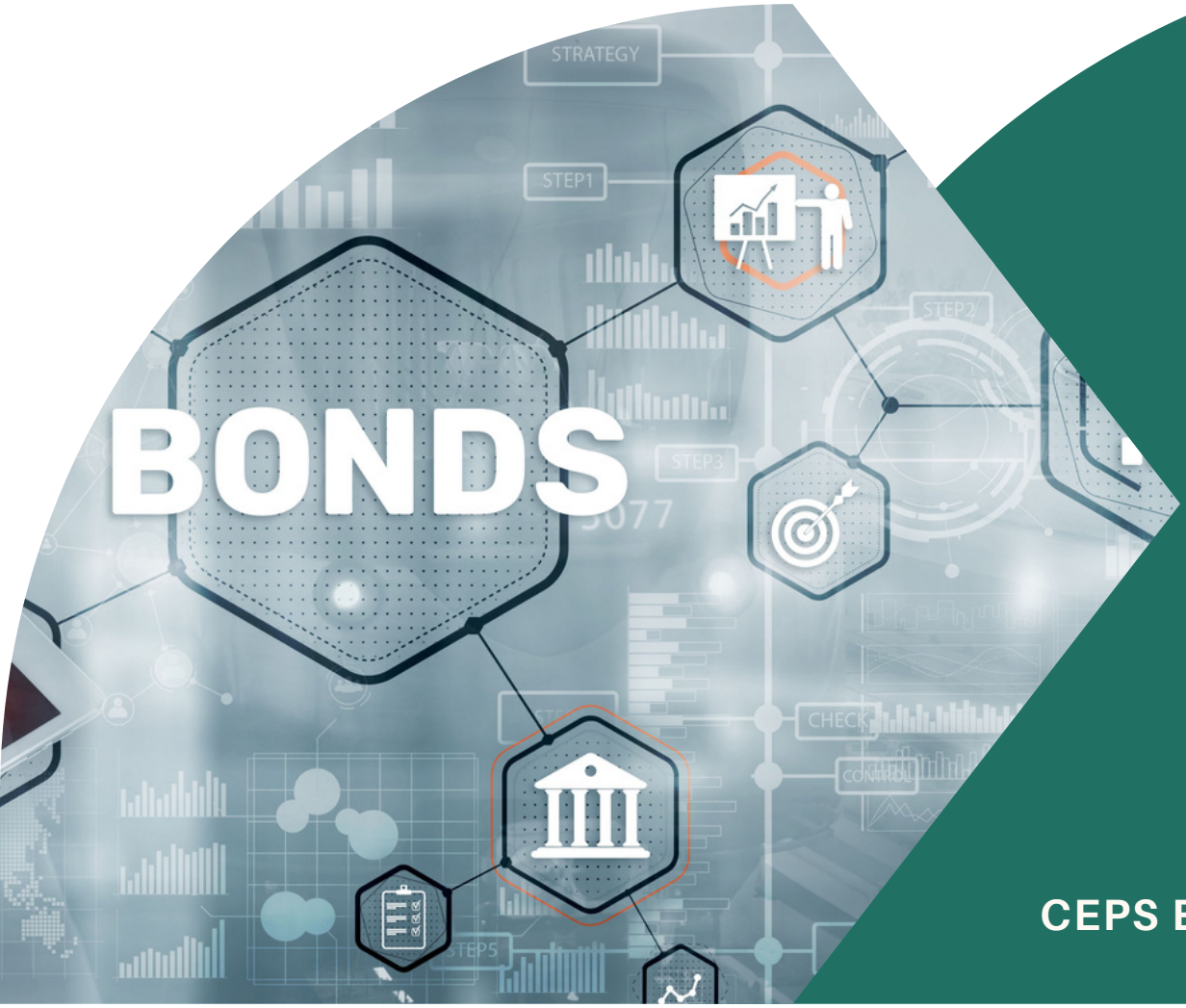


CEPS EXPLAINER

THE REAL FISCAL COST OF CENTRAL BANK BOND BUYING

Daniel Gros
Farzaneh Shamsfakhr

2022-04

SUMMARY

The large bond holdings accumulated by the Eurosystem over the last eight years have represented a massive fiscal bet that interest rates would stay low forever. This bet has now gone spectacularly wrong and has come home to roost. As a result, euro area taxpayers are likely to lose around EUR 700 billion over the coming decade.

In this CEPS Explainer, we provide a quantitative assessment of the potential fiscal cost of the large-scale sovereign bond purchases facing the major national central banks of the euro area and the Eurosystem as a whole. Central bank bond buying constitutes a 'quasi-fiscal' policy. This is uncontroversial among economists and it applies to all the bond buying programmes of the major central banks around the world, including the Eurosystem. Our analysis shows a total net cost of PSPP and PEPP purchases of around EUR 640 billion euro over the programmes' lifetime.

Daniel Gros is a Member of the Board and CEPS Distinguished Fellow. Farzaneh Shamsfakhr is a Researcher at the Economic Policy Unit at CEPS.

CEPS Explainers offer shorter, more bite-sized analyses of a wide range of key policy questions facing Europe. Unless otherwise indicated, the views expressed are attributable only to the authors in a personal capacity and not to any institution with which they are associated.

© CEPS 2022

CEPS ▪ Place du Congrès 1 ▪ B-1000 Brussels ▪ Tel: (32.2) 229.39.11S ▪ Tel: (32.2) 229.39.11

The US Federal Reserve has been the most transparent about the losses for the US taxpayer from its holding of long-term bonds now that its policy rate is much higher than the rate it earns on its holdings. It was calculated in a recent publication that the value of its bond holdings has fallen by about USD 600 billion.

The ECB's motives to launch its two major bond buying programmes (the PSPP and PEPP) were not fiscal, but rather the desire to lower long-term interest rates and thus get closer to its price stability target.

However, the fiscal consequences of the vast bond portfolio acquired by the Eurosystem are now becoming apparent.

As of July 2022, the total government bond holdings in the Eurosystem (the 19 national central banks, plus the ECB in Frankfurt) amounted to over EUR 4.2 trillion euro. The bond buying was financed by attracting deposits (by commercial banks at the NCBs), which now amount to about to EUR 4.3 trillion. Over the last few years these deposits were 'remunerated' at negative rates, i.e. commercial banks paid the Eurosystem half a percentage point per annum for the privilege of depositing their excess funds.

Bond buying thus seemed a good business venture for central banks – they held government bonds which maybe yielded little but definitely more than the the cost of financing. In short, even on bonds with zero yield, the Eurosystem would still make a profit because its cost was a negative 0.5 %.

Though making profits usually comes with a risk. The fiscal risk arising for the central banks from buying (long-term) bond was well known: the central banks were investing long with short-term deposits. If short term rates go up, the central bank makes a loss because it continues to receive the low yield on the long-term bonds it has accumulated while facing higher refinancing costs.

THE ECB AND THE NCBS WILL INCUR LOSSES ON THEIR LARGE BOND HOLDINGS OVER THE NEXT FEW YEARS BECAUSE THE YIELDS AT WHICH THEY BOUGHT THESE LONG-TERM BONDS WILL BE FAR BELOW THEIR REFINANCING COST, WHICH IS GIVEN BY THE DEPOSIT RATE.

This risk has now come to pass. The ECB and the NCBs will incur losses on their large bond holdings over the next few years because the yields at which they bought these long-term bonds will be far below their refinancing cost, which is given by the deposit rate.

An order of magnitude of the potential can be easily established. If an NCB bought a ten-year bond a couple of years ago with a yield of 0.5 % (not far from the average over the last decade) its income over the remaining life of this bond (say another seven years) will be 0.5 % per annum.

But if the deposit rate increases to 3 %, as forward rates in financial markets suggest, the cost of holding this bond will be 3 % per annum, resulting in a loss of 2.5 % per annum. The cumulative loss will thus be 17.5 % of the outstanding total. If one applies this 17.5 % loss rate to the EUR 4.2 trillion of government bonds held in the Eurosystem, you arrive at a total of about EUR 700 billion.

Consequently, the potential losses could be very large and our detailed calculations confirm this order of magnitude.

Table 1. Expected cumulative losses on PEPP and PSPP holdings (in EUR billion)

	Total holdings	Total loss 2023-2034
Belgium	152.7	26.7
Germany	1062.4	192.7
Spain	513.2	76.9
France	829.5	138.5
Italy	736.6	88.1
Netherlands	212.3	41.2
Supranationals	434.5	75.7
Six countries plus supranational	3941.2	639.8
As % of total Eurosystem	89.4 %	

Source: own calculations based on ECB data. Total holdings as of July 2022. Losses cumulated over 2023-2034. Details available upon request from the authors.

The table above shows the results of the potential losses that different NCBs are likely to incur (on their purchases of the bonds of their own government) until 2034, using the data for the average yields on national bonds at the time they were bought and the weighted average maturity (WAM) of the bonds bought until July 2022[1]. These calculations consider that the total PSPP and PEPP outstanding declines as bonds will mature over the next few years.

The losses on the stocks of PEPP and the PSPP bonds must be attributed separately to each of the national central banks. This is because the revenues and risks of these bond purchases were explicitly excluded from the usual risk sharing arrangement through

[1] Further details: the losses are cumulated over the period 2023-34 assuming a deposit rate of 2 % for 2023 and 3 % thereafter. Bond holdings are assumed to be falling at the rate commensurate with the WAM of the holdings as of mid-2022. Losses in the remainder of the 2022 are not considered (they could add up to EUR 40 billion – 1 % of current holdings). The NCBs are assumed to earn interest on their PSPP and PEPP holdings equal to the interest rate equal to the interest of bonds with a maturity equal to the WAM of their holdings (usually between six and eight years).

which all the income the NCBs accrue on monetary policy operations is pooled at the level of the Eurosystem and then distributed according to each NBC's overall share of the ECB's capital, with a small proportion going to the ECB proper.

Therefore, one must distinguish between the Eurosystem's accounts as a whole and those of the constituent NCBs.

TOTAL IDENTIFIED LOSSES AMOUNT TO ABOUT EUR 640 BILLION. THIS IS LIKELY TO BE LOWER THAN THE EVENTUAL TOTAL GIVEN CONSERVATIVE ASSUMPTIONS ABOUT FUTURE DEPOSIT RATES.

The first six rows in Table 1 show the total holdings and the expected losses for six major NCBs. Row seven shows the losses on supranational bond purchases (respectively for the European Investment Bank, the European Stability Mechanism and NextGenerationEU) that were bought by the ECB and some NCBs.

The total considered in detail here (six NCBs plus the supranationals) accounts for about 90 % of the Eurosystem total).

The major results are:

1. Total identified losses amount to about EUR 640 billion. This is likely to be lower than the eventual total given conservative assumptions about future deposit rates. The loss for the entire Eurosystem would then be EUR 700 billion if the loss rate is the same for the remaining 10 % for which sufficient data is not available. This is equivalent to over 5 % of euro area GDP.
2. All countries will experience losses, even those such as Italy, where the treasury bonds bought by the Banca d'Italia had a substantially higher yield.
3. Countries with low interest rates experience the largest losses. The largest absolute loss arises for Germany (close to 193 billion, or about 5 % of GDP). For the Netherlands, it's a similar proportion of GDP.

The overall conclusion is that the fiscal costs resulting from the PSPP and PEPP will be substantial, close to 5 % of EU GDP and similar to the NGEU budget.

The ECB and the NCBs will be able to absorb these losses on their balance sheets. A central bank cannot go bankrupt but as they are a part of the state in fiscal terms, these losses will ultimately be borne by euro area taxpayers.

To calculate the overall fiscal cost of the Eurosystem's sovereign bond buying, one should of course count the profits made during the last period when the deposit rate was negative. However, the net cost will remain significantly large as the cost going forward (the difference between the deposit rate and bond yields) is approximately 2.5 percentage points higher (in absolute terms) than the gain of about 0.5 to 1 percentage

point which most NCBs have made over the past few years when more than half of today's portfolio was accumulated[2].

The gains from the PSPP since 2014 were indeed minor, only about EUR 60 billion up to July 2022 compared to the EUR 640 billion losses to be expected from now onwards[3].

The sums reported here in this CEPS Explainer should be approximately equal to the fall in the value of the bond holding of the ECB. If the Eurosystem were a normal private sector organisation it would probably have to report a very large impairment loss by the end of 2022. But the accounting convention within the Eurosystem is to carry bonds at amortised value and not the market value. The NCBs will thus not report any impairment but will instead show a negative interest margin for several years.

TLTRO: changing *ex post* the terms of the contract

The ECB has another set of operations where the sharp increase in interest rates leads to losses.

Since 2020 it has offered euro area banks so-called Targeted Long Term Refinancing Operations (TLTRO) at subsidised rates if the banks met certain (not very ambitious) growth targets for their lending. The total outstanding amount of these three-year operations is EUR two trillion, close to 20 % of euro area GDP.

THAT A MAJOR CENTRAL BANK IS WILLING TO TAKE THESE LEGAL AND REPUTATIONAL RISKS SHOWS HOW DESPERATE IT HAS BECOME TO ESCAPE THE CONSEQUENCES OF ITS OWN PAST POLICY CHOICE TO IGNORE INTEREST RATE RISK.

With inflation running at 10 %, banks naturally have no problem achieving their targets and they can now park surplus funds at the ECB, earning the rapidly increasing deposit rate. To stem these additional losses from the TLTROs, the ECB has recently announced that it would increase the rate charged to banks on the outstanding amounts.

However, unilaterally changing the terms of existing contracts represents an unprecedented breach of trust and may not be legal. That a major central bank is willing to take these legal and reputational risks shows how desperate it has become to escape the consequences of its own past policy choice to ignore interest rate risk.

[2] The Dutch National Bank has just published details of its past profit and loss account which illustrates this point vividly.

[3] We do not deal separately with reinvestments, which now occur at new bond prices and are thus unlikely to create large additional losses (or gains). If the ECB were to decide to run down its portfolio quicker than through redemptions, the resulting sales of bonds would simply crystallise some of the losses identified here.

Conclusions

When central banks engaged in large scale purchases of government bonds their aim was to reduce the duration risk in the hands of the public, expecting that this would reduce the term premium. But the duration risk did not disappear – it just migrated to the central banks' balance sheet, and thus ultimately to their respective governments.

Massive PSPP and PEPP purchases reduced the effective duration of government debt (assuming government debt agencies did not start to issue more long-term bonds). With hindsight this turned out to have been a colossal error. But there were voices warning over the last few years that continuing bond purchases was a mistake given that the upside (even lower rates) was limited in the face of a potentially large downside when interest rates had to be increased.

Moreover, the increase in the PEPP purchases beyond the initial turbulent period of March 2020 was anyway unlikely to help much given the sectoral nature of the Covid-19 recession and the subsequent recovery.

The members of the ECB Governing Council were of course aware of the fiscal consequences of raising rates. Officially these fiscal issues play no role in their decisions as central banks do not maximise profits. It has been argued (see here and here) that profits on operations such as foreign exchange intervention or bond buying are an indication that the central bank was buying distressed assets during times when the market was not working properly. This was definitely not the case for the PSPP and PEPP.

It will probably never be possible to establish whether knowledge of the fiscal cost of a monetary policy tightening played at least some role in the manifest reluctance of the ECB to increase rates in early 2022. This was, of course, the moment when inflation was starting to spiral out of control but one of the justifications for engaging in asset purchases had been to create the incentive to react slowly to any resurgence.

The only problem with this approach was that nobody had factored in the potential for such a disruptive shock, as the euro area is experiencing right now.

CEPS
Place du Congres 1
B-1000 Brussels