euro-denominated assets during the crisis). As part of its extra liquidity operations, the ECB tripled the size of its balance sheet during the crisis. The ECB coordinates the monetary policy of the euro area, to be implemented by the NCBs, which also announce open market and credit operations mostly through tendering. Nevertheless, the ECB participates in auxiliary operations that help the NCBs to access foreign-denominated liquid funds. In this way, it intermediated between the FED and the NCBs by means of a swap transaction, which affected its balance sheet in the form of claims on the NCBs on the asset side, and in the form of EUR liabilities to the FED.

The ECB is responsible for 8 per cent of all banknote issuance (until 2001 banknotes were issued only by the NCBs), the stock of which has approximately quadrupled in the Eurosystem since the EMU was established. The ECB first realised a profit on banknote issuance in 2002. The ECB charges the interest rate of the MRO (its policy interest rate) on its main lending operation, and it pays the same interest on minimum reserves (as do euro area NCBs). It pays no interest on excess reserves (and, obviously, on banknotes), which is the source of its seigniorage revenue in the economic sense. Between 2005 and 2007, the ECB allocated its income from seigniorage for its risk provision and general reserve.

The foreign reserve holdings of the NCBs with the ECB create interest exposure as a result of the interest rate spread between interest on asset side items (mainly USD) and EUR liabilities on liability side items. The ECB's foreign currency reserves accounted for 66 per cent of its balance sheet in 2002, which dropped to 35 per cent by 2006 owing to the increase in banknote issuance (Vergote et al., 2010).

For up to 20 per cent of its profits for the given year, the ECB makes payments into the general reserve fund (limited to 100 per cent of the subscribed capital), and pays dividends to member banks (NCBs) in proportion to their paid up shares, while its losses may be offset against Eurosystem monetary income in addition to the general reserve (ESCB Statute, Article 33). (This occurred in 1999 due to losses incurred on securities and in 2004, when subscribed capital was at risk in the absence of adequate reserves.) The Statute of the ESCB and of the ECB refers to monetary income as "annual income derived from its assets held against notes in circulation and deposit liabilities to credit institutions" (ESCB Statute, Article 32). The sum of the national central banks' monetary income is allocated to the national central banks in proportion to their paid up shares in the capital of the ECB. The clearing and settlement of the balances arising from the allocation of monetary income is carried out by the ECB. This is subject to authorisation by the Governing Council. Each Member State subscribes capital weighted by a key equal to the sum of 50 per cent of the share of the Member State in the population of the Union and 50 per cent of its share in the EU GDP at market prices, as recorded preceding the establishment of the ESCB (ESCB Statute, Article 29). The ECB's subscribed capital is automatically increased when the central bank of a new Member State joins the ESCB. (Non-member banks paid 5

per cent originally and 7 per cent as of 2004.) The ECB's losses may be offset against its subscribed capital as a final buffer.

The purpose of the ECB's risk provision is to safeguard against losses arising from exchange rate, interest rate and gold price risks. Its advantage over revaluation accounts is that it can be allocated faster. In 2010, in connection with its programme for the purchase of covered bonds, the ECB also made such allocations for credit risk. (The Governing Council adopted a decision on the extension of the reserve.) The sum of the general reserve and the risk provision may not exceed 100 per cent of the capital subscribed by the euro area NCBs unless dividends are to be distributed to the NCBs (ECB, 2013).

Euro area NCBs make transfers to their own revaluation accounts and general reserves (and obviously, retained earnings) in a similar manner; however, no restrictions apply to other reserves and provisions (except for credit and counterparty risk) or dividend payments against own profits (Guideline, 2010).

FACTORS DETERMINING THE PROFIT-MAKING CAPACITY OF EURO AREA NCBs AND MNB

In addition to the differences in the rules of accounting and recognition applied in the euro area (arising primarily from the different treatment of revaluation reserves in comparison with Hungarian regulations), the profitability of NCBs outside and within the euro area is influenced in various ways by another three key factors. Firstly, the euro area NCBs are responsible for the issuance of banknotes but not that of coins, unlike most non-euro area countries (such as Hungary, where the National Bank of Hungary is also responsible for coin issuance). Secondly,

euro area central banks pay the interest of MRO, the ECB's policy instrument, on the minimum reserves held by commercial banks. Outside the euro area, the range of underlying instruments is wide. Before the introduction of the euro, the instrument used for this purpose was the interest rate ceiling of the two-week repo tender in Slovakia and the price of the currency swap in Slovenia. In Hungary, the policy instrument was the two-week MNB bill until the middle of the year (converted into a two-week MNB deposit as of August, its original function before 2007), the interest of which is also paid by the central bank on the minimum reserve. The minimum reserve rate is 1 per cent across the euro area (2 per cent before 2012), whereas in Hungary it varies between 2 and 5 per cent subject to the decision of the credit institution concerned. Thirdly, euro area Member States are less exposed to exchange risk and exchange rate volatility partly because of their weak dependence on non-euro area economies and currencies for the financing of their government debt, as opposed to economies in Central Europe, which have a major part of both private and public debt denominated in foreign currencies. Additionally, euro area central banks deposit a part of their foreign reserve holdings with the ECB in proportion to their participating interests, and are also paid the MRO interest rate on their balances. The MRO interest rate fluctuates around the rate at which the banks otherwise record interest revenues on foreign reserve holdings (USD or JPY). In the case of non-euro area economies, the interest on foreign reserve holdings obviously falls short of the interest rate levels of domestic assets and liabilities. Moreover, in addition to the dividends collected from the ECB, euro area central banks generate interest income from their claims on the euro area (such as TARGET 2 balances). (*See Table 2*)

Table 2

STYLISTED BALANCE SHEET OF NCBS (EURO AREA CENTRAL BANKS)	
ASSETS	LIABILITIES
1. Gold and foreign currency reserves	1. Banknotes in circulation
2. Claims on non-euro-area residents denominated in foreign currency	2. Liabilities to euro-area credit institutions related to monetary policy operations denominated in euro (O/N deposit facility, other deposits)
3. Claims on euro-area residents denominated in foreign currency	3. Other liabilities to euro-area credit institutions denominated in euro
4. Claims on non-euro-area residents denominated in foreign currency	4. Liabilities to other euro-area residents denominated in euro (general government deposits, other liabilities)
5. Lending to euro-area credit institutions related to monetary policy operations denominated in euro [MRO, longer-term refinancing, marginal (O/N) lending facility]	5. Liabilities to non-euro-area residents denominated in euro
6. Other claims on euro-area credit institutions denominated in euro	6. Liabilities to euro-area residents denominated in foreign currency
7. Securities of euro-area residents denominated in euro (government securities, covered bonds)	7. Liabilities to euro-area residents denominated in foreign currency
8. Claims on the Federal Government	8. Counterpart of special drawing rights allocated by the IMF
9. Intra-Eurosystem claims (participating interest in the ECB, transfer of foreign reserves to the ECB, TARGET 2 balances)	9. Intra-Eurosystem liabilities (ECB debt certificates, other)
10. Items in course of settlement	10. Items in course of settlement
11. Other assets (coins, fixed assets, other financial assets, accruals and prepaid expenses etc.)	11. Other liabilities (accruals and income collected in advance, off-balance-sheet instruments revaluation differences)
	12. Provisions (for exchange rate, interest rate and gold price risks)
	14. Equity and reserves (capital, statutory reserves)
	15. Profit/loss for the year
V. Total assets	XII. Total liabilities and equity

Source: Bundesbank

THE PROFITABILITY OF SEVEN EURO AREA CENTRAL BANKS AND THE MNB SINCE THE INTRODUCTION OF THE EURO

An overview of the accounting profits of the central banks under review (the four euro area Member States running the highest debt as well as Slovenia and Slovakia, which

adopted the euro recently) based on the reports of the past fifteen years (*see Tables 3 and 4*) shows that in terms of data as a percentage of GDP, Ireland and Spain have fared the best. Owing to the positive result achieved each year, they have been able to make significant contributions to their respective budget balances, resulting in

average balance improvements equivalent to about 0.3 per cent of GDP. Additionally, in recent years they have continuously improved their profitability. Interestingly, the profit of Ireland's central bank shows the closest correlation with the dividends collected from the ECB ($r=0.646$). The financially least successful NCB has been that of Portugal, the profits of which have been out of step with ECB results, and where the distribution of income to the budget is subject to highly complex regulations. While the Irish and Spanish central banks pay their entire profits into their respective budgets (following transfers to reserves) and the Spanish central bank also pays interim dividends during the year, Portugal imposes an income tax on central bank profits, but then only 50–60 per cent of the profits after tax are paid into the budget (Tables 3 and 4 show the aggregate balances of all taxes and dividend payments).

Among the new EU Member States under review (Slovakia, Slovenia, and Hungary), the performance of Slovakia has been the most volatile. However, its central bank profits did not fall in the aftermath of adopting the euro: after 2001, the first positive results were posted in 2009, the first year of the country's EMU membership. This was followed by two years of losses, then the National Bank of Slovakia closed 2012 and 2013 again as a winner of the euro area. Despite the recent years' positive accounting profits, it has not paid dividends to the government since 2001 (other than paying a nominal amount as tax on profit), but it has not placed a burden on public finances either, because instead of relying on the central budget, it used its own retained earnings to top up its revaluation accounts. Over the past 15 years, the Slovenian NCB, Banka Slovenije has also shown a highly imbalanced financial performance. Thanks to its strict and committed fiscal and monetary policy, it was the first among the countries of

Central and Eastern Europe to join the euro area. Then, in the first years following the adoption of the single currency, its profits deteriorated significantly, due primarily to the requirements of the euro area for revaluation and provisions, and the exchange of the previous national currency (tolar). In the past five years, its profitability has already been improving, but the central bank's accounting profit as a percentage of GDP is still at a mere third (half, at best) of the levels seen before 2001. However, as the Slovenian central bank paid only a fraction of its profit into the budget even before the adoption of the euro, the revenues of the budget have essentially remained unaffected by EMU membership. Since the general reserve provided sufficient coverage to finance its deficit even in the years of losses, there has been no need to recapitalise Banka Slovenije.

During the crisis, euro area NCBs made a profit on the excess liquidity provided to commercial banks. This is because commercial banks mostly borrow at MRO rates, while frequently holding the surplus in O/N deposits, which pays interest at a lower rate. The extra liquidity generated higher profits, but also involved a higher level of risk. Consequently, the overall effect of the crisis on central banks' income was not unambiguously positive or negative. In addition to the general reserves, risk provisions and revaluation accounts, which are also allocated by the ECB, the NCBs also set up a joint risk provision fund during the crisis, because the bankruptcy of some commercial banks caused the central banks to incur losses on refinancing operations.

In the period under review, the profitability of the MNB was rather diverse, which is primarily owed to the volatility of the forint. As explained later in more detail, foreign-denominated low-interest assets were set against the central bank's liquidity-absorbing operations with returns equivalent to the base

CENTRAL BANKS' PROFITS (+) AND LOSSES (-) 1999–2013

Year	Ireland			Portugal			Spain			Greece			Slovenia			Slovakia			Hungary			
	Central bank profit	Transfer to budget	Dividends from ECB	Central bank profit	Transfer to budget	Dividends from ECB	Central bank profit	Transfer to budget	Dividends from ECB	Central bank profit	Transfer to budget	Dividends from ECB	Central bank profit	Transfer to budget	Dividends from ECB	Central bank profit	Transfer to budget	Dividends from ECB	Central bank profit	Transfer to budget	Dividends from ECB	
1999	24,800	213,400	-1,988	55,144	27,596	-4,566*	4,153,530	4,063,830	-24,750	337,976	306,051	0	206,677	1,234	0	963,260	956,161	0	139,858	139,273	0	0
2000	520,507	451,303	17,222	56,229	28,189	39,380*	5,855,260	5,758,700	0	496,688	451,534	0	219,943	16,025	0	173,443	172,457	0	55,695	77,342	0	0
2001	563,027	530,639	15,230	77,397	38,755	34,714*	4,841,550	4,793,490	179,370	506,300	457,900	37,000	159,638	9,666	0	53,718	46,212	0	14,194	108,079	0	0
2002	828,557	823,719	12,775	89,886	58,053	14,389	2,371,680	2,196,250	226,580	213,236	155,993	31,000	82,123	17,958	0	-581,722	17	0	-20,110	-245,201	0	0
2003	69,041	321,725	0	69,043	69,896	14,590	1,995,000	1,947,470	67,470	218,260	172,418	0	-83,351	3,229	0	-757,654	16	0	309,376	0	0	0
2004	122,474	103,022	-17,500	70,033	61,920	-33,562	791,130	808,950	-147,920	205,605	153,345	-36,095	21,373	11,845	0	-906,721	5	0	-169,936	-4,419	0	0
2005	121,971	109,181	0	120,294	60,676	495	2,894,600	1,265,260	0	228,459	150,121	0	161,136	16,112	0	-17,177	0	0	-86,358	-59,730	0	0
2006	110,155	98,496	0	188,476	165,476	0	1,955,830	1,447,570	0	244,635	160,725	0	-85,319	10,409	0	-1,211,876	0	0	55,139	-77,954	0	0
2007	228,001	192,816	0	281,790	240,857	0	2,026,930	2,004,980	0	284,684	180,878	0	-36,443	11,600	0	-576,284	0	0	-65,972	-11,136	0	0
2008	364,212	290,054	16,857	349,230	371,660	29,645	2,126,840	2,090,190	130,600	225,084	0	34,500	-29,719	0	6,000	-1,182,778	2	0	-21,725	0	0	0
2009	933,805	745,496	36,858	254,033	255,693	22,608	2,749,070	2,673,180	106,290	228,161	147,093	63,500	103,566	25,900	3,700	70,588	1	7,821	233,803	0	0	0
2010	840,885	671,029	2,719	198,373	239,125	36,769	2,577,730	2,570,000	174,430	190,452	126,804	4,800	38,184	9,500	7,000*	-525,173	0	14,565	-150,926	-105,786	0	0
2011	1,200,247	958,343	10,350	31,165	219,467	20,596	2,415,660	2,400,130	97,710	96,637	80,000	20,400	17,105	4,300	3,100	-76,734	0	8,158	48,674	0	0	0
2012	1,437,392	1,147,628	10,330	449,154	359,649	16,280	3,871,560	3,845,230	77,230	318,650	305,300	16,100	131,910	32,978	2,700	199,439	0	6,449	-137,635	0	0	0
2013	1,518,137	1,212,110	28,600	253,013	277,035	45,320	3,186,330	3,147,580	162,520	831,150	817,800	38,366*	50,390	27,413	6,400	489,846	1,374	17,746	88,574	0	0	0

Note: * estimated values based on participating interests in the ECB's registered capital (original data not available). Data available in Slovak koruna, Slovenian tolar and Hungarian forint were converted to euro based on the official Eurostat exchange rates.

Source: annual reports of the central banks under review, 1999–2013 [in EUR thousands]

Table 4

**CENTRAL BANKS' PROFITS (+) AND LOSSES (-) AS A PERCENTAGE OF GDP,
AND THE BALANCE OF THE GENERAL BUDGET, 1999-2013, 2013**

Year	Ireland			Portugal			Spain			Greece			Slovenia			Slovakia			Hungary					
	Central bank profit	Transfer to budget	Balance of public finances	Central bank profit	Transfer to budget	Balance of public finances	Central bank profit	Transfer to budget	Balance of public finances	Central bank profit	Transfer to budget	Balance of public finances	Central bank profit	Transfer to budget	Balance of public finances	Central bank profit	Transfer to budget	Balance of public finances	Central bank profit	Transfer to budget	Balance of public finances			
1999	0.0274	0.2354	2.6	0.0465	0.0233	-3.1	0.7162	0.7007	-1.3	0.2868	0.2597	n/a	0.9911	0.0059	-3	5.0190	4.9820	-7.4	0.3089	0.3076	-7.4	0.3089	0.3076	-5.5
2000	0.4927	0.4272	4.9	0.0442	0.0221	-3.3	0.9295	0.9142	-0.9	0.3601	0.3274	-3.7	1.0214	0.0744	-3.7	0.7867	0.7822	-12.3	0.1106	0.1537	-12.3	0.1106	0.1537	-3
2001	0.4791	0.4515	0.9	0.0576	0.0288	-4.8	0.7116	0.7045	-0.5	0.3458	0.3127	-4.5	0.6993	0.0423	-4	0.2279	0.1960	-6.5	0.0241	0.1836	-6.5	0.0241	0.1836	-4.1
2002	0.6339	0.6302	-0.4	0.0639	0.0413	-3.4	0.3252	0.3012	-0.3	0.1362	0.0996	-4.8	0.3339	0.0730	-2.4	-2.2398	0.0001	-8.2	-0.0285	0.1362	-8.2	-0.0285	0.1362	-9
2003	0.0491	0.2288	0.4	0.0481	0.0487	-3.7	0.2548	0.2487	-0.3	0.1266	0.1000	-5.6	-0.3616	0.0125	-2.7	-2.5693	0.0001	-2.8	0.4187	0.0000	-2.8	0.4187	0.0000	-7.3
2004	0.0816	0.0687	1.4	0.0469	0.0415	-4	0.0940	0.0962	-0.1	0.1110	0.0828	-7.5	0.0785	0.0435	-2.3	-2.6673	0.0000	-2.4	-0.2069	-0.0054	-2.4	-0.2069	-0.0054	-6.5
2005	0.0749	0.0670	1.6	0.0780	0.0393	-6.5	0.3183	0.1391	1.3	0.1183	0.0778	-5.2	0.5608	0.0561	-1.5	-0.0446	0.0000	-2.8	-0.0973	-0.0673	-2.8	-0.0973	-0.0673	-7.9
2006	0.0620	0.0555	2.9	0.1172	0.1029	-4.6	0.1985	0.1469	2.4	0.1173	0.0770	-5.7	-0.2748	0.0335	-1.4	-2.7232	0.0000	-3.2	0.0615	-0.0870	-3.2	0.0615	-0.0870	-9.4
2007	0.1202	0.1017	0.2	0.1664	0.1423	-3.1	0.1925	0.1904	2	0.1276	0.0811	-6.5	-0.1053	0.0335	0	-1.0514	0.0000	-1.8	-0.0664	-0.0112	-1.8	-0.0664	-0.0112	-5.1
2008	0.2021	0.1609	-7.4	0.2031	0.2161	-3.6	0.1955	0.1922	-4.5	0.0965	0.0000	-9.8	-0.0798	0.0000	-1.9	-1.8362	0.0000	-2.1	-0.0206	0.0000	-2.1	-0.0206	0.0000	-3.7
2009	0.5754	0.4594	-13.7	0.1507	0.1517	-10.2	0.2626	0.2553	-11.1	0.0987	0.0637	-15.7	0.2924	0.0731	-6.3	0.1124	0.0000	-8	0.2558	0.0000	-8	0.2558	0.0000	-4.6
2010	0.5319	0.4244	-30.6	0.1148	0.1383	-9.8	0.2465	0.2458	-9.6	0.0857	0.0571	-10.9	0.1076	0.0268	-5.9	-0.7970	0.0000	-7.5	-0.1568	-0.1099	-7.5	-0.1568	-0.1099	-4.3
2011	0.7382	0.5894	-13.1	0.0182	0.1282	-4.3	0.2309	0.2294	-9.6	0.0463	0.0384	-9.6	0.0473	0.0119	-6.4	-0.1113	0.0000	-4.8	0.0492	0.0000	-4.8	0.0492	0.0000	4.3
2012	0.8768	0.7000	-8.2	0.2720	0.2178	-6.4	0.3762	0.3737	-10.6	0.1648	0.1579	-8.9	0.3735	0.0934	-4	0.2805	0.0000	-4.5	-0.1419	0.0000	-4.5	-0.1419	0.0000	-2.1
2013	0.9254	0.7389	-7.2	0.1527	0.1672	-4.9	0.3115	0.3077	-7.1	0.4565	0.4492	-12.7	0.1428	0.0777	-14.7	0.6791	0.0019	-2.8	0.0904	0.0000	-2.8	0.0904	0.0000	-2.2

Source: annual reports of the central banks under review, 1999-2013, and Eurostat, 2014, percentages

rate on the liability side, which had a negative impact on its profitability.

Over the past years, the Central Bank of Hungary posted alternating profits and losses in its profit and loss accounts. Hungary remained outside the euro area, but its autonomous monetary policy has failed to produce spectacular benefits in this respect. Once the Hungarian economy beat double-digit inflation by 2000, the central bank has rarely made a profit from its annual operations. This is despite the fact that it may expect a higher seigniorage income than euro area NCBs for two reasons: it is an issuer of coins in addition to banknotes, and its interest revenues from core lending operations (O/N loans, longer-term covered lending facilities) are generally 50 to 100 basis points higher than the interest which it pays on commercial bank deposits. The central bank, which in spite of the fact that it has often incurred losses, has not made any transfers to the budget since 2002; indeed, in the past twelve years, it often needed recapitalisation as a result of the negative balance of its revaluation reserves. (Tables 3 and 4 show net payments.) The possible causes of this phenomenon are discussed in more detail in the following chapter.

The importance of the profitable financial management of a central bank is best illustrated by the government debt figures of the countries concerned as a percentage of GDP, which, based on Eurostat, were the following in 2013: Ireland 123.7 per cent, Portugal 129 per cent, Spain 93.9 per cent, Greece 175.1 per cent, Slovakia 55.4 per cent, Slovenia 71.7 per cent, Hungary 79.2 per cent. In a situation like this, also taking account of the interest burden as a percentage of GDP (in 2013, Ireland 4.5 per cent, Portugal 4.3 per cent, Spain 3.4 per cent, Greece 4 per cent, Slovakia 2 per cent, Slovenia 2.6 per cent, Hungary 4.4 per cent), even central

bank dividends amounting to 0.5 per cent of GDP could significantly improve the budget, as the deficit figures of Table 4 clearly show. Obviously, the central bank profits for a given year (apart from interim dividends) can only lift the burdens of the following year's budget.

CENTRAL BANK FINANCIAL STRENGTH

According to *Stella* (2008, p. 7) central banks' financial strength is reflected by the extent to which their financial position helps them to achieve key strategic goals and to overcome attendant risks. Central banks have no profitability objectives, their operations being governed by a primary objective in the broad sense. In EU Member States, price stability tops the hierarchy of central bank objectives, whereas in other countries, the primary objective may be full employment or stable interest rate levels (see Fed). While making efforts to provide macroeconomic stability, a central bank is often forced to forego its own financial interests. (For example, when under pressure to intervene on the foreign exchange market to defend the exchange rate.) Nevertheless, the central bank's long-term financial performance is a clear indication of its ability to maintain its financial independence, that it does not require government assistance, and that it can manage its finances independently and thereby avoid political interference with its operations, i.e. maintain its independence (Vergote et al., 2010).

Quoting the former German central bank governor², *Stella* (2008) proposes that central bank profitability is at most a concern at the level of microeconomic efficiency, and does not have a material impact on monetary policy formulation with the world's leading central banks (the Fed, the ECB and Canada's NCB). A leader in terms of central bank independence among Central Euro-

pean central banks, and indeed worldwide according to some researchers (Beblavy, 2003; Alpanda – Honig, 2007), the Czech National Bank incurred repeated losses between 2001 and 2007 except for one year, and turned profitable only in 2008.

That is, while remaining committed to its monetary policy objectives, a central bank may certainly focus on considerations of economic efficiency as well when economic developments are favourable. In countries with high external debt, it will face serious difficulties if it wants to manage its own finances at the same time as maintaining the financial stability of the country; yet, it should by all means make such efforts in order to reduce the burdens on the budget. However, Hungary's example shows that unfortunately, the income of public finances and that of the central bank can often be increased only at each other's expense, as a result of which the central bank's considerations of economic efficiency may be overshadowed by monetary policy objectives as well as government debt.

THE EFFECT OF THE PROFITABILITY OF THE CENTRAL BANK OF HUNGARY ON THE BUDGET

Pulay et al. (2013) point out the high risk to the Hungarian budget arising from the balances of MNB's reserve accounts turning negative. Namely, as a result of the central bank's institutional independence, the government and Parliament have no means to influence the liability of payments. Based on their examination of the central bank's profitability between 2002 and 2011, they found that the Hungarian central bank incurred losses in six years during that period, and the budget was forced to recapitalise the central bank on six occasions. While loss for the year in itself did not require a budget transfer owing to the

positive balance of retained earnings, the deficit of the revaluation reserves (and in particular, that of Revaluation reserves of foreign currency securities) drained approximately 150 billion HUF worth of funds from the budget.

The lack of profitability is primarily explained by the MNB's high foreign reserve holdings, as interest and similar income on foreign-denominated assets was by far exceeded by interest paid on items on the liability side. Over the past years, the National Bank of Hungary was only able to avoid losses by selling a significant amount of foreign-denominated assets over their purchase price (Pulay et al., 2013). Of its asset-side operations during the crisis, the central bank made a profit on its purchase programmes for government securities and mortgage debentures, while after 2011, the two-year loan offered at the base rate and loans granted to commercial banks at a 0 per cent interest rate as part of the Funding for Growth scheme to stimulate real economy lending obviously hurt the profitability of its assets.

On the liability side, as a result of the crisis, in late 2008 the Central Bank of Hungary reduced the minimum reserve rate from 5 to 2 per cent (the rate applied across the euro area at the time), granting the option to allocate reserves above the minimum up to 5 per cent. Regulating the reserve requirement apparently enabled savings for the central bank (disregarding the interest paid on the deposits of banks maintaining higher reserves); however, financing the government debt in foreign currency caused the stock of central bank bills outstanding to increase significantly, resulting in substantial interest expenses. The stock of central bank bills outstanding increased from HUF 687 billion in January 2008 to HUF 5,501 billion in January 2014. Additionally, in 2008 the stock of overnight deposits also increased from below HUF 20 billion at the beginning

of the year to more than HUF 900 billion at year-end (currently fluctuating between HUF 50 to 200 billion). These liability-side items caused the central bank to incur substantial interest expenses.

In addition to the changes in stock which were detrimental to profitability, Pulay et al. (2013) also point out that while raising the base rate suddenly in October 2008 (above 10 per cent in order to attract investors to a government securities market that was drying up), the MNB narrowed the interest rate corridor, as did other central banks, to stimulate the interbank market (from the usual one per cent around the base rate to half per cent). This hurt its profitability further, bringing the interest rate of the overnight deposit facility closer to that of the policy instrument. Moreover, this happened in an interest rate environment where most central banks across the European Union (except in Romania and Bulgaria) were cutting rates.

Frequently voiced criticisms concerning the two-week bill introduced in 2007 included the absence of limitations on subscribed quantities (Pulay et al., 2013), and the possibility for foreign banks and non-monetary financial institutions (insurers, investment funds, etc.) to buy it on the secondary market, making it much more costly than the central bank's sterilisation by selling government bonds (Bánfi et al., 2013). Given the central bank's increased interest burden, it was an unfavourable circumstance for banks not to have been provided with incentives in the utilisation of excess liquidity to grant loans, or invest their liquid assets into treasury bills and government bonds, failing which they used the central bank bill to absorb liquidity. While MNB (2009) refers to the central bank bill as its most important monetary policy instrument, it also states that the size of its stock is not of primary significance in terms of monetary policy. This was one of

the reasons for the criticism in Pulay et al. (2013) concerning the absence of quantitative constraints and the payment of a fixed rate of interest (the base rate).

Owing to sovereign borrowing in foreign currency and the inflow of foreign capital (e.g. EU transfers), the Hungarian banking sector is mostly characterised by an abundance of liquidity. In such a banking system, it would obviously be appropriate to use a liability-side central bank instrument capable of absorbing a comparable amount of liquidity. By contrast, the euro area is dominated by a shortage of liquidity, as a result of which the policy instrument is an asset-side central bank operation (the ECB's main refinancing operation). Nevertheless, where required, the ECB also offers liability-side operations to commercial banks in addition to the overnight deposit facility. During the crisis, in connection with its securities markets programme (SMP), the ECB announced a weekly deposit facility, subject to quantity constraints and variable interest rates determined by market demand. In surrounding countries such as the Czech Republic, Poland and Romania, central banks typically sterilise by means of repos or by selling central bank securities (e.g. the one-week bill of Polish NCB Narodowy Bank Polski). In each auction, the Czech and Polish central banks absorb only a limited amount of liquidity, while the Romanian central bank normally conducts auctions at variable interest rates by sorting bids, in quantities aligned with its monetary policy objectives.

In Hungary, the consequence of the possibility to subscribe the central bank bill in unlimited quantities is that when new government bond issues are used to repay existing debt or pay interest, the excess liquidity of commercial banks ends up with the central bank. Borrowing in foreign currency, which is occasionally cheaper

(IMF loan), will ultimately make it more expensive to finance the central bank (Dedák, 2013). This is because when the government issues bonds or takes a loan in foreign currency, the balance sheet total of the central bank will also increase, with the low-interest new assets being offset on the liability side by the policy instrument offering a return equivalent to the central bank base rate.

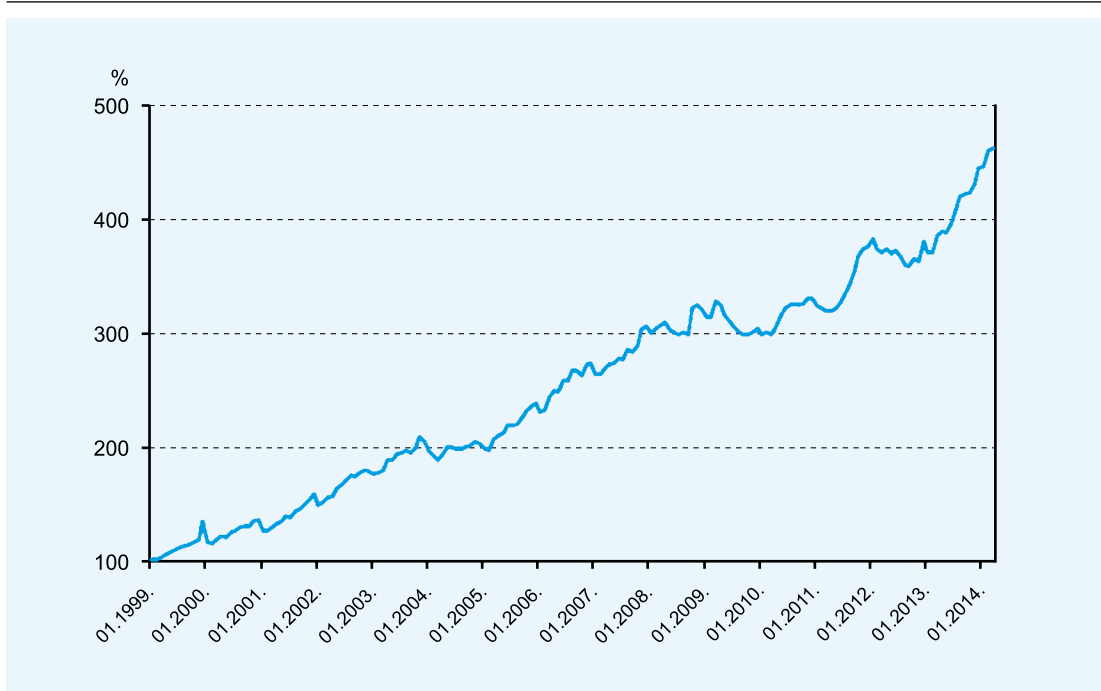
Given the fact that in the Central European region, Hungary runs the highest government debt (currently over 80 per cent of GDP), there is absolutely no need for a potential central bank loss to add to the burdens on the budget. According to MNB's 2013 forecast (in keeping with baseline assumptions), Hungary is not expected to meet the Maastricht criteria until 2027, and central bank profits will act as a positive driver on the budget balance only from 2018 onwards (MNB, 2013).

Through the gradual reduction of the foreign currency debt further accumulated during the crisis, the central bank could improve the position of the budget by a few tenths of a per cent each year, which cannot be the central bank's macroeconomic objective, but would certainly indicate a favourable turn in taxation terms. In 2014, the tax revenues expected to be collected from the transaction levy (approx. 0.9 per cent) and the special tax on banks (approx. 0.5 per cent) amount to just below 1.4 per cent of GDP. If the central bank could generate at least a fraction of the same revenues through its operating profit and thus partly by imposing an implicit tax on banks, this would presumably create conditions which are more acceptable to both the society and the system of financial institutions. Therefore, within the confines of its monetary policy objectives, the central

Chart 1

CASH IN CIRCULATION, HUF (%)

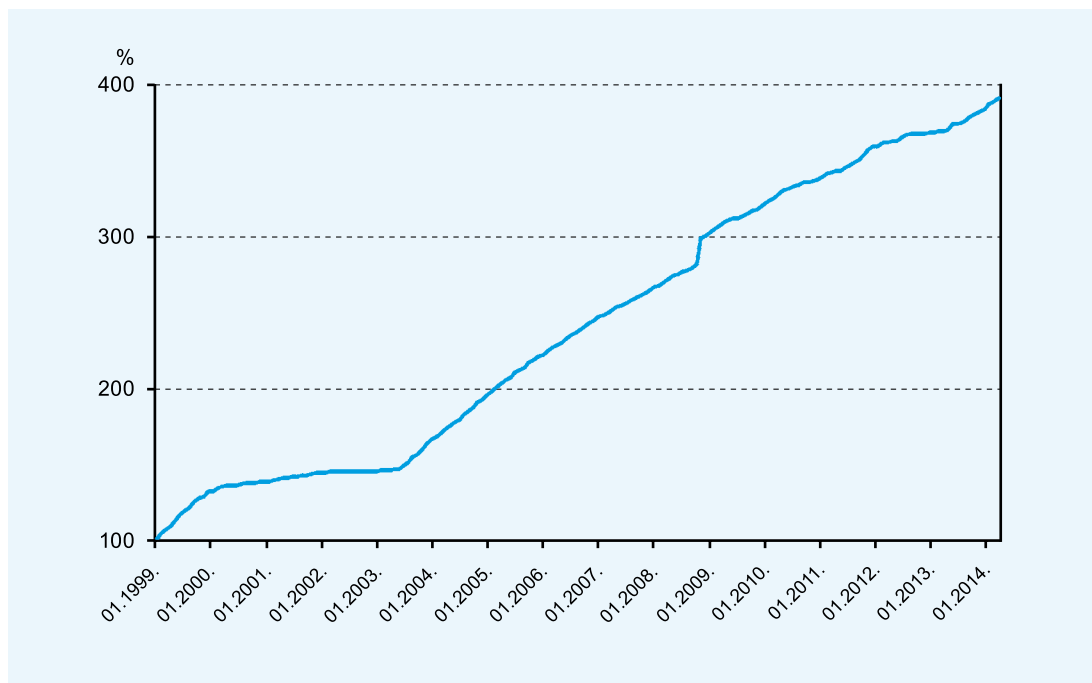
(1 January 1999 = 100%)



Source: MNB

CASH IN CIRCULATION, EUR (%)

(1 January 1999 = 100%)



Source: MNB

bank should make efforts to adjust the price conditions and quantitative constraints of its instruments to restrict liquidity and facilitate lending so as to incur the least possible amount of losses.

In principle, autonomous monetary policy offers higher profitability to the central bank than euro area membership, because such a policy does not require the interest rate of refinancing loans to equal the rates paid on commercial bank deposits. In terms of seigniorage from the issuance of currency, the advantage of autonomous monetary policy is already less obvious, as illustrated by the example of Hungary and the euro area (see Charts 1 and 2). Although from 1999 onwards, the amount of cash issued in HUF grew at a faster rate than the amount issued in EUR, the picture varies by country and even by period (for example, there was virtually no

increase in the amount of cash in circulation in Hungary between 2008 and 2011).

The gradual reduction of foreign reserve holdings entails a reduction in the central bank policy instrument, which improves profitability. With the forint appreciating, the situation was made worse by the fact that a significant part of the foreign reserve holdings was entered on the central bank's balance sheet at less favourable exchange rates, hurting the central bank's accounting profit in the case of sales in the face of an appreciating forint, causing retained earnings to be reduced. (The average book entry exchange rate of foreign currency reserves /expressed in Hungarian forint/ is lower than the current market rate by now.) In turn, unrealised foreign exchange losses could lead to negative balances of revaluation reserves. Consequently, considering central

bank profitability as a whole, also taking account of factors other than seigniorage, it is questionable whether Hungary's autonomous monetary policy does in fact add more to the budget than euro area membership would.

In April 2014, the Monetary Council of MNB adopted a decision on the introduction of new instruments to reduce the external debt of the Hungarian economy and to stimulate the internal financing of government debt. It also decided to replace the two-week MNB bill with a deposit facility as of August, which, in the same manner as the bill, would continue to serve as the central bank's main policy instrument to absorb liquidity, except that it may not be acquired by foreign and non-monetary financial institutions. These changes are aimed at reducing the external vulnerability of the Hungarian economy (Kolozi, 2014). Additionally, through a reduction in the stock of instruments restricting liquidity (as a result of some excess liquidity being channelled into government securities), they may also improve the central bank's profitability, potentially creating a positive side effect on the budget.

SUMMARY

Apart from some country-specific rules for settlements between the central bank and the budget, the methodology used in the course of the excessive deficit procedure of

the European Union suggests the general rule that central banks may only reduce the budget deficit against their own income by making transfers to public finances from their operating income in the form of dividends or taxes. Since inflation is low across the euro area, and indeed the purchasing power of money is decreasing at a very moderate rate in all EU Member States, such transfers remain below 1 per cent of GDP. In the case of major fiscal imbalances that characterised the crisis, even such low percentages could be highly instrumental in avoiding an excessive deficit procedure, and can spare the imposition of taxes that might lead to severe economic distortions in society. The examples of euro area Member States running the highest debts and those of the new Member States in Central Europe demonstrate that euro area membership does not necessarily hurt central bank profitability despite lower interest income from seigniorage. Faced with the highest gross government debt, the case of Hungary highlights the fact that central bank income is largely dependent on government debt financing, and that despite the autonomy of money issuance (and the monetary base), a central bank incurring greater losses on foreign currency operations could make the situation of the budget even worse. Where required, the MNB's new instruments introduced in 2014 enable the central bank to align its own microeconomic efficiency with macroeconomic objectives.

NOTES

¹ Government Decree 221/2000 on the special reporting and accounting requirements applicable to the Magyar Nemzeti Bank

² "The Bundesbank profit is a residual issue for me

and my colleagues... I don't enter into any strategic considerations about Bundesbank profits, neither in the morning, afternoon or evening." Stella (2008, p. 11) quotes Weber's interview to Reuters (15 March 2005).

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