

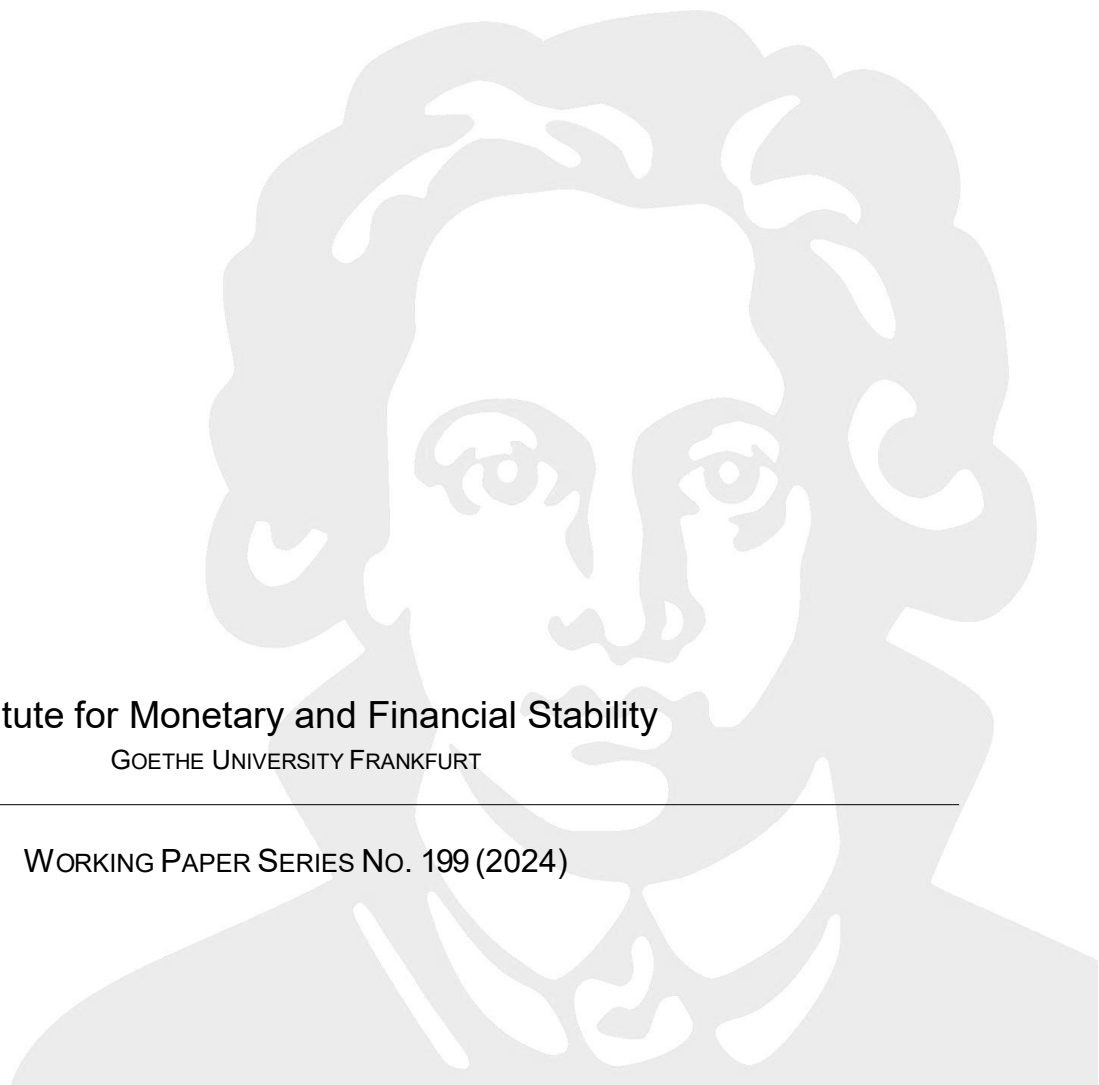
THOMAS JOST, REIMUND MINK

Central Bank Losses and Commercial Bank Profits -  
Unexpected and Unfair?

Institute for Monetary and Financial Stability  
GOETHE UNIVERSITY FRANKFURT

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# CENTRAL BANK LOSSES AND COMMERCIAL BANK PROFITS - Unexpected and unfair?

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## Executive Summary (Abstract)

The Eurosystem and the Deutsche Bundesbank will incur substantial losses in 2023 that are likely to persist for several years. Due to the massive purchases of securities in the last 10 years, especially of government bonds, the banks' excess reserves have risen sharply. The resulting high interest payments to the banks since the turnaround in monetary policy, with little income for the large-scale securities holdings, led to massive criticism. The banks were said to be making "unfair" profits as a result, while the fiscal authorities had to forego the previously customary transfers of central bank profits. Populist demands to limit bank profits by, for example, drastically increasing the minimum reserve ratios in the Eurosystem to reduce excess reserves are creating new severe problems and are neither justified nor helpful. Ultimately, the EU member states have benefited for a very long time from historically low interest rates because of the Eurosystem's extraordinary loose monetary policy and must now bear the flip side consequences of the massive expansion of central bank balance sheets during the necessary period of monetary policy normalisation.

## Zusammenfassung

Das Eurosystem und die Deutsche Bundesbank werden im Jahr 2023 und wahrscheinlich auch in den kommenden Jahren beträchtliche Verluste einfahren. Durch die massiven Wertpapierkäufe der letzten zehn Jahre, insbesondere von Staatsanleihen, sind die Überschussreserven der Banken stark gestiegen. Die daraus resultierenden hohen Zinszahlungen an die Banken seit der Wende in der Geldpolitik, bei zugleich geringer Verzinsung der hohen Wertpapierbestände, führten zu massiver Kritik. Die Banken machten dadurch "unfaire" Gewinne, während der Fiskus auf die bisher üblichen Abführungen von Zentralbankgewinnen verzichten musste. Populistische Forderungen, die Gewinne der Banken zu begrenzen, indem z.B. die Mindestreservesätze im Eurosystem drastisch erhöht werden, um die Überschussreserven zu reduzieren, schaffen neue Probleme und sind weder sachlich gerechtfertigt noch hilfreich. Schließlich haben die EWU-Staaten aufgrund der ultra-expansiven Geldpolitik des Eurosystems sehr lange in beispielloser Weise von historisch niedrigen Zinsen profitiert und müssen nun die fiskalischen Folgen der massiven Ausweitung der Zentralbankbilanzen in der Phase der notwendigen geldpolitischen Normalisierung tragen.

*“Interest rates have lost their steering function and financial stability risks have increased”.<sup>1</sup>*

## 1. Introduction<sup>2</sup>

Since the end of the financial and economic crisis of 2008, many central banks worldwide have launched unconventional and ultra-expansive programmes to purchase debt securities, primarily as government bonds. These programmes aimed to stabilise the financial markets, revive economic growth, and raise inflation rates to target levels. The European Central Bank (ECB) continued its loose monetary policy, including the securities purchase programmes, thereafter (from 2010) and justified this by improving the monetary transmission mechanism, combating perceived deflation risks, and ensuring the smooth financing of government debt to save the Euro.<sup>3</sup> Such “quantitative easing policy” inflated central banks’ balance sheets to a previously unimaginable extent. As is usually the case in international monetary and financial policy, this process was triggered by the USA. The Federal Reserve System responded to the crisis of 2008 with a decidedly all in monetary policy. However, the huge securities purchasing programmes, which continued unabated for more than ten years after the crisis had been overcome, became more and more questionable. Central banks around the world, and the Eurosystem, were not reluctant to follow suit, in order to provide more fiscal space and to avoid the risk of an overvaluation of their currencies.

Large central bank balance sheets harbour major monetary stability risks. This is because the financial investment on the assets side is offset by correspondingly high, mostly short-term liabilities in the form of banks' sight deposits. As a result of the low interest rate level, which allowed few good investment opportunities, the banks had to pay negative interest rates to central banks as it happened in the European Economic and Monetary Union (EMU) for a long time. Large central bank balance sheets of the ECB and of its national central banks were inevitably linked to political desires. As a result, the central banks became central players in markets for government bonds, but also in parts for corporate bonds and equity markets. Calls are already being made to maintain large balance sheets with ongoing structural surplus liquidity in the long term and not to completely reduce the considerable holdings of government and corporate bonds.<sup>4</sup> A politicisation of central bank policy in the sense of fiscal dominance is therefore unavoidable and its actual primary goal - ensuring stable money – will fall

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<sup>1</sup> Hannoun, Issing, Liebscher, Schlesinger, Stark, and Wellink (2019).

<sup>2</sup> We would like to thank C.-C. Hedrich, K.-H. Tödter, G. Ziebarth and the participants of a colloquium of the “Aktionskreis Stabiles Geld” (“Alliance for Monetary and Financial Stability”) for valuable suggestions and comments. The paper extends a shorter working paper in German (Jost 2023b).

<sup>3</sup> For a critical assessment of the ECB's monetary policy, and particularly the various asset purchase programmes, see e.g. Sinn (2015) and Sinn (2021).

<sup>4</sup> Weidmann, Krämer (2024).

victim to this if the pressure to postpone or slowdown its balance sheet correction will continue.

Central banks found themselves in a delicate situation when the era of very low headline consumer inflation was ended by a combination of shocks: The coronavirus pandemic disrupted international supply chains and prices began to rise from mid-2021, while the recovery in economic activity resumed. Russia's military invasion of Ukraine then led to massive restrictions of economic development in early 2022, resulting in a temporary energy shortage with price spikes for oil, gas, and electricity.

High Inflation persists in the EMU for almost three years. Consumer prices rose particularly sharply in 2022 and 2023 and the monthly inflation rate reached a record peak of 10,5% by mid 2022.<sup>5</sup> This massive loss in the purchasing power of money has prompted central banks in many countries to raise their ultra-low key interest rates - first in the USA and then, with some delay, in the EMU. This happened in a situation in which the immense securities purchase programmes launched in the Euro area since 2015 inflated further central bank balance sheets. All this resulted in an enormous increase in excess liquidity of commercial banks, growing holding losses of central banks and the associated lack of profits transferable from central banks to governments.

The ECB's bloated balance sheet shows three major distortions with significant consequences for economic activity in the EMU. First, the extremely high level of deposits and the deposit rate, which has been rising since mid-2022 and is now at 4%, mean that commercial banks receive high interest payments from the ECB. Second, correspondingly, central banks incur losses, as their interest payments to commercial banks far exceed their interest income. And third, the rapid rise in interest rates is leading to holding losses in the value of debt securities in the Eurosystem's portfolio, with corresponding negative effects on earnings and financial stability.

The following sections discuss these distortions in more detail. The next section focuses on the background: What are the reasons for the inflated central bank balance sheets, negative interest rates and the interest rate turnaround, which triggered the ECB's high interest payments to commercial banks? This is followed by a discussion of the supposedly excessive profits made by commercial banks, and, vice versa, the observed losses incurred by central banks. The discussion will focus on the Eurosystem, individual national central banks and, especially on the Deutsche Bundesbank, which is most affected by these losses incurred in the Eurosystem. The view is also widened to other central banks worldwide and an overview of the emergence of central bank losses in the current monetary policy environment is given. Various effects regarding the lack of profits and corresponding capital transfers of central banks to government budgets and possible capital injections are also discussed. Finally, it is considered which monetary policy measures should be taken to best avoid the adverse effects described above.

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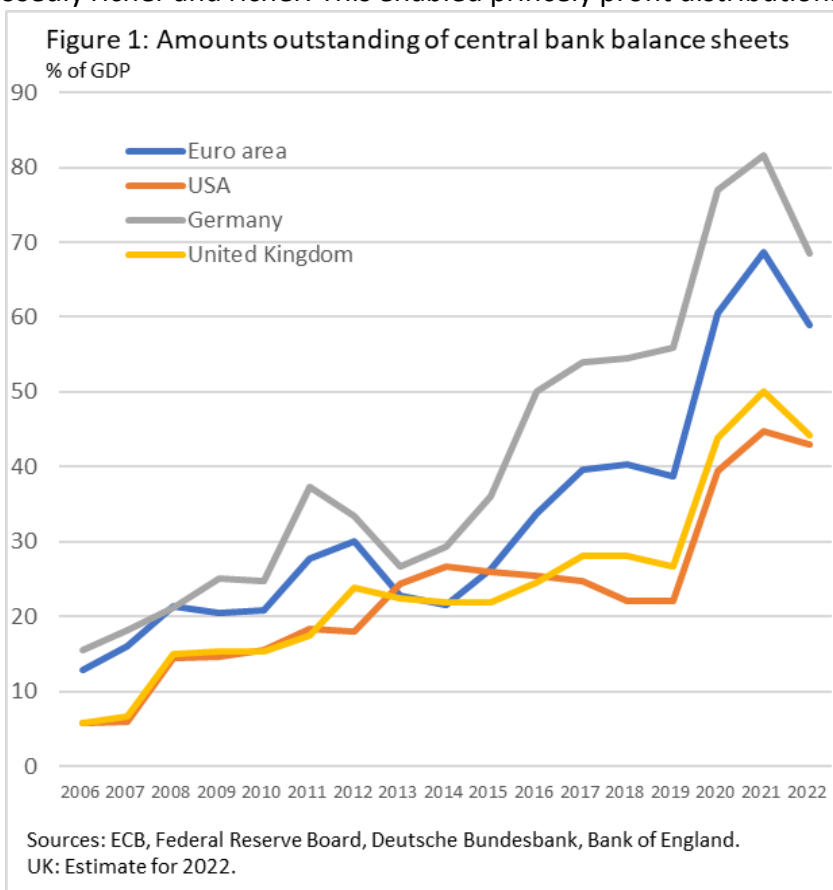
<sup>5</sup> Prices measured using Eurostat's Harmonised Index of Consumer Prices (HICP) rose by almost 18% between 2021 and 2023.

## 2. Growing central bank balance sheets due to securities purchase programmes

Since the end of the financial and economic crisis of 2008, many central banks worldwide have launched unconventional and ultra-expansive programs to purchase debt securities, primarily government bonds. The market for government bonds is the most liquid bond market and government bonds are the benchmark through which interest rate signals spread to other markets. Such “quantitative easing policy”, together with a “qualitative easing” in the softening of the conditions of the collateral framework of the Eurosystem, inflated their balance sheets to a previously unimaginable extent. As is usually the case in international monetary policy, this process was triggered by the USA. The US Federal Reserve System responded to the crisis of 2008 with decidedly expansive direct interventions in the financial markets. Huge securities purchase programmes were launched and continued over a period of almost six years. The Fed's balance sheet total increased from US-\$ 950 bln to around US-\$4.7 tln (from 6% to 27% of GDP) between 2007 and 2014 (Figure 1).<sup>6</sup>

The Eurosystem and other European central banks were particularly motivated by this unconventional policy, also inflating their balance sheets through securities purchase programmes making them supposedly richer and richer. This enabled princely profit distributions from central banks to their owners – the federal governments -, to which politicians quickly became accustomed.

The Fed already began to reduce its balance sheet in 2015. Between 2015 and 2019, it lowered the stock of bonds by around 5 percentage points to 22% of GDP. In contrast, the Eurosystem continued to increase its balance sheet from 26% to 69% of GDP at the end of 2021. Central bankers had been accelerated the expansion of their balance sheets during the Covid-19

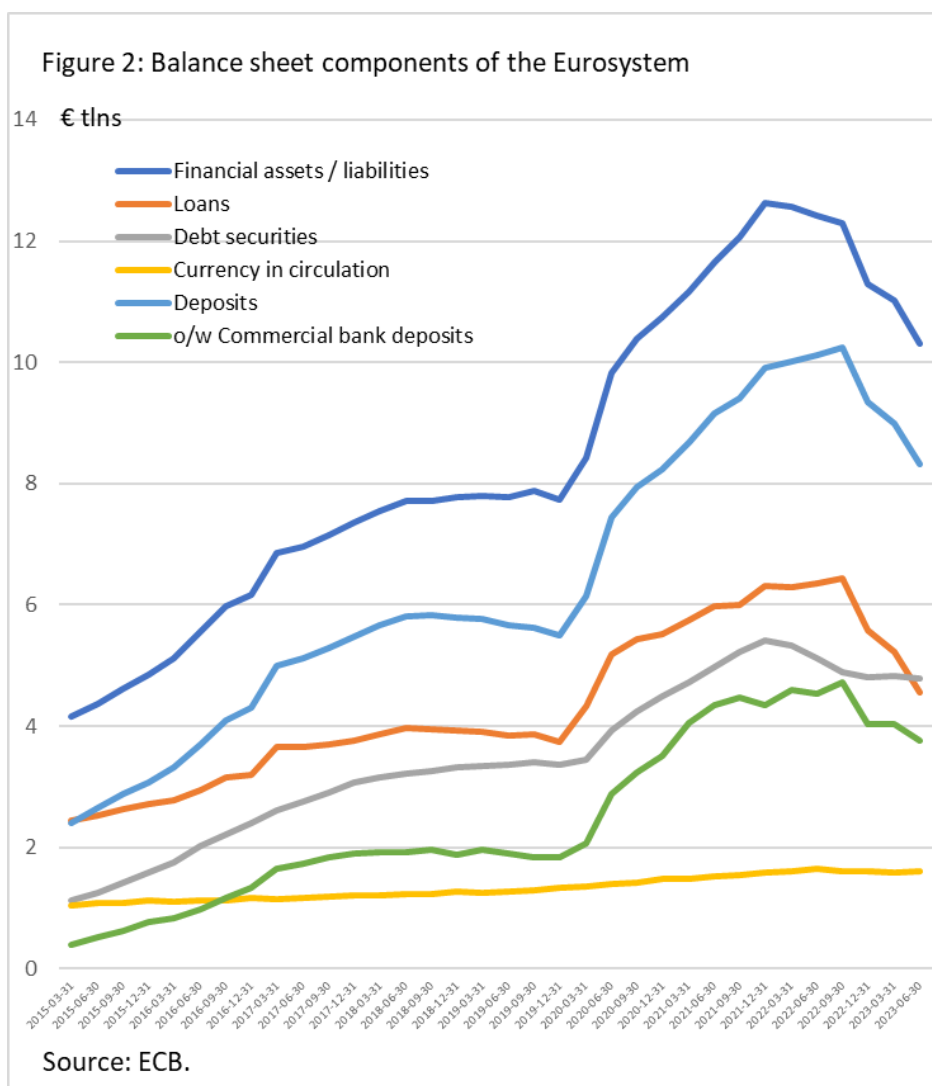


<sup>6</sup> In this paper, we mainly use quarterly financial accounts data based on the mark-to-market concept prescribed in the System of National Accounts (SNA). Central banks generally follow accounting and valuation rules that result in different stock and flow data, including different data on realised and unrealised gains or losses.



pandemic. At €8.5 tln, the Eurosystem balance sheet total was far more than five times higher than before the crisis of 2008 (€1.5 tln). The balance sheet total of the Deutsche Bundesbank, as part of the Eurosystem, grew particularly strongly. At the end of 2021, its value corresponded to almost 82% of GDP. However, balance sheet totals began to shrink over the course of 2022 - to varying degrees from 2% (in the USA) to 13% of GDP in Germany (Figure 1).<sup>7</sup>

The development of the Eurosystem's balance sheet was driven by some key components as illustrated in Figure 2. Financial assets (liabilities) rose from just over € 4 tln in 2015 to a maximum of € 12.6 tln by the end of 2021. On the assets side, this was due to the increase in loans (from € 2.4 to € 6.3 tln) and debt securities (from € 1.1 to € 5.4 tln). On the liabilities side, the growth in deposits up to the end of September 2022 was particularly striking, from € 2.4 to € 10.3 tln. Over the same period, the deposit facility (commercial bank deposits) grew from € 0.4 tln. to € 4.7 tln. Since end of 2021, declines have been observed in all components. Overall, financial assets (liabilities) fell by € 2.3 to € 10.3 tln. This was caused by the re-



payment of loans (from the TLTROs) totaling € 1.7 tln. By contrast, the portfolio of debt securities fell comparatively little, by only € 0.6 to € 4.8 tln. On the liabilities side, the decline was largely due to the reduction in deposits by € 2.0 tln to € 8.3 tln. This primarily affected deposits with commercial banks (€ 1 tln) and with the government sector (€ 0.5 tln).

<sup>7</sup> It seems that BIS economists overestimated the balance sheet totals of 27 central banks of advanced economies in relation to their GDP for the end of 2022. The median value was supposed to be by almost 70%. Cf. Bell, Chui, Gomes, Moser-Boehm, Tejada (2023), p. 1.

Taking a closer look at the Euro area's debt securities held for monetary policy purposes (€4.9 tln) by mid-2023 they are mainly issued by general government (€ 3.4 tln) but also by (financial and nonfinancial) corporations (€ 1 tln). Approximately an amount of € 0.5 tln refers to debt securities issued by nonresidents (Table 1).

Table 1: From-whom-to-whom table of Euro area debt securities

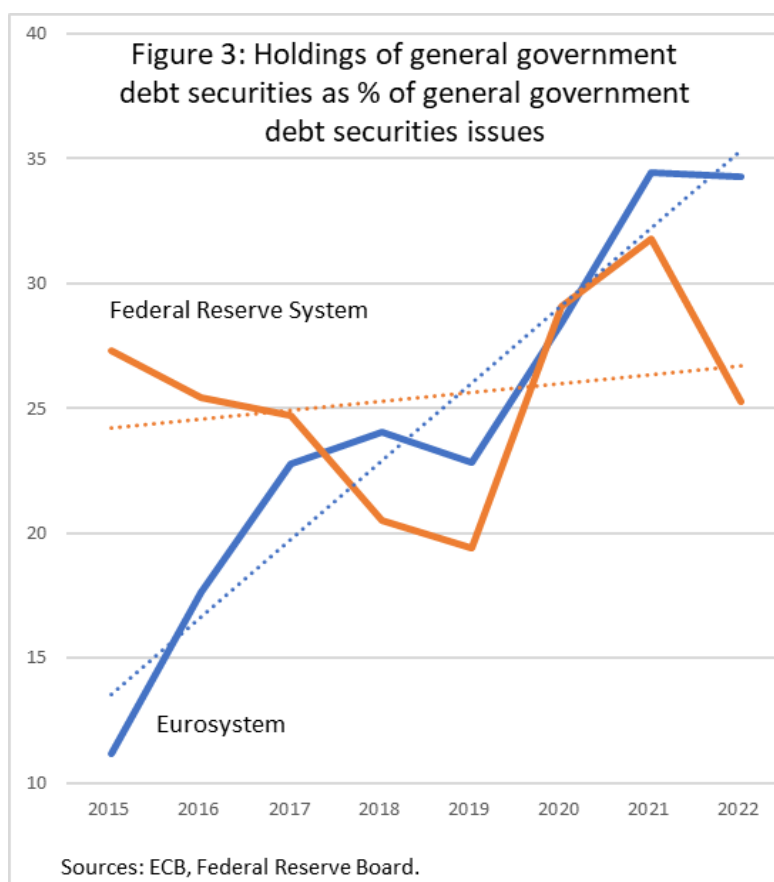
€ trillions, amounts outstanding, mid 2023

Debtor (Issuer) \ Creditor (Holder)	Non-financial corporations	Financial corporations	o/w Eurosystem	o/w MFI except Eurosystem	General Government	Private Households and non-profit institutions	Euro Area	Rest of the World	Holdings
Nonfinancial corporations	0.02	1.31	0.23	1.06	0.02	0.04	1.37	0.26	1.63
Financial corporations	0.09	1.28	0.75	0.53	0.11	0.25	1.75	1.63	3.36
o/w Eurosystem	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
o/w Monetary financial institutions except Eurosystem	0.05	1.28	0.75	0.53	0.08	0.25	1.66	1.70	3.36
General Government	0.07	7.47	3.37	1.38	0.27	0.29	8.10	2.22	10.32
Private Households and non-profit institutions serving households	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Euro Area	0.18	10.06	4.35	2.95	0.40	0.58	11.22	4.11	15.33
Rest of the World	0.10	1.82	0.54	1.28	0.13	0.06	2.11	0.00	2.11
Issuances	0.28	11.88	4.89	4.24	0.53	0.64	13.33	4.11	17.44

Source: ECB.

As further reflected in Table 1 about one third of total debt securities (€4.9 of €17.4 tln) and of general government debt securities (€3.4 of €10.3 tln) are held by the Eurosystem. This is by far more than the debt securities holdings of all other EMU sectors – except the commercial banks (MFIs except Eurosystem). Compared to the Eurosystem (33%) the Fed held significantly less government debt securities (25% of total US general government debt securities issues) by end-2022 (Figure 3). The Fed has only bought bonds issued by the central government and not the US states.

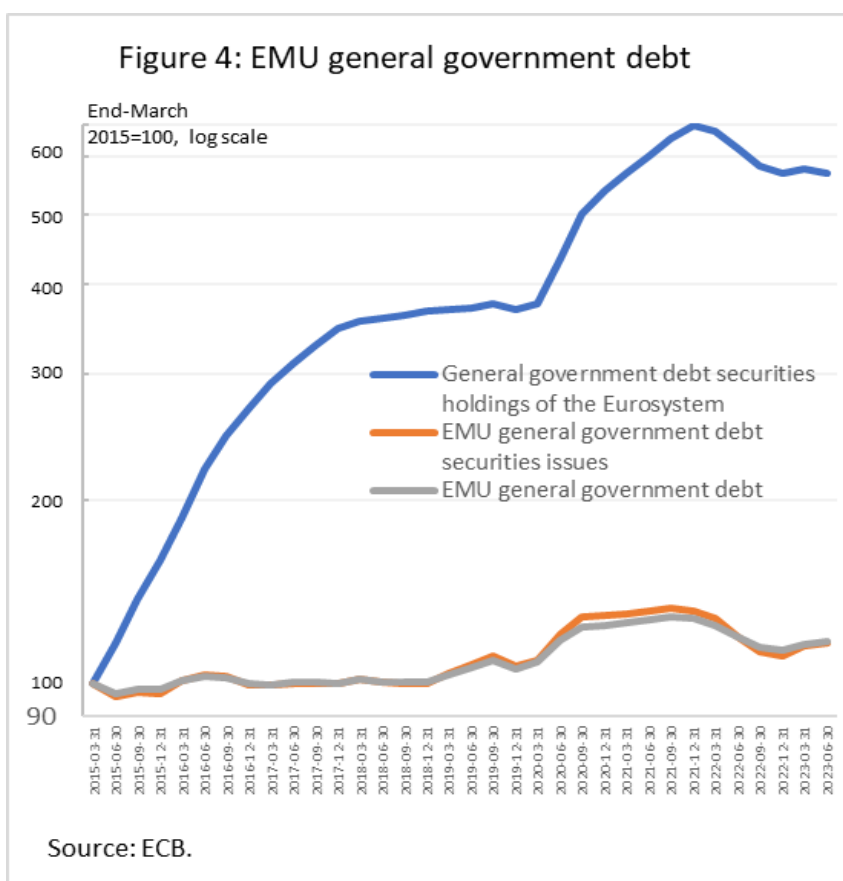
The expansion of balance sheets was associated with low and even negative interest rates, referred to as "highly accommodative monetary policy". It was argued to undertake asset purchases (largely but not



exclusively sovereign bonds) aimed at putting more liquidity into the financial system to support the transmission of monetary policy to the economy and primarily the financing of the general government sector.<sup>8</sup>

Is such rapid and long-lasting growth in financial assets and liabilities dangerous? In a broad-based study a few years ago, Ferguson, Schaab and Schularick concluded that no significant inflation risks could arise in the foreseeable future because of that.<sup>9</sup> However, it seems to be obvious that anyone who, like the Fed or the Eurosystem, creates such large quantities of their own currency weakens its value on the market and puts pressure on their partners. This kind of de facto beggar-thy-neighbour policy was forced to follow suit if they did not want to accept an overvaluation of their own currency.

Developments in recent years seem to confirm that large central bank balance sheets harbour a high monetary stability risk in the longer term. A large balance sheet means that the central bank must manage a substantial portfolio on its assets side. The counterpart on the liabilities side are large amounts of short-term liabilities, mainly in the form of banks' sight deposits, which they can access immediately. For a long time, banks left large amounts of these sight deposits with the central banks



(even if they had to pay negative interest rates to the ECB) - a consequence of the low interest rate level, which allowed few good investment opportunities, as well as the uncertainty caused by the crisis of 2008, which did not seem to have been fully overcome for a long time. Risks to stability can arise in the long term above all if new government debt remains high and the independence of the central bank is compromised - and this connection is more important the larger the holdings of government debt securities on a central bank's balance sheet are. Figure 4 illustrates that the proportion of government debt securities in the portfolio of the

<sup>8</sup> Schnabel (2023).

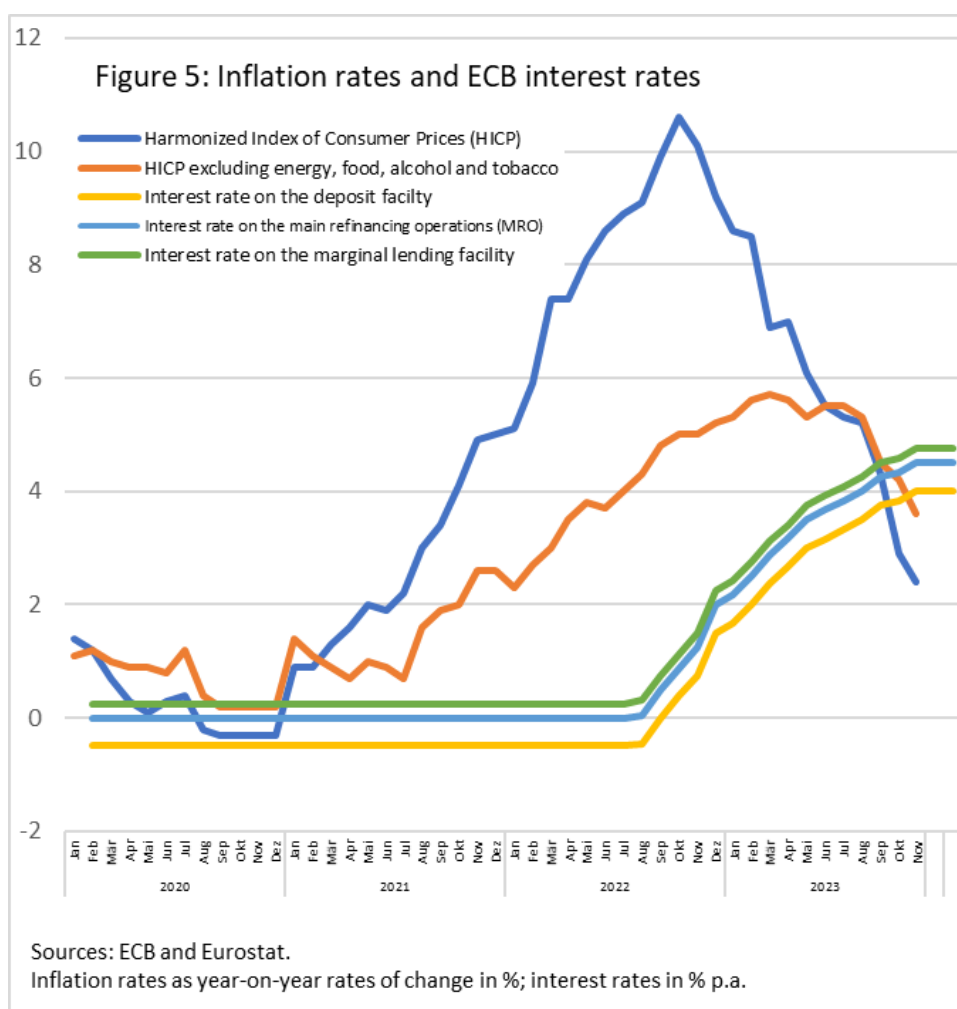
<sup>9</sup> Ferguson, Schaab, Schularick (2014).

Eurosystem increased as the balance sheet grew. This allowed to save large amounts of interest payments and to expand the primary and operative deficits. However, the correlation of an associated increase in government debt cannot be confirmed – at least not for the EMU total (Figure 4).<sup>10</sup>

It was often argued that central banks could easily carry out such a reduction in liquidity at any time if it became necessary. There would be no need to rush. From a purely technical point of view, it is true that central banks have instruments at their disposal that allow them to withdraw any amount of liquidity from circulation: They can actively sell assets from their existing holdings on the market, however with possible harmful side effects.

### 3. Inflation and the interest rate turnaround

The sharp rise in inflation rates in Europe and worldwide, well above target levels, finally led to a turnaround in monetary policy. Many central banks had recognized this development far too late and then acted aggressively to prevent the emergence of a price spiral. The Fed acted more consistently than the ECB, which adjusted its interest rate policy rather slowly with an observable delay of more than a year despite ongoing high inflation rates (Figure 5). The monetary stance nevertheless remained expansionary, although to a less degree, as real interest rates are still very low or even negative.



<sup>10</sup> Ferguson, Schaab, Schularick (2014).

There has been a significant increase in central bank interest rates in the EMU since July 2022 (Figure 5). The main refinancing rate in the Eurosystem rose from 0% in July 2022 to 4.5% in September 2023. It is relevant for the interest on the Target balances of the national central banks and the liabilities or claims arising from the allocation of banknotes in circulation in the Eurosystem. The minimum reserve balances were remunerated at the deposit rate until 26 July 2022. But from 27 July 2022 onwards, these central bank balances of the commercial banks will no longer bear interest. The deposit rate was raised from -0.5% in July 2022 in several steps to +4.0% in September 2023. It determines the banks' interest income on the balances held in the deposit facility, the so-called excess reserves. This resulted in rising interest payments to banks for their balances at the central bank from mid-2022. The consequences of this were the enormous increase in excess liquidity at commercial banks, the growing losses of central banks and the associated lack of profits transferred from central banks to their governments.

In November 2023 the headline inflation rate in the EMU fell more sharply than expected. It dropped from 2.9% to 2.4%.<sup>11</sup> This is the lowest figure since July 2021, bringing the inflation rate closer to the ECB's medium-term target of 2%. However, core inflation, excluding volatile prices for energy, food, alcohol, and tobacco, remains at a high 3.6%. It is therefore still too early to declare the fight against inflation over, especially as several base effects, the rise in various administered prices and high wage settlements will mean that the inflation rate will remain above the ECB's target of 2% for a long time to come.

However, large excess liquidity due to the purchase programmes has long since ceased to fit in with the less accommodative interest rate policy since mid-2022. It is true that the Eurosystem's balance sheet has fallen from €12.6 tln to €10.3 tln, between end-2021 to mid-2023. However, this was mainly due to the expiry of highly subsidized loans to commercial banks – a decrease of €1.7 tln.

Since March 2023, the ECB has already been selling securities, mainly government bonds, from its Asset Purchase Programme (APP). However, this "quantitative tightening" is progressing only slowly with monthly sales of around €25 bln. However, the turnaround in interest rates had a duration impact and led to capital losses mainly on market-priced bonds. Securities holdings have fallen since end-2022 by around € 600 bln to € 4.8 tln. This decline was largely valuation related (Figure 6). It was a further burden on the Eurosystem balance sheet and income statement. As shown in Figure 6 the ECB and the corresponding national central banks have already accumulated huge amounts of holding losses of the economic value of their debt securities; this could deplete their equity.

The various securities purchase programmes account for about €5 tln of the Eurosystem's balance sheet total. The aim of these measures was to stabilize the financial markets, stimulate the real economy, prevent deflationary developments, and steer inflation rates to a target

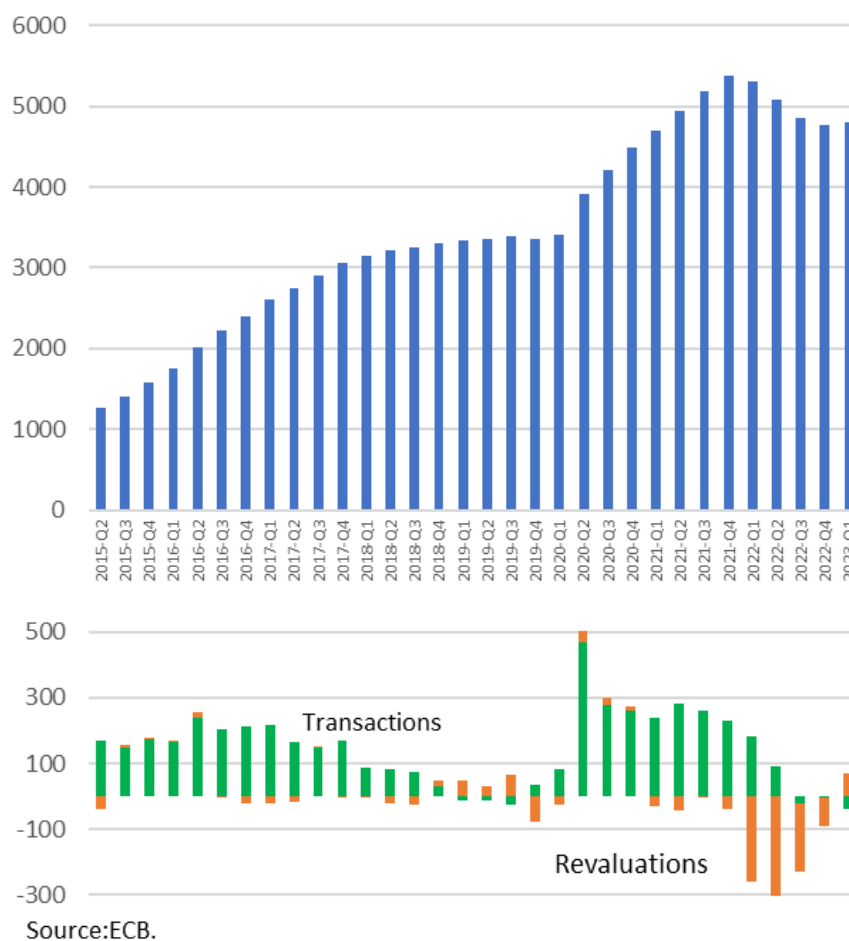
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<sup>11</sup> The inflation rate measured by the year-on-year rate of change is the Harmonised Index of Consumer Prices (HICP) for the European Economic and Monetary Union (EMU).

value, often around 2%. In addition, falling capital market interest rates were intended to facilitate the refinancing of countries with high levels of national debt and, in the case of Europe, to postpone fiscal consolidation of over-indebted countries. As a result, the commercial banks' excess liquidity increased enormously, as they sold the bonds to the central banks as intermediaries on the secondary market.<sup>12</sup>

In this context, most central banks provided the commercial banks with extensive liquidity by expanding their loans to the banking system. The Eurosystem, starting in September 2019, generously granted the banks longer-term loans (Targeted Longer-Term Refinancing

Figure 6: Debt securities held by the Eurosystem  
€ billions



ing Operations III (TLTRO III)) with maturities of up to three years and a low or even negative interest rate. The instrument was introduced by the ECB to subsidise banks in the aftermath of the financial crisis to resolve problems with lending in the banking sector at the time. The central bank wanted to use them to compensate commercial banks for the negative interest rates that would prevail until summer 2022. The ECB issued a total of ten tranches of the TLTRO III loans, each with a term of three years, the last tranche was issued at the end of 2021.

The commercial banks were allowed to borrow money from the ECB with a term of three years and interest rates of up to -1% for at least part of the term. In other words, they earned interest income from the ECB for participating in the programme. In return, the commercial banks only had to promise not to reduce their lending during the crisis. They were then allowed to reinvest the money they received with the ECB overnight at the central bank's deposit rate, provided they had not passed it on to their end customers. The deposit rate was -

<sup>12</sup> Critical commentators also spoke of "oceans of cash" pouring over the banking system. See Craig, Koepke (2015).

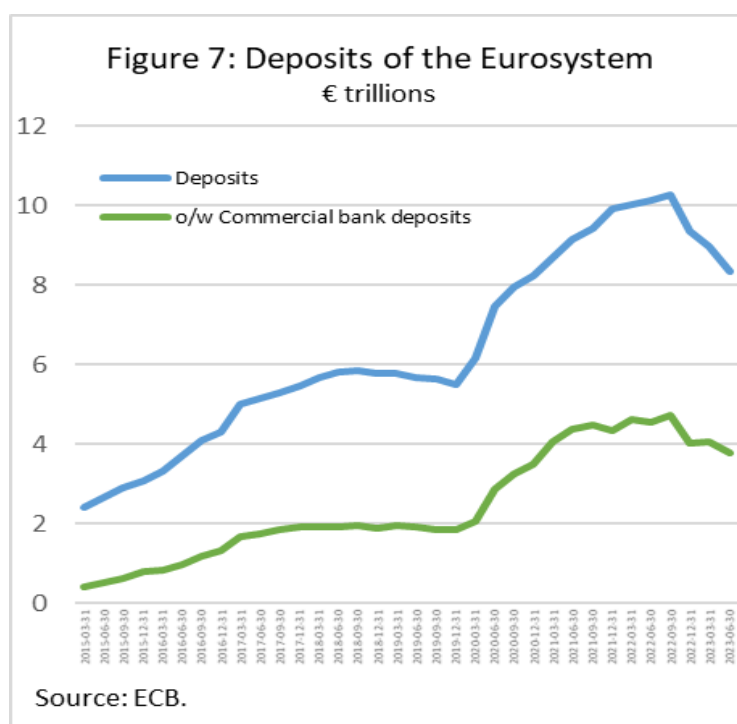
0.5% until 26 July 2022, so the commercial banks earned up to 50 basis points with the TLTRO III loans, which had reached a volume of €2.1 tln by October 2022.

Accordingly, it would help to reduce the balance sheet if the central bank did not constantly reinvest maturing funds from these programmes. At the beginning of July 2023, the ECB had already ended the reinvestment of funds from maturing APP bonds. There were also calls to stop the reinvestment of funds released from the Pandemic Emergency Purchase Program (PEPP) of €1.7 tln earlier than previously planned as part of the government debt securities purchases. In the meantime, the ECB has announced that it will reduce the corresponding reinvestments by €7.5 bln per month from the second half of 2024 and then stop reinvestments completely at the end of 2024 as planned. This would allow the ECB to accelerate the balance sheet reduction in the course of 2024.

#### 4. Rising commercial bank profits und central bank losses

When central banks began to raise their key interest rates sharply since mid-2022 to combat high inflation, this automatically led to progressively more interest payments on the central bank deposits of commercial banks, which exceeded the minimum reserves.<sup>13</sup> The central banks' net interest income fell and often became negative. Within the Eurosystem, the extremely high level of deposits and the deposit rate, which is now at 4%, mean that commercial banks receive high interest payments from the ECB and the national central banks.

Figure 7 shows the sharp rise in commercial banks' deposits with the Eurosystem since 2015. Starting from a rather low amount of excess liquidity in 2015, commercial bank deposits rose to a record level of almost €4.7 tln by end-September 2022. Since that time, the excess liquidity has been shrinking due to early repayments of loans in Eurosystem lending operations taken out under the third series of TLTRO III.<sup>14</sup> They fell by around €820 bln from €1,321 bln



<sup>13</sup> Minimum reserve deposits often, but not always, do not earn interest.

<sup>14</sup> Due to rising interest rates from end of July 2022, TLTRO III loans have developed into an extremely profitable business for commercial banks. When launching the TLTRO III tranches in 2019, the ECB did not realize that it would raise interest rates so sharply over the three-year term. Adjustments have since been made to limit the commercial banks' windfall profits. See Rasch (2022).

at the end of 2022 to €499 bln (23 October 2023) partially offset by purchases under the APP and PEPP. Commercial bank deposits dropped to €4.0 tln by end-2022. Most of them (€3.8 tln) were held in the deposit facility. These are deposits that exceed the minimum reserve.<sup>15</sup> Only a small proportion of them (€0.2 tln) was held in the minimum reserve. The amount of minimum reserve deposits results from the minimum reserve rate of 1% on the deposits held by nonfinancial corporations and private households vis-à-vis the Euro area banking system.

Things look different since the transition to positive interest rates in 2022. Commercial banks no longer pay interest for part of their sight deposits at the central banks. Instead, central banks must pay the commercial banks billions of Euros in interest on these balances because otherwise they would not be able to enforce the positive key interest rates on the money market.

Consequently, central banks have been reporting losses in connection with their securities purchase programmes, but also due to billions in interest paid to commercial banks. They include the Eurosystem, U.S. Federal Reserve Bank, Bank of Japan, Bank of England, Schweizerische Nationalbank, Sveriges Riksbank, Reserve Bank of Australia and the Reserve Bank of New Zealand.<sup>16</sup> All of them are looking for a suitable strategy to reduce their losses without having to abandon the necessary monetary policy course to combat high inflation.

The turnaround in interest rates has set many things in motion. According to the annual financial statements of the ECB for 2022, its net profit for the year was nil. Nevertheless, a surplus of €192 mln was still achieved in 2021. This means that there is no profit distribution to the national central banks (NCBs) of the EMU. This result includes provisions for financial risks totalling €1,627 mln that have already been released to cover losses incurred during the year. They resulted primarily from interest expenses for the ECB's TARGET2 net liabilities and write-downs on securities held in its US dollar portfolio and own funds portfolio. The reversal reduced the provisions for financial risks to € 6,566 mln.<sup>17</sup>

The earnings situation of the Deutsche Bundesbank was also significantly less favourable overall in 2022 than in the previous year. It states succinctly that the income statement for the financial year 2022 will close with a balanced result, as in the previous year. This means that the net profit was zero, as in 2021. It was necessary to reduce the provisions for financial risks totalling € 19.2 bln by € 972 mln to offset the accumulated losses.<sup>18</sup>

The amounts of the losses depend not only on the interest rate movements, but also on the structure of the individual central banks' balance sheets. In the Eurosystem and in its national central banks, they could still be partially reduced or offset by the release of provisions

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<sup>15</sup> Before the crises began and the switch to an "unconventional" monetary policy, the banks in the Eurosystem only held very low excess reserves. The minimum reserve balances and a functioning money market for central bank money were largely sufficient to meet the banks' need for central bank money for cash demand, payment transactions in the banking system and as a "safety cushion". As the interest rate on excess reserves was limited to the deposit rate, there was no interest in holding excess reserves, as the market interest rate on the money market (EONIA) was practically always above the deposit rate and close to the main refinancing rate.

<sup>16</sup> Bell, Chui, Gomes, Moser-Boehm, Tejada (2023), p. 2.

<sup>17</sup> European Central Bank (2023a).

<sup>18</sup> Deutsche Bundesbank (2023a).



and reserves in 2022. In 2023 and the following years, however, many of them will have to report losses, although these will vary greatly from country to country.<sup>19</sup> It seems likely that central banks are heading into a medial and policy "storm", in which nothing less than their credibility, independence and stability orientation of their monetary policy are at stake.<sup>20</sup>

Mirroring the losses of central banks, commercial banks generate high interest income due to the interest on their excess reserves in their central bank accounts and can therefore increase their profits. The ECB, but also the Deutsche Bundesbank, found themselves in a dilemma and were attacked from various sides, particularly due to the high profits of commercial banks, but also due to the resulting central bank losses. Politicians, economists, the media, and individual interest groups complain, on the one hand, about the central bank losses and the associated fiscal costs and criticize the fact that, on the other hand, the banking sector is making unjustifiably high and risk-free windfall profits that should go to the state or society. The *Süddeutsche Zeitung* ran the following headline in January 2023: "These profits belong to society".<sup>21</sup> "Der Spiegel" noted in February 2023: "German banks collect billions from the ECB".<sup>22</sup> The "Bürgerbewegung Finanzwende" in Germany demanded in February 2023: "ECB should stop risk-free profits of banks"<sup>23</sup> and wrote an open letter to ECB President Lagarde in October 2023 with the same demand.<sup>24</sup>

In an article and at a public lecture at the Deutsche Bundesbank, De Grauwe criticized the massive subsidization of banks and proposed a drastic increase in the Eurosystem's minimum reserve ratio to reduce the banks' interest-bearing excess reserves.<sup>25</sup> At the same time, however, various voices warned against such a policy, especially from the banks concerned, but also economists. For example, Bofinger, former member of the German Council of Economic Experts, argued in February 2023 in response to the proposal by De Grauwe and Ji that the required increase in the minimum reserve ratio in the Eurosystem would mean a tax on banks' central bank deposits, which would result in a relocation of banking business to third countries outside the EMU, especially to London.<sup>26</sup>

After the debate flared up again in the fall of 2023 and the governor of the Austrian National Bank, Holzmann, suggested raising the minimum reserve ratio to up to 10%<sup>27</sup>, several representatives of German banks expressed their outrage. Sewing, President of the Association of German Banks (BDB), for example, called for an end to the debate on the fringes of the IMF's autumn 2023 meeting in Marrakesh, citing the resulting competitive disadvantages for banks in the EMU compared to financial centers in third countries.<sup>28</sup>

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<sup>19</sup> Belhocine, Bhatia, Frie (2023), p. 5.

<sup>20</sup> Fischer (2022).

<sup>21</sup> *Süddeutsche Zeitung* (2023).

<sup>22</sup> *Der Spiegel* (2023).

<sup>23</sup> Finanzwende (2023a).

<sup>24</sup> Finanzwende (2023b).

<sup>25</sup> De Grauwe (2023) and De Grauwe, Ji (2023).

<sup>26</sup> Bofinger (2023).

<sup>27</sup> *WirtschaftsWoche* (2023).

<sup>28</sup> *Börsen-Zeitung* (2023a).

## 5. On the effects of central bank purchasing programmes on government finance

The purchase of government bonds by central banks is generally regarded as problematic. On the one hand, there is the risk of monetary financing of government debt and, on the other, the issue of risk taking by central banks.

Weidmann and Krämer (2024) point out that the EU treaties prohibit monetary financing of government debt so that a central bank does not prioritise the solvency protection of the state over its primary mandate of price stability. In its “PSPP ruling” of 5 May 2020, the Federal Constitutional Court in Germany did not find an obvious circumvention of this prohibition because “acquired debt instruments are to be returned to the market if continued intervention is no longer necessary to achieve the inflation target”. This is precisely what would happen if the central banks were to hold government bonds on a large scale in the long term, as currently appears to be the case.<sup>29</sup> Concerning the issue of risk taking by central banks, Brunnermeier and Reis (2023) conclude that central banks become insurers against major macroeconomic risks because of inefficient government action and thus outgrow their normal tasks. It is then possible for central banks to put the goal of combating inflation on the back burner, as they allegedly fail to recognise the danger of “emerging” inflation in good time.<sup>30</sup>

The USA, the EMU, and other European countries seem to be dependent on low interest rates due to their high government debt as governments are unwilling to follow stricter fiscal rules. Moreover, large central bank balance sheets were and are inevitably linked to political desires. Politicians and parts of the public at large saw and still see the assets in these balance sheets (and their earnings) as free and costless money that was miraculously created. Proposals on how to open extrabudgetary funds from this honeypot and use them to promote all kinds of pet projects for which no taxes would have been available in the normal budget process sprang up like mushrooms.<sup>31</sup>

Various aspects of these developments are analysed below. Questions focus on the extent to which these programmes change the extent (or scope) to which central banks are exposed to different types of risk.

### a. Transfer of macroeconomic risks

The question comes up to which extent have macroeconomic risks been transferred from the government budget to central banks. Between 2015 and mid-2023 around 60 per cent of the change in the Eurosystem's balance sheet has been attributable to the expansion of the stock of debt securities (€3.7 tln out of €6.2 tln). The share of government securities (€2.7 tln out of the total of €3.7 tln) was particularly large compared to bonds issued by EMU corpora-

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<sup>29</sup> Weidmann, Krämer (2024).

<sup>30</sup> Brunnermeier, Reis (2023).

<sup>31</sup> Brunnermeier, Merkel, Sannikov (2022).

tions or abroad (Table 2). Nevertheless, the Eurosystem's portfolio of government debt securities increased fivefold (from € 0.7 tln to € 3.4 tln). In contrast, the volume of EMU government debt securities issuances only increased by € 1.3 tln in the reporting period. This means that the Eurosystem has purchased more than half of its government bonds on the secondary market. It resulted in "real" predatory competition on the market for government securities: the increase in the portfolio of €2.7 tln by the Eurosystem was offset by decreases in financial investments abroad (-€0.5 tln) and of resident (non-financial and financial) corporations (-€1 tln).

Table 2: Balance sheets of the Eurosystem and of EMU general government

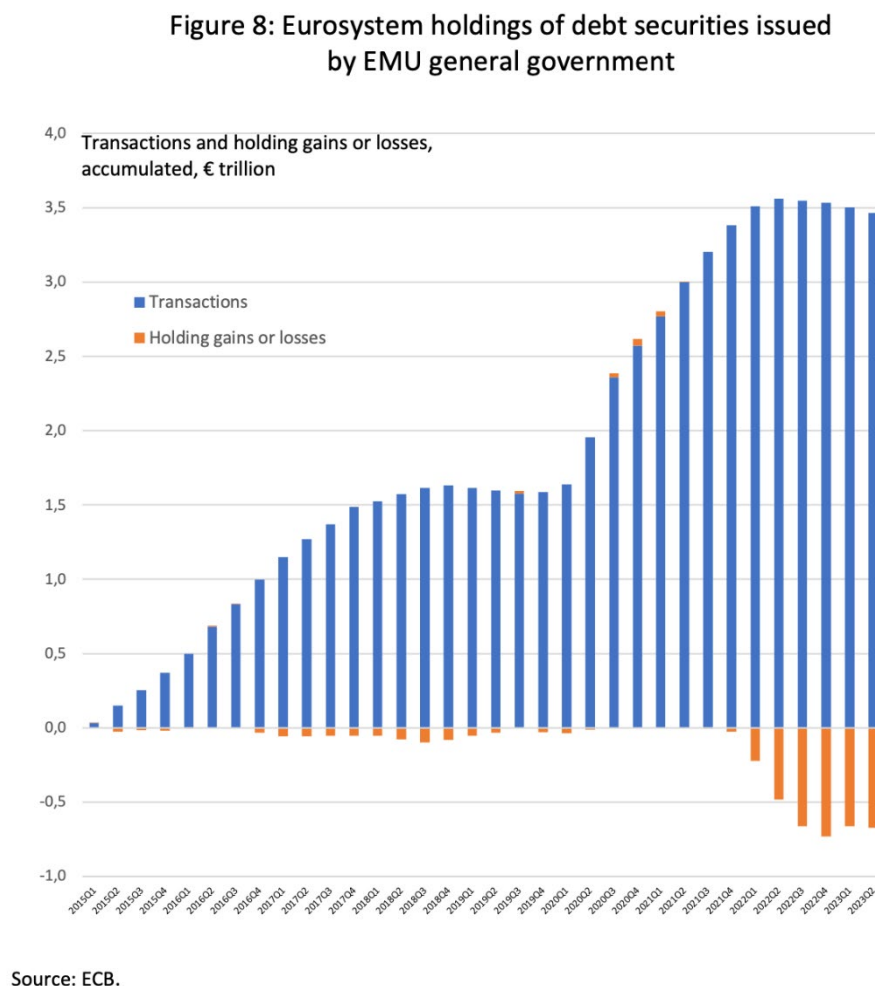
€ tln

	Financial assets			Liabilities		
	2015-03	2023-06	Change	2015-03	2023-06	Change
<b>Eurosystem</b>						
<b>Financial assets / liabilities</b>	<b>4.16</b>	<b>10.32</b>	<b>6.15</b>	<b>4.17</b>	<b>10.32</b>	<b>6.15</b>
<i>Monetary gold and SDRs</i>	<b>0.44</b>	<b>0.80</b>	<b>0.35</b>	<b>0.06</b>	<b>0.18</b>	<b>0.12</b>
<i>Currency (Banknotes in circulation)</i>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.05</b>	<b>1.60</b>	<b>0.55</b>
<b>Deposits</b>	<b>2.44</b>	<b>4.57</b>	<b>2.13</b>	<b>2.41</b>	<b>8.33</b>	<b>5.92</b>
<i>Vis-a-vis Residents</i>	2.41	4.50	2.09	2.26	7.89	5.63
o/w Financial corporations				2.20	7.63	5.43
o/w Eurosystem				1.76	3.77	2.02
o/w Other MFIs (Deposit facility)				0.40	3.76	3.36
o/w General Government				0.05	0.25	0.20
<i>Vis-a-vis nonresidents</i>	0.03	0.06	0.03	0.15	0.43	0.29
<b>Debt securities</b>	<b>1.13</b>	<b>4.80</b>	<b>3.67</b>			
<i>Vis-a-vis Residents</i>	0.85	4.25	3.40			
Nonfinancial corporations	0.00	0.23	0.23			
Financial corporations	0.19	0.64	0.46			
o/w Eurosystem						
o/w Other MFIs	0.16	0.51	0.35			
General Government	0.66	3.37	2.71			
<i>Vis-a-vis nonresidents</i>	0.28	0.54	0.26			
<b>Loans</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Equity</b>	<b>0.04</b>	<b>0.08</b>	<b>0.04</b>	<b>0.61</b>	<b>0.16</b>	<b>-0.45</b>
<b>Other financial assets</b>	<b>0.12</b>	<b>0.08</b>	<b>-0.03</b>	<b>0.04</b>	<b>0.06</b>	<b>0.02</b>
<b>General Government</b>						
<b>Financial assets / liabilities</b>	<b>5.44</b>	<b>7.43</b>	<b>1.99</b>	<b>12.89</b>	<b>15.32</b>	<b>2.43</b>
<b>Deposits</b>	<b>0.89</b>	<b>1.46</b>	<b>0.57</b>	<b>0.46</b>	<b>0.67</b>	<b>0.21</b>
<i>Vis-a-vis Residents</i>	0.85	1.43	0.58			
o/w Eurosystem	0.05	0.25	0.20			
<i>Vis-a-vis Nonresidents</i>	0.04	0.03	-0.01			
<b>Debt securities</b>	<b>0.49</b>	<b>0.53</b>	<b>0.04</b>	<b>9.04</b>	<b>10.32</b>	<b>1.28</b>
<i>Vis-a-vis Residents</i>	0.38	0.40	0.02	6.35	8.10	1.75
Nonfinancial corporations	0.02	0.02	0.00			
Financial corporations	0.09	0.11	0.02			
o/w Eurosystem				0.66	3.37	2.71
o/w Other MFIs	0.06	0.08	0.02			
General Government	0.27	0.27	0.00			
<i>Vis-a-vis Nonresidents</i>	0.11	0.13	0.02	2.69	2.22	-0.47
<b>Loans</b>	<b>1.02</b>	<b>1.60</b>	<b>0.58</b>	<b>2.39</b>	<b>2.62</b>	<b>0.22</b>
<b>Equity</b>	<b>2.08</b>	<b>2.55</b>	<b>0.47</b>	<b>0.13</b>	<b>0.23</b>	<b>0.10</b>
<b>Other financial assets</b>	<b>0.96</b>	<b>1.30</b>	<b>0.33</b>	<b>0.87</b>	<b>1.48</b>	<b>0.61</b>

Source: ECB.

The accumulated increase in the portfolio (by € 2.7 tln) resulted from transactions of € 3.5 tln (Figure 8), offset by holding losses of € 0.7 tln.<sup>32</sup> Two waves of purchases were carried out: the first between mid-2015 and the end of 2017 and the second due to the outbreak of the Coronavirus pandemic from mid-2020 to the beginning of 2022. Purchases then came to a standstill - combined with increasing holding losses starting in 2022 and increasing to € 0.7 tln up to mid-2023. The repurchase of government debt securities that began in mid-2022 (associated with realised losses) was rather hesitant (€-10 bln).

The continuous purchase of government bonds by the Eurosystem means that the Eurosystem (the ECB and national central banks) and EMU governments enter a close financial investment-financing relationship. In analogy, the IMF speaks of a combined sector "monetary authority". In its consolidated balance sheet, corresponding items of debt securities on the government's liabilities side and the central bank's asset



side balance each other out (Table 2). However, monetary authority is exposed to interest rate risk. By purchasing fixed-interest government bonds, the Eurosystem takes over a portion of the government debt instruments placed on the market and passes on the market price to the sellers of the debt securities, the commercial banks, which is credited to them as a balance on their central bank accounts. This means a swap from a fixed-interest to a variable-interest government debt instrument.

As the liquidity created to finance government debt is subject to variable interest rates and the central banks legally belong to the governments, the key interest rate hike directly increases the governments' financing costs. In addition, the independence of the ECB can also be jeopardised with a large central bank balance sheet because long-term bonds on the assets

<sup>32</sup> According to the accounting rules of the SNA, these holding losses are unrealised losses.

side are offset by short-term interest-bearing excess reserves. Due to this maturity mismatch, which did not exist before the purchase programmes, a tightening of monetary policy leads to high losses, as is currently the case at the Deutsche Bundesbank in particular.<sup>33</sup>

In national accounts, a distinction is made by defining interest on debt securities following the debtor approach or the creditor approach.<sup>34</sup> For the debtor approach, interest is defined from the perspective of the issuer of debt instruments - in our case, debt securities issued by national governments. The interest rate to be paid and accrued is contractually fixed and is therefore not affected by changes in the market interest rate; in addition, the borrowing costs are known for the entire term of the debt instrument. The creditor approach defines interest from the perspective of the holder of debt securities - in our case, the Eurosystem. Interest accrued reflects current market conditions and expectations. The rate of interest on the debt security is not fixed but fluctuates with market conditions. It is in line with an active portfolio management approach because it shows the returns vis-à-vis the market value of the portfolio. At any point in time, interest accrued is determined using the current yield to maturity.<sup>35</sup>

There are no differences between the two approaches if the value of the debt security remains unchanged throughout its life. However, the market value of a debt security does in practice vary during its life and debt securities are usually bought and sold on secondary markets. The recording of revaluations and of realised holding gains or losses in accordance with the debtor approach therefore usually deviates from the corresponding recording following the creditor approach.<sup>36</sup>

If the central bank (the Eurosystem) buys government bonds, these securities become financial assets in the extended balance sheet of the Eurosystem and the EMU government. If securities issues are taken over directly by the Eurosystem and held until maturity, this has no effect on the interest rate risk. All other cases (purchase on issue and sale before maturity, purchase on the secondary market and sale before or on maturity) mean taking on an interest rate risk, which can only be compensated for by purchasing corresponding costly interest rate swaps.

## b. Default risk

An “ordinary” corporation is immediately put under pressure by negative equity. This is because if the outstanding debt exceeds the value of assets, a corporation is over-indebted and normally also illiquid. It loses its ability to operate and must be reorganized or liquidated; in case of recapitalization it needs fresh equity. If this is not possible because no investors can be found, the only option is liquidation. It is essential for corporations to always have sufficient risk bearing capital. However, things are quite different for central banks. It is true that they are from a legal point of view corporations that report balance sheets and income statements

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<sup>33</sup> Weidmann, Krämer (2024).

<sup>34</sup> IMF, BIS, ECB (2015).

<sup>35</sup> BPM6 (2013), para. 11.50 (a) and (b).

<sup>36</sup> This implies that across institutional sectors of an economy, interest receivable and payable may be not equal in general.

and transfer profit its owner, the government. Apart from this, however, central banks are hardly comparable with private corporations. This is because they cannot have a lack of liquidity in their own currency. Thanks to their banknote monopoly, they have the privilege of being able to create the amount of liquidity they need virtually out of thin air at any time. In fact, central banks are still able to act even with negative equity. They can implement their monetary policy decisions and are not normally forced to recapitalise.

Nevertheless, negative equity can be harmful and threatening. The latter is the case when undercapitalisation persists for a long time and begins to have a detrimental effect on the credibility of monetary policy. The Czech National Bank, for example, reported negative equity without interruption between 2002 and 2014 without this causing any problems. The situation was bleaker for other central banks. The Swedish Riksbank recently reported negative equity following heavy losses.<sup>37</sup> On the one hand, Thedén, Governor of the Riksbank, was reassuring: "Negative equity does not affect the Riksbank's ability to conduct monetary policy in the short term." On the other hand, he added: "In order to maintain confidence in an independent monetary policy in the long term, it is necessary for the Riksbank to be financially independent, i.e. to have sufficient equity and income to cover its costs." Due to the legal requirements in Sweden, it recently had to ask parliament for recapitalisation.<sup>38</sup>

Losses and ultimately negative equity are therefore not completely unproblematic, even for central banks. Firstly, in such cases it is usually not possible to distribute profits to government. Secondly - and more importantly - their reputation suffers if the situation persists for a long time. For example, "negative equity would imply that the central bank money supply is insufficiently covered by assets, which would certainly be detrimental to the credibility of the currency".<sup>39</sup> Conflicting objectives would be inevitable. This would be the case, for example, if a central bank had to fight inflation with a restrictive monetary policy while at the same time creating a lot of new money to stabilise its balance sheet.

According to the ECB Convergence Report of 2022, financial independence in the EMU presupposes that the relevant central banks always have sufficient financial resources. If their equity turned negative, the respective member states would therefore have to provide their central bank with an appropriate amount of capital "within a reasonable period of time".<sup>40</sup> The question remains as to how the sharp decline in the (reported) equity of the Eurosystem

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<sup>37</sup> Fuster (2023).

<sup>38</sup> Föllmi (2023).

<sup>39</sup> Brunetti, Föllmi (2021).

<sup>40</sup> Financial independence also implies that an NCB should always be sufficiently capitalised. In particular, any situation should be avoided whereby for a prolonged period of time an NCB's net equity is below the level of its statutory capital or is even negative, including where losses beyond the level of capital and the reserves are carried over. Any such situation may have a negative impact on the NCB's ability to perform its ESCB-related tasks but also its national tasks. Moreover, such a situation may affect the credibility of the Eurosystem's monetary policy. Therefore, the event of an NCB's net equity becoming less than its statutory capital or even negative would require that the respective Member State provides the NCB with an appropriate amount of capital at least up to the level of the statutory capital within a reasonable period of time so as to comply with the principle of financial independence. As concerns the ECB, the relevance of this issue has already been recognised by the Council by adopting Council Regulation (EC) No 1009/2000 of 8 May 2000 concerning capital increases of the European Central Bank (OJ L115, 16.5.2000, p.1.). See European Central Bank (2022).

by €0.5 tln (from €0.6 tln to €0.2 tln) between the beginning of 2015 and mid-2023 is to be understood.

### c. Losses

What amount of losses might result for the central banks and therefore the governments in the EMU? A simple calculation by De Grauwe and Ji in January 2023 assumed a deposit rate in the Eurosystem of 2% (at that time), which would result in interest payments to the banks of € 92 billion in 2023 with deposits from banks in the Eurosystem amounting to € 4.6 tln.<sup>41</sup> This figure was picked up in the media and criticized as lost losses for the state and unjustified, risk-free profits for the banks. De Grauwe and Ji feared that this would lead to additional fiscal austerity, as governments would have to compensate for the resulting central bank losses in the current year (under certain balance sheet rules) or, if the central banks' losses are offset later by future profits, would have to forego the "delivery" of central bank surpluses for many years.

Gros and Sahmsfakhr also used a relatively simple calculation to estimate the accumulated losses of the Eurosystem over a period of 10 years in an article published in July 2022, which received less attention at the time.<sup>42</sup> The calculation was made for EMU taxpayers because of the securities purchase programmes and the banks' interest-bearing excess reserves at around € 700 bln. According to their calculations, the bonds purchased by the central banks in the Eurosystem yield an average of 0.5% per year. Assuming an average deposit rate of 3% on the banks' central bank deposits over the holding period until maturity gives net interest payments of 2.5%. With an average holding period of 7 years, this results in losses of 17.5% of the outstanding bonds. Multiplied by a bond portfolio of € 4.2 tln, this results in losses of around € 700 bln.

IMF staff published a more extensive study in June 2023 with projections on the development of the central bank balance sheets of the five largest economies in the EMU (Germany, France, Italy, Spain, and the Netherlands). Germany comes off worst, as the Deutsche Bundesbank will not transfer any profits to government from 2020 to 2031 according to the projections.<sup>43</sup>

However, these studies or policy papers do not consider the profits like gains made by national governments, which the EMU fiscal authorities achieved by artificially lowering yields and thus interest rates on government bonds issued during the long period of the securities purchase programmes. The financing costs of government debt were significantly reduced by the purchase of government bonds by the central banks, which acquired up to a third of the outstanding government debt of the EMU member states.

The yield on German government bonds has been pushed to zero or below since the announcement of the major quantitative easing program in March 2015. Yields in the other EMU

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<sup>41</sup> De Grauwe, Ji (2023).

<sup>42</sup> Gros/Sahmsfakhr (2022).

<sup>43</sup> Belhocine, Bhatia, Frie (2023), p. 26.

countries have followed this trend, with interest rate spreads on German government bonds no longer reflecting market risk assessments due to the ECB's quasi-guarantee.

The Deutsche Bundesbank has calculated the amount of interest saved on government debt up to 2017. This resulted in cumulative savings of around 8% of GDP (around € 250 bln) for the German government between 2008 and 2016.<sup>44</sup> Unfortunately, updated calculations were not published by the Deutsche Bundesbank thereafter. One should keep in mind, that the real long-term yields on government bonds remained negative since mid-2011 up to now.

## 6. The “dilemma” of the Deutsche Bundesbank and other central banks

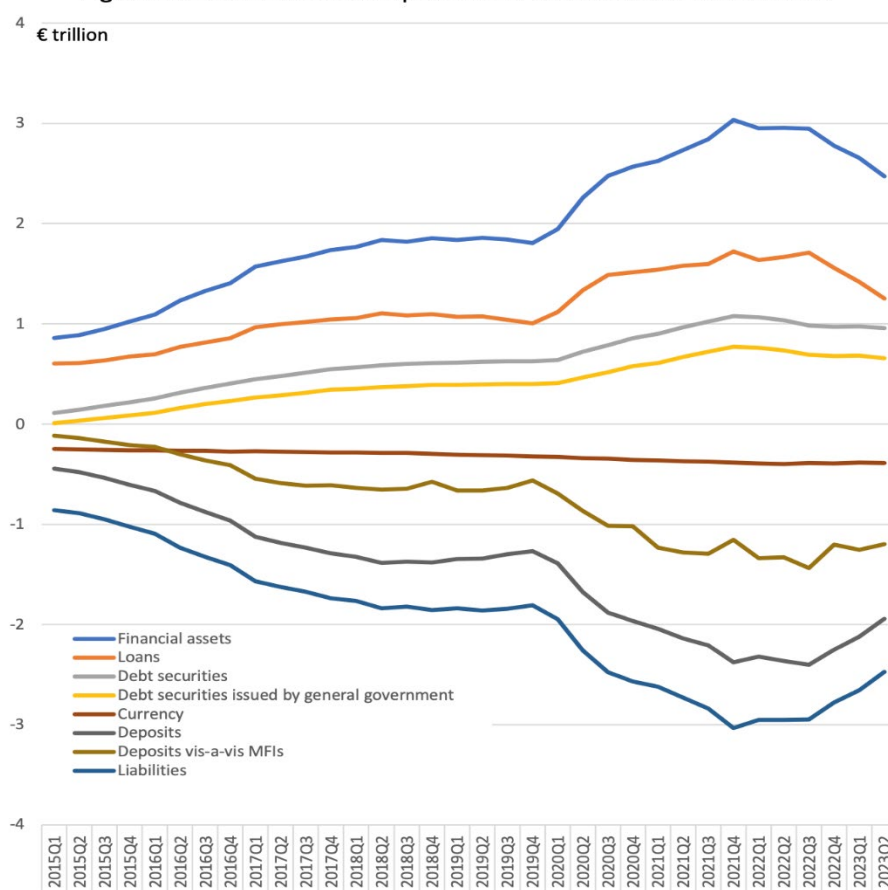
### a. The Deutsche Bundesbank

The Deutsche Bundesbank, the largest national central bank in the Eurosystem, covers approximately one fourth of the Eurosystem’s financial assets and liabilities. As illustrated in Figure 9, the peak in its accumulated financial assets was reached by the end of 2021 (€3 tln), of which €1.7 tln was in loans and €1.1 tln in debt securities. Most of them (€ 0.7 tln) were government bonds.<sup>45</sup>

The decrease in loans and deposits was particularly severe due to their maturity and return to the commercial banks. The portfolio in debt securities developed somewhat different, as their decline was largely due to holding losses (Figure 10). They totalled more than € 150 billion over the last six quarters up to mid-2023.

However, these losses are unrealised and, therefore, generally not

Figure 9: Balance sheet components of the Deutsche Bundesbank



Source: ECB. Amounts outstanding of liabilities (currency and deposits) are shown as negative values.

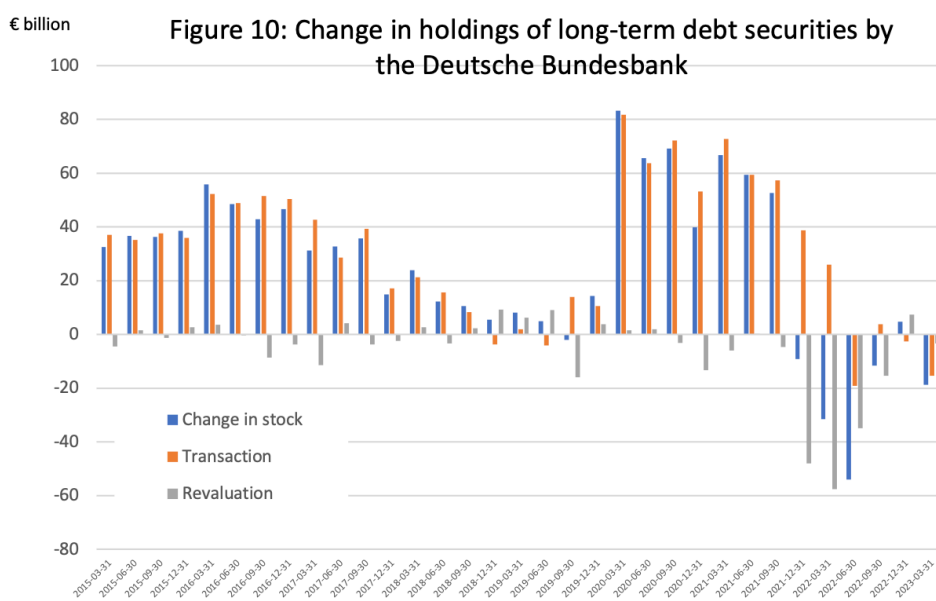
<sup>44</sup> Deutsche Bundesbank (2017).

<sup>45</sup> The time series pattern largely corresponds to that of the Eurosystem (Figure 2).



currently included in the income statement. In this respect, it is not yet possible to conclusively assess the extent to which this will affect the future development of the Deutsche Bundesbank's earnings position. The Deutsche Bundesbank is not required to recognize losses from changes in the market values of the debt securities on its balance sheet due to its accounting rules.

Debt securities are measured at amortized cost, irrespective of whether they are held to maturity or not. The same applies to non-marketable securities and securities held for monetary policy purposes by decision of the Governing Council of the ECB.<sup>46</sup> Table 3 shows the balance sheet values at the end of 2022 and the reduced market values of the securities purchased on the market as part of the individual programmes (APP and PEEP).



Source: ECB.

Table 3: Deutsche Bundesbank: Balance sheet value and market value of debt securities holdings

€ billions

	Balance sheet value	Market value	Year-on-year change
APP subtotal	719.2	631.7	-67.8
PEPP subtotal	353.8	302.5	-39.0
Total	1,073.0	934.3	-107.9
of which: government sector	approx. 85%		

Data source: Deutsche Bundesbank, Annual Report 2022, p. 49 f.

However, the Deutsche Bundesbank may have to recognise large losses in its accounts in the coming years due to the sharp rise in interest rates and the structure and maturity of important asset and liability items. For the 2023 financial year, it will probably be possible to limit the losses to some extent by reversing further provisions that are still amply available

<sup>46</sup> Deutsche Bundesbank (2023b), p. 49 et seq.

and by distributing losses within the Eurosystem (so-called pooling).<sup>47</sup> According to the data available up to the end of October 2023, there will be a significant negative swing in the Deutsche Bundesbank's net interest income, which could be around €20 bln. This amount is calculated using simplified assumptions by comparing the estimated results for 2023 due to the increase in key interest rates with the amounts for the 2022 financial year for the most important components of interest income and expenses only.

Table 4 shows the estimated swing in net interest income. The items indicated in the table still contributed net interest income of € 2.8 bln to the Bundesbank's balance sheet result in 2022. According to preliminary rough estimates, they are likely to account for a net interest loss of €17 ½ bln in the income statement in 2023. The Bundesbank's interest income and expense are derived from estimates of the average annual amounts outstanding multiplied by the respective average interest rate for the various financial instruments. The estimated amounts outstanding of debt securities and long-term loans are also shown in Table 4. With an (estimated) average level of excess reserves in the deposit facility of €1.2 tln and an annual average deposit rate of 3.3%, for example, interest payments to commercial banks holding excess reserves amount to around €40 bln. This figure is also frequently cited in the media as unjustified bank profits.

Table 4: Amounts outstanding of financial instruments  
and corresponding interest income and expenditure of the Deutsche Bundesbank

€ billions

Interest bearing financial instrument / balancing item	Interest income (+) / expense (-) (€ bln)		Amount outstanding (€ bln)	Average interest rate applied (% p.a.)	Type of interest
	2022	2023 (estimate)			
<b>Financial assets</b>		(i)=(ii)*(iii)	(ii)	(iii)	
Long-term refinancing operations	-2.0	-0.9	164.6 <sup>a)</sup>	-0.50	Negative interest rate
Debt securities for monetary policy purposes	2.8	2.7	1,051.6 <sup>a)</sup>	0.26	Interest on bonds
Target balance	7.3	41.3	1,086.6 <sup>b)</sup>	3.8	Main refinancing rate
<b>Liabilities</b>					
Minimum reserve	-0.3	-1.3	45.0 <sup>c)</sup>	2.86	Until 26 July 2023, deposit rate, thereafter 0%
Excess reserves	-2.0	-39.9	1,208.0 <sup>d)</sup>	3.30	Deposit rate
Allocation of banknotes in circulation in the Eurosystem	-3.0	-20.1	530.0 <sup>e)</sup>	3.8	Main refinancing rate
<b>Balancing item</b>	2.8	-18.2			
<b>"Swing" of balancing item</b>	<b>-21.0</b>				

Source: Deutsche Bundesbank, Annual Report 2022 and Bundesbank data; estimates for 2023.

<sup>a)</sup> Average balance 01.01.-01.12.2023. <sup>b)</sup> Average balance 2023. <sup>c)</sup> Average Jan-Nov 2023. <sup>d)</sup> Average balance 01.01.-01.12.2024. <sup>e)</sup> Average balance 01.01.-01.12.2023.

<sup>47</sup> The losses were mainly due to the devaluation of currency reserves and falling asset prices.

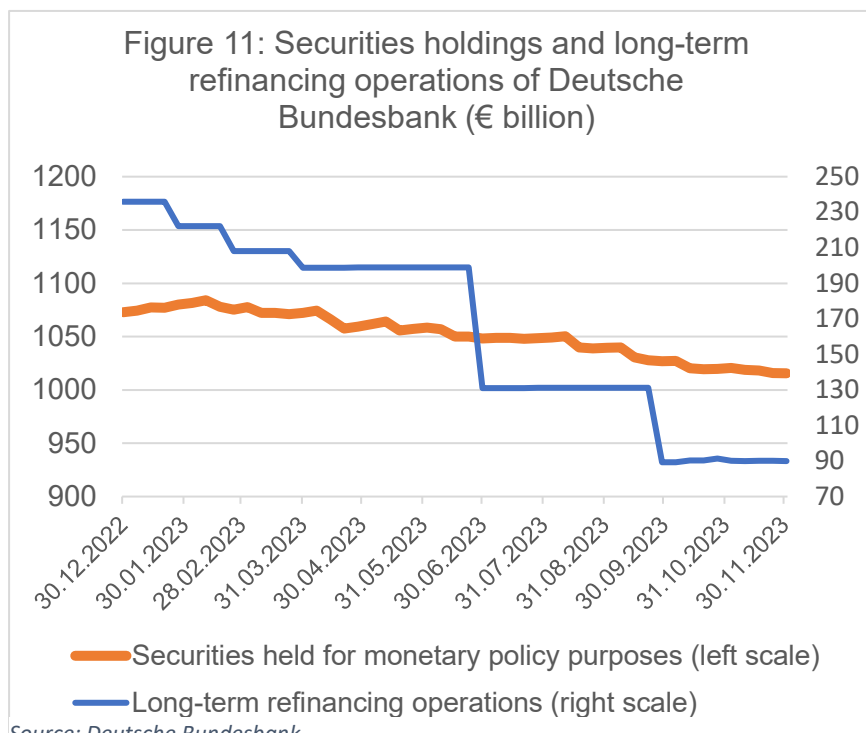
The Bundesbank's interest income from the portfolio of "securities for monetary policy purposes" amounted to just €2.8 bln in 2022. This corresponds to an interest rate of 0.26% on the average portfolio of these securities (€1,073 bln). In 2023, the Bundesbank was only able to reduce its holdings of these securities slightly in line with the Eurosystem's monetary policy stance (Figure 11). Interest income is therefore likely to be at a similarly low level of around €2 ½ bln.

In 2022, for the first time in many years, interest income of € 7.3 bln resulted from the interest on the Deutsche Bundesbank's high positive Target balance with the Eurosystem, which could rise to € 41 ½ bln

in 2023, as the Target balances bear interest at the sharply increased main refinancing rate.

Under c. p. conditions (no change in the Bundesbank's other balance sheet items compared to the previous year), the negative swing of € 21.0 billion in net interest income according to the values shown in Table 4 is the difference between the net interest expense (loss) of € 18.2 billion in 2023 and the net interest income (gain) of € 2.8 billion still recognised in 2022.<sup>48</sup>

However, this result can still be significantly changed by the reversal of provisions. In its balance sheet at the end of the 2022 financial year, the Deutsche Bundesbank reports provisions for "general risks" amounting to €19 bln. It is not possible at this point to forecast the extent to which these provisions can be reversed in 2023 and subsequent years. In the 2022 financial year, the Bundesbank reversed €972 mln in provisions for general risks and thus improved the annual result, so that the net loss for the year was offset by the withdrawal from the reserve in the amount of €170 mln and thus a "balance sheet profit of zero" (according to the Bundesbank's terminology) was achieved.<sup>49</sup>



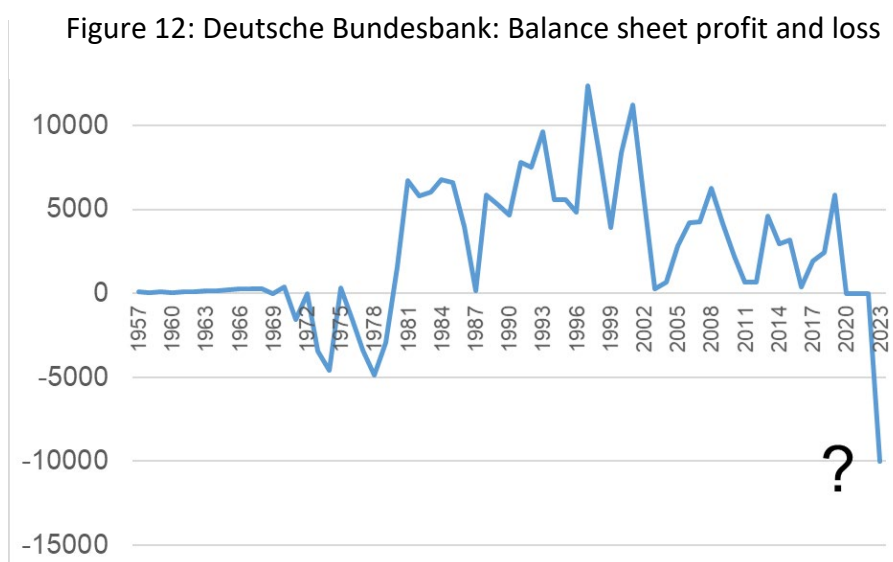
<sup>48</sup> The need for a sufficient equity base is always emphasised. How large the equity - consisting of the provisions for various reserves and the (almost negligibly small) share capital - should be is left open. However, with the strong expansion of its balance sheet and the associated decline in the equity ratio, the Deutsche Bundesbank has gradually increased the allocations to the provisions.

<sup>49</sup> Deutsche Bundesbank (2023b), p.34ff.

In addition, profits or losses of the national central banks in the Eurosystem are redistributed through a pooling system in accordance with their respective capital shares in the Eurosystem. As the results of the other 19 EMU member states cannot be estimated, it is unclear to what extent the pooling operation affects the annual result of the Deutsche Bundesbank in the income statement.

However, the Deutsche Bundesbank is expected to suffer a loss in 2023. According to IMF staff projections, the bank will report losses in the years 2023 to 2026 that will significantly exceed the sum of the provisions of € 19 bln available at the end of 2022 and the share capital and reserves of € 6 bln combined. The bank will therefore have to report losses carried forward or negative equity. The IMF study forecasts that the accumulated losses for the years 2023-2026 will only be offset again in 2031 - after four years of profits. This means that the German treasury could not benefit from a transfer of any balance sheet profits until 2032.<sup>50</sup>

Balance sheet losses are nothing out of the ordinary for the Deutsche Bundesbank, as can be seen in Figure 12. In the 1970s, the Deutsche Bundesbank incurred high currency losses in 7 out of 10 years due to the strong appreciation of the D-Mark at the time and correspondingly high costs. These losses were realised due to extensive value adjustments on foreign exchange reserves, primarily US dollars. However, a shortfall in equity was never openly recognised; instead, hidden reserves were used. There is a reason why the matter was handled in a non-transparent manner in terms of accounting.



Source: Deutsche Bundesbank.  
The data on the 2023 loss will be published by end-February 2024.

Since 1981, however, the Deutsche Bundesbank has generally recorded higher balance sheet profits, which have been transferred in full to the German treasury. The Bundesbank's balance sheet profit from 1957 to 2022 amounted to €171.5 bln, with as much as €186.5 bln distributed to the federal government.

Regarding the losses that will occur in the coming years, the Bundesbank "suffers" the most among the large EMU countries because, on the assets side of its balance sheet, the holdings of German government bonds in particular, with their excellent credit rating, have the lowest

<sup>50</sup> Belhocine, Bhatia, Frie (2023), p. 17-23; Deutscher Bundestag (2023).

interest rates in Europe.<sup>51</sup> According to the IMF staff's projections, the other major central banks in the EMU will be able to recoup their cumulative losses much earlier, with Spain already able to do so in 2025, the Netherlands in 2026 and France in 2028. The Banca d'Italia will even be able to avoid losses entirely, as the interest rate spread of Italian government bonds compared to German government bonds is relatively high and the Italian banks hold significantly lower excess reserves at their central bank.<sup>52</sup>

Expected losses of the Deutsche Bundesbank may lead to a loss carryforward or the Bundesbank may have to report negative equity, as its share capital and reserves amount to only €5.5 bln and can only be used in part to offset net losses for the year.

Loss carryforwards or negative equity do not prevent the effectiveness of monetary policy if the central bank has suitable monetary policy instruments and a sensible strategy. Nor do they lead to insolvency as in the case of private companies and banks. In accordance with the balance sheet rules, the German government does not have to compensate for the loss either, so that there is no budgetary burden in an already very tight federal budget situation.<sup>53</sup>

However, a loss by the Deutsche Bundesbank will be discussed in public and will also require coherent, comprehensible communication by the Bank. This is unlikely to lead to a loss of credibility or reputation of the Deutsche Bundesbank in the public eye. However, as already mentioned, the scope of the securities purchase programmes and the costs of Germany's membership of the EMU may be discussed. After all, the Deutsche Bundesbank was forced to join the Eurosystem's securities purchase programmes, although the German representatives in the ECB Governing Council and former German members often took a skeptical position, especially regarding the duration and scope of the programs.<sup>54</sup>

## b. The cases of other central banks

In September 2023, the US Federal Reserve published figures showing that its losses had reached the US-\$ 100 bln mark. According to forecasts by English, a former high-ranking central banker and professor at Yale University, cumulative losses are likely to peak at around US-\$ 200 bln in 2025.<sup>55</sup> The Federal Reserve recognizes the accumulated losses in an item on its balance sheet as "deferred assets". As soon as the Federal Reserve generates profits again, these deferred assets must be successively offset before profits can be transferred to the Treasury.<sup>56</sup>

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<sup>51</sup> Belhocine, Bhatia, Frie (2023), p. 5.

<sup>52</sup> Belhocine, Bhatia, Frie (2023), p. 23.

<sup>53</sup> In an answer from Parliamentary State Secretary Toncar on June 26, 2023, to a question from a member of parliament, he clarifies that the fiscal impact of Bundesbank losses in the coming years will be limited to the absence of Bundesbank profits. He spoke of expected Bundesbank losses that would be reported as losses carried forward and would then have to be written off against future Bundesbank profits. (German Bundestag 2023, p. 42).

<sup>54</sup> See, for example, the statement of Hannoun, Issing, Liebscher, Schlesinger, Stark and Wellink (2019).

<sup>55</sup> Reuters (2023b).

<sup>56</sup> English and Kohn (2022), p. 3.

In July 2023, the Bank of England forecast net losses of over GBP 150 bln over the next 10 years. In the UK, the central bank's losses will have to be offset by the state, with annual payments of GBP 40 bln in the years 2023 to 2025, which will burden the state budget in an already tight budgetary situation.<sup>57</sup> Tucker therefore called for an adjustment of the Bank of England's monetary policy instruments to a "two-tier system", in which a large proportion of the banks' central bank deposits would no longer earn interest.<sup>58</sup> Unlike the Deutsche Bundesbank and the Eurosystem, the Bank of England does not use the minimum reserve instrument, meaning that it has to pay interest on all central bank deposits at the key monetary policy rate in order to control the money market interest rate.

There are also heated discussions and criticism of central banks in other countries. It makes sense to start with the main cause of central bank losses, namely the huge securities purchase programmes that major central banks around the world followed for many years. In Australia, for example, a government report sharply criticized the central bank policy of recent years, especially oversized securities purchase programmes during the Corona pandemic. These programmes had little impact on the real economy and fueled inflation, resulting in a sharp rise in nominal interest rates. The experts even doubted the expertise of the central bank's management and found it inadequate for its tasks.<sup>59</sup> The Reserve Bank of Australia's financial losses due to the securities purchase programmes accumulated to 43 bln Australian dollars in the last two fiscal years. As a result, the central bank had to report negative equity of € 17.7 bln for the end of the 2022-23 fiscal year in September 2023.<sup>60</sup>

A whole generation of economists and central bankers will probably have to deal with the analysis and assessment of the central banks' extremely expansionary monetary policy and the economic consequences of the quantitative easing and pandemic programmes (including their negative "side effects"). These issues are not the focus of the following discussion (although they will be taken up again in abbreviated form later). Regarding the economic policy question of how to deal with the current central bank losses, it must be noted that the governments of the countries concerned were able to finance their national debt for many years with very low or even negative interest rates on the government bonds they issued. In this respect, the sometimes harsh criticism of central bank policy by politicians and government representatives, but also from the media, is hypocritical, as they often applauded central bank policy and encouraged the central banks to pursue this policy of lavishly supplying central bank money at zero or even negative interest rates. Criticism tended to come from economists often described as conservative. In Germany, for example, from Sinn or the "Aktionskreis Stabiles Geld".<sup>61</sup> The BIS was one of the few renowned international organizations that repeatedly warned against an excessively expansionary monetary policy and its negative side effects.<sup>62</sup>

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<sup>57</sup> Reuters (2023a).

<sup>58</sup> Tucker (2022).

<sup>59</sup> Frankfurter Allgemeine Zeitung (2023).

<sup>60</sup> Reserve Bank of Australia (2023).

<sup>61</sup> Sinn (2021) and Gubitz, Jost, Seitz, Tödter, Ziebarth (2022).

<sup>62</sup> See e.g. Borio (2019).

## 7. How could central bank losses be reduced or avoided?

The losses forecast for many Eurosystem central banks over coming years depend on several factors, most of which are also directly linked to the Eurosystem's monetary policy. The development of the Eurosystem's loans to commercial banks and securities holdings on the assets side and the associated development of excess reserves on the liabilities side are the most important influencing factors. The interest rates on these items depend on central bank interest rates and the level of the minimum reserve ratio and therefore also on the monetary policy strategy and the effectiveness of monetary policy instruments. We will now take a closer look at these factors.

### a. Reduction in long-term loans to the banking system

The central banks of the Eurosystem can - if this is compatible with the monetary policy course - decrease their commercial bank deposits by reducing the loans to the banks accordingly and thus lowering the interest payments on the excess reserves at the deposit rate. For many years, the Eurosystem has granted most of its loans to banks in the form of the Targeted Longer-Term Refinancing Operations III (TLTRO III) with maturities of up to three years. In October 2022, they amounted to around € 2.1 tln. They therefore accounted for more than 99% of total loans to banks. Longer-term refinancing transactions then fell significantly by € 1.6 tln within a year to around € 0.55 tln at the beginning of October 2023, withdrawing central bank money from the banking system to the same extent. As a result of the Eurosystem's monetary policy change starting in mid-2022, no new extensive lending programmes are expected to be launched, meaning that longer-term refinancing transactions will continue to shrink over the next 12 months in line with the maturity of the securities, but also due to early repayments by individual banks. This also reduces the central banks interest payments on their financial assets, as the longer-term refinancing loans are also subject to negative interest rates of up to -0.5 %.

### b. Cutback of high debt securities holdings

In 2023, it would also have been in line with the Eurosystem's monetary policy course to actively reduce the high securities holdings with a policy of "quantitative tightening" in order not to rely solely on an increase in key interest rates with their longer impact lags to combat inflation. However, the ECB made it clear early on that it does not intend to actively sell securities even if the securities purchase programmes are discontinued and maturing securities are not reinvested. It apparently fears that - despite continued negative real interest rates - nominal interest rates for additional government bonds or government bonds from southern EMU countries in need of refinancing will rise. In its terminology, this would disrupt the monetary policy transmission mechanism. It is therefore caught in a self-generated dilemma.

An active sale of securities before maturity is possibly also wanted to be prevented because the sharp fall in bond prices would result in realised holding losses, which would likely trigger

a renewed major public debate about the rationale and, above all, the high volume of debt securities purchases.

The portfolio of "securities for monetary policy purposes" from the purchase programmes of the last 10 years has thus only shrunk by € 0.2 bln from its peak of just under € 5 bln in autumn 2022 to € 4.8 bln, which is significantly less than the reduction in loans to commercial banks. The Eurosystem stopped purchasing securities under the APP in July 2023. The expiring securities from this program are leading to a gradual reduction in the Eurosystem's balance sheet and thus also in the banks' excess reserves. However, the securities maturing under the PEPP will be fully reinvested by the Eurosystem until at least the end of 2024,<sup>63</sup> meaning that the Eurosystem's balance sheet will not shrink.<sup>64</sup>

### c. About a significant increase in the minimum reserve ratio

In July 2023, the Governing Council of the ECB decided to reduce the interest rate on banks' minimum reserve balances to zero percent.<sup>65</sup> Until then, the minimum reserve earned interest at the main refinancing rate. With a main refinancing rate of 4.5% and a reserve base of €16.5 tln in August 2022, the Eurosystem thus "saves" around € 7 bln in interest payments to commercial banks every year. Individual critics of this change in monetary policy instruments from the banks' camp pointed to the associated burdens for the banks.

The Eurosystem has opted for a minimum reserve when defining its monetary policy instruments. A minimum reserve is not used as a monetary policy instrument by all other major independent central banks. The Bank of England, for example, does not use a minimum reserve, as sufficient demand for central bank money and thus the effectiveness of monetary policy is also possible without this instrument by setting monetary policy interest rates.

The Deutsche Bundesbank, on the other hand, formerly had always used the minimum reserve instrument and, in the debate on the optimal design of the Eurosystem's monetary policy instruments, also took the view that only the minimum reserve could guarantee a stable demand for central bank money, even in the event of a possible decline in demand for cash. It therefore facilitates the fine-tuning of the money market. In addition, the minimum reserve instrument could also be useful in the event of a crisis and a sharp rise in the inflation rate to increase the demand for central bank money and thus the effectiveness of interest rate policy.<sup>66</sup>

At the beginning of the monetary union in 1999, the minimum reserve ratio was initially set at 2%, with the possibility of reducing or increasing it, if necessary, but to a maximum of 10%. However, following an amendment to EU law, it would theoretically also be possible to

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<sup>63</sup> ECB (2023b).

<sup>64</sup> The Eurosystem reserves the right to reinvest primarily in bonds from eurozone countries with particularly high interest rate spreads compared to German government bonds.

<sup>65</sup> ECB (2023c)

<sup>66</sup> Franke (1998), p. 289ff and Ruckriegel and Seitz (2003).



raise the minimum reserve ratio to over 10%. In December 2011, the ECB lowered the minimum reserve ratio from 2% to 1% to reduce the burden on commercial banks.<sup>67</sup>

Due to the massive purchase of debt securities because of the quantitative easing policy described above and the strong expansion of the Eurosystem's longer-term refinancing operations, banks' central bank deposits expanded to such an extent that only a small proportion of the banking system's central bank deposits were obligatory to meet the minimum reserve requirement (at a minimum reserve rate of 1%). At the beginning of October 2023, the banks' minimum reserve deposits accounted for only 4% of the banks' total deposits of € 3.6 tln in the Eurosystem. Most of the banks' deposits were therefore placed by them in the so-called deposit facility, which earns interest at the deposit rate.

One might therefore argue that the interest rate on the excess reserves in the deposit facility could be reduced to 0%. However, this is not possible as it would completely contradict the ECB's monetary policy. Interest must be paid on the excess reserves at the deposit rate because, as already mentioned, this represents the lower limit of the market interest rate on the money market in the event of an oversupply of central bank reserves. Due to the supply-side driven policy, this instrument has become de facto the ECB's de facto key interest rate.

De Grauwe and Ji, therefore, proposed a drastic increase in the minimum reserve ratio in the Eurosystem.<sup>68</sup> This would significantly reduce the interest-bearing excess reserves and convert them into the minimum reserves, which have been non-interest-bearing since July 2023, which would significantly reduce the losses of the Eurosystem's national central banks.

In a presentation at the Deutsche Bundesbank, De Grauwe calculated that an increase in the minimum reserve ratio from 1% to the current legal maximum of 10% would result in savings of € 59 bln for the central banks of the Eurosystem through avoided interest payments to banks.<sup>69</sup> The minimum reserve ratios mentioned by De Grauwe as examples and the potential savings in "profits to the banks" can be found with updated figures and applied to the German banking system and the Bundesbank in Table 5.

Table 5: Interest savings of the Deutsche Bundesbank with different minimum reserve ratios

Central bank balances of commercial banks	Minimum reserve ratio	Minimum reserve requirement (Reserve basis: € 4,536 billion)	Excess reserves	Interest savings
€ billions	% p.a.	€ billions		
1,224	1	45	1,179	1.5
1,224	2	91	1,133	3.0
1,224	10	454	770	15.0
1,224	27	1,224	0	40.3

Note: The Bundesbank's interest savings are equal to the banks' minimum reserve balances (non-interest-bearing) multiplied by the average deposit rate in 2023 (of 3.3%), which is payable if the balances are not held as non-interest-bearing minimum reserves at the above-mentioned minimum reserve rates but as interest-bearing excess reserves.

<sup>67</sup> EU Council Regulation 2531/98.

<sup>68</sup> De Grauwe, Ji (2023).

<sup>69</sup> De Grauwe (2023).

Raising the minimum reserve rate from 1% to 2% would only result in very small interest savings for the Deutsche Bundesbank of around € 1.5 bln. An increase to the current maximum possible rate of 10% would result in savings of € 15 bln. With a minimum reserve rate of 27%, the commercial banks' entire surplus reserves would "migrate" to the minimum reserve, meaning that interest payments to the banks for their central bank deposits would disappear completely.

De Grauwe's proposal attracted attention in the media and academia at the beginning of 2023, but there were largely no comments from the ECB or national central banks of the Eurosystem. In the summer of 2023, however, an increasing number of voices from central banks and ECB Governing Council members made the same proposal to increase the minimum reserve ratio. In September 2023, Holzmann, Governor of the Austrian National Bank, spoke of a possible increase in the minimum reserve ratio from 5% to 10%.<sup>70</sup> In an interview, Nagel, President of the Deutsche Bundesbank, did not want to rule out at least a moderate increase.<sup>71</sup>

However, there are good reasons not to follow this actionist and blanket proposal for all credit institutions in the EMU in practice. It would then probably have to be withdrawn in two- or three-years' time. This is because, according to IMF projections, the Eurosystem will then no longer be making losses. But this would not be the case for the Deutsche Bundesbank. The Eurosystem has brought itself into this "misery" situation. Commercial banks also had no desire for the unprecedented flood of liquidity in the form of central bank money, as they initially had to pay interest on their balances at the central bank at time rates and in some cases even at negative rates. Instead, they assisted the Eurosystem as intermediaries on the bond market - as required by the constitutions. Direct government debt financing by the central bank is still not permitted in the EU for very good reasons.<sup>72</sup>

Governments have mostly applauded the gigantic purchase of government bonds over several years. After all, this allowed them to benefit from much more favorable financing conditions. Now they are receiving a bill that just the flipside of the coin. These are the often concealed or at least carelessly overlooked costs of the QE programs. However, some want to make them forgotten by looking for a new culprit in the form of the banks, which have had a bad reputation in the public eye since the 2008 financial market crisis.

In addition to the fiscal gains made by governments in financing their sovereign debt by issuing bonds, the Eurosystem made considerable profits of around € 300 bln between 2012 and 2021. These profits resulted primarily from the fact that the commercial banks had to pay interest to the central banks for their high excess reserves with a negative deposit rate. The ECB referred to this as a fee for holding these deposits.<sup>73</sup> The interest rate for the deposit

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<sup>70</sup> WirtschaftsWoche (2023).

<sup>71</sup> Börsen-Zeitung (2023b).

<sup>72</sup> Jost (2023a).

<sup>73</sup> To relieve the banks of this burden at least partially, it was possible to deposit part of the excess reserves not in the negative interest-bearing deposit facility, but in current accounts with the central banks of the Eurosystem, whose interest rate was not negative or less negative than the interest rate of the deposit facility. See e.g. Klose (2020).

facility was negative from 11 June 2014, to 26 July 2022. Most of the Eurosystem's profits were distributed to the shareholders, the respective countries, and increased government revenue.

In this view, the national governments received advance profits from the central banks, which are now reversed in the event of a change in monetary policy because of high inflation, whereby the surge in inflation was also largely caused by the spending policies of governments and the overly expansive monetary policy of the Eurosystem over a long period of time.

Accusing the banks of acting greedily and unjustifiably therefore seems cynical. A drastic increase in the minimum reserve ratio to absorb the high excess reserves caused by the central banks themselves should therefore be rejected from a regulatory point of view. This is akin to suddenly changing the rules of the game during the game if the result does not suit one party, which is their own fault. The credibility of the central banks would be damaged.

An increase in the minimum reserve ratio means de facto a higher tax on the commercial banks. And it is unclear how much of this will be passed on to their customers. There were - as already described - good reasons for a low minimum reserve ratio of 2% (or 1%). A significant across-the-board increase in the minimum reserve ratio would put individual banks and banking groups that are particularly active in the deposit and lending business at a disadvantage. They would then have strong incentives to pass on the lost income from holding central bank money to their customers in the form of lower deposit interest rates and higher lending rates, which would place a particular tax burden on private households and small and medium enterprises, which have been hit hard by the high inflation rates of the last two years.

Banks that refinance themselves more through customer deposits would be more heavily hit as they must hold relatively high minimum reserves. In Germany, this primarily affects the savings banks and cooperative banks, but also many credit banks. On the other hand, banks that focus on the investment and commission business and refinance themselves mainly on the capital and money market, including abroad, and have only small deposits from nonfinancial corporations and private households, would benefit.

Banks' surplus reserves in the EMU are not only distributed very differently between individual banks and banking groups, but also regionally. In some countries, especially Germany, banks have relatively high excess reserves (Figure 13). In other countries, such as Italy, the banking system has relatively low excess reserves.<sup>74</sup> If these must be transferred to the minimum reserve, there may be a shortage of central bank money in individual countries, which could potentially lead to a conflict with the ECB's monetary policy objectives. This would make financing conditions more difficult in some countries and could disrupt the transmission mechanism of monetary policy. In the event of a very sharp increase in the minimum reserve ratio, the money market rate for trading in central bank money is likely to rise from the deposit rate, its lower limit, back towards the main refinancing rate.

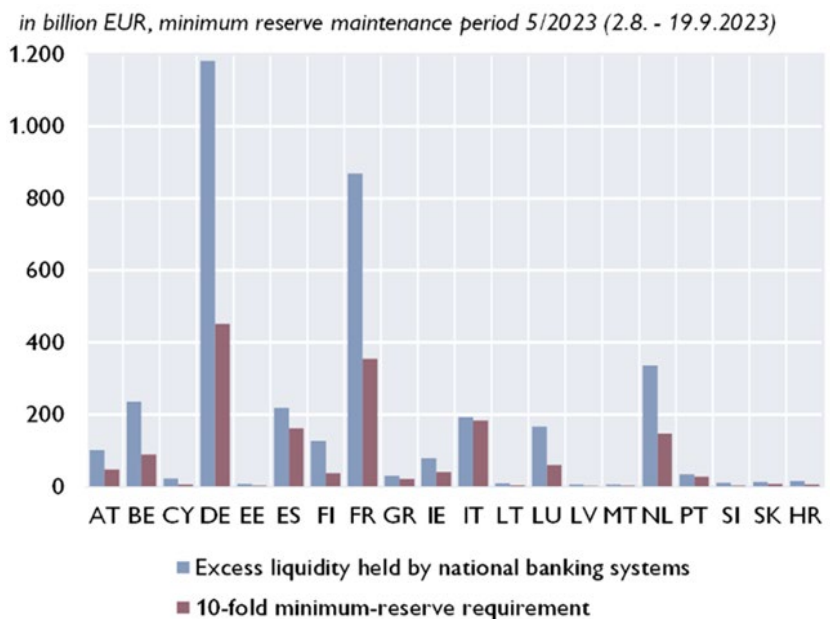
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<sup>74</sup> Kwapil (2023), p. 4.

After all, the banks in the EMU were not "crisis winners" thanks to the generous policy of quantitative easing, as some critics claim. Extremely low or even negative key interest rates from the central bank put pressure on interest margins in the customer business for a long time. In Germany, the interest margin, which was still around 2 % points in the 1990s, has fallen below 1 % point in recent years (Figure 14). In addition, the Basel III regulations have in some cases drastically tightened regulatory requirements, not least regarding banks' liquidity. As a result, commercial banks in the EMU have fallen further behind in the global profitability comparison, as can also be seen from the share prices and market capitalization of banks in the EMU compared to their competitors in the Anglo-Saxon world.

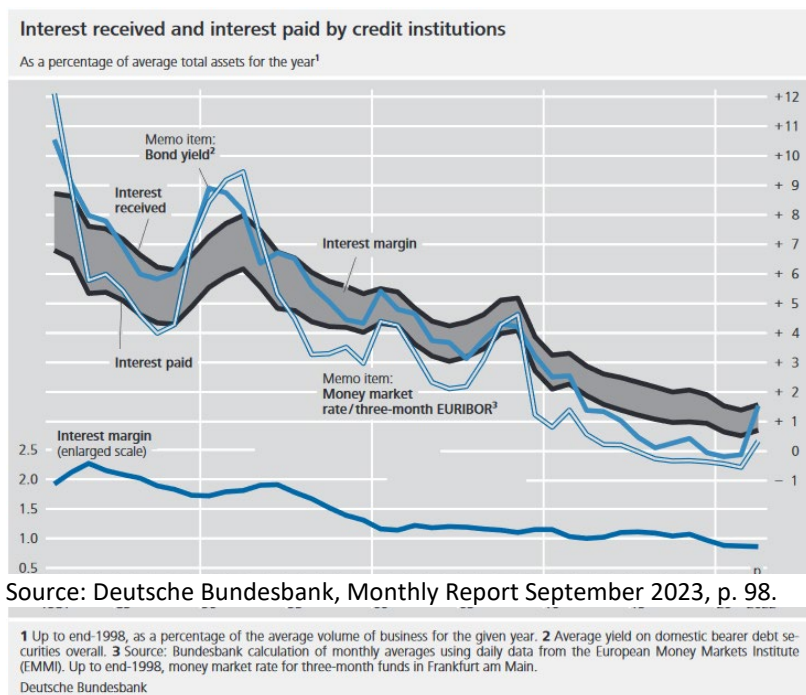
There are, therefore, also voices in the ECB Governing Council warning against an increase in the minimum reserve ratio. Villeroy de Galhau, Governor of the Banque de France, for example, said in a speech that there was no monetary justification for such a move.<sup>75</sup>

Figure 13: Surplus and minimum reserves in the EMU with a minimum reserve ratio of 10%



Source: Kwapil (2023), p. 4.

Figure 14



<sup>75</sup> Bloomberg (2023).

## Summary and outlook

Major central banks worldwide must bear losses due to their bloated balance sheets from securities purchases and loans to the banking system over the past 15 years and the monetary policy interest rate turnaround, while banks earn high interest income for their excess liquidity. Relief for government budgets through lower financing costs during the long phase of a highly expansionary monetary policy is now being partially offset by consequential costs that were foreseeable unless one believed in permanently low inflation rates and therefore very low nominal interest rates.

A drastic increase in minimum reserve ratios, which would apply to all banks and in all member states of the Eurosystem, should be rejected for several reasons. It would lead to structural distortions in the banking sector and affect savers and borrowers, as the minimum reserve is a special tax on banking transactions that is ultimately passed on to customers. Quantitative tightening would also be appropriate to bring the inflation rate down to the Eurosystem's target in the long term. This would also allow key interest rates to be lowered again sooner and the interest payments of the national central banks on the excess reserves would therefore shrink from two sides.

The Eurosystem's ultra-expansive monetary policy with its massive purchases of government bonds has extremely inflated central bank balance sheets, blurred the boundaries between fiscal policy and monetary policy and thus narrowed the scope for monetary policy.<sup>76</sup> Central banks became central players in some markets in which they have no place and, in any case, should not play a leading role: in those for government debt securities (in the EMU also those of all its member states), in those for corporate bonds and in parts of equity markets. The greater their weight, the more they determine directly or indirectly the price of time and risks and the yield curve on these markets with distortionary repercussions on related market segments and thus determine the success or failure of market players.<sup>77</sup>

No central bank has a mandate for such an interventionistic role, and rightly so. A politicisation of central bank policy would be unavoidable, central bank independence would be lost, and the primary goal of central bank policy - ensuring monetary stability - would be the victim if this trend is not stopped. For these reasons, a continuous but consistent normalisation of central bank balance sheets would have been highly desirable. In this respect, the central bank losses and the associated discussion in the media and politics may also contribute to a critical comprehensive judgement of the past QE-dominated monetary policy strategy and the involved limits, cost and risks – and lessons to be drawn for the future.

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<sup>76</sup> Borio (2023).

<sup>77</sup> Brunnermeier, Reis (2023).

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