ZEW Expert Brief

NO.5 // 9 JUNE 2022

// Carlo Birkholz (ZEW Mannheim) and
Friedrich Heinemann (ZEW Mannheim)

MAGNITUDES AND CAPITAL KEY DIVERGENCE OF THE EUROSYSTEM'S PSPP/PEPP PURCHASES – UPDATE JUNE 2022

Study supported by the Brigitte Strube Foundation

1. INTRODUCTION

The ECB is about to discontinue its net asset purchases. In December 2021, the ECB Council had already decided to end net purchases under the Pandemic Emergency Purchase Programme (PEPP) by the end of March 2022.[1] Given the very high and persistent inflation, recent remarks from ECB board members indicate that the decision to also discontinue the Asset Purchase Programme (APP) is imminent. The APP includes the Public Sector Purchase Programme (PSPP) as its most important component. Ending all net purchases will then pave the way for a first increase of the key ECB interest rates.

However the end of net purchases of euro area government bonds does not imply a full withdrawal of the Eurosystem from euro sovereign bond markets. The Eurosystem will rather remain a crucial investor, also because in its December 2021 decision the Council has emphasized that it will reinvest the principal payments from maturing securities purchased under the PEPP, at least until the end of 2024. Moreover, repurchases will be conducted in a flexible way if necessary “in the event of renewed market fragmentation”. While ECB representatives have never specified precisely how market fragmentation is detected, sovereign yield spreads are clearly a crucial indicator. Also for the APP, the Council has already preannounced that reinvestments will continue “for an extended period of time past the date when it starts raising the ECB key interest rates”.

With the (preliminary) end of the Eurosystem’s net purchases, sovereign bond markets enter a new and uncertain phase. While the economic distress from the pandemic has largely abated, the euro area faces new economic risks from a combination of three negative developments: first, the growing threat of a hard landing of the US economy as a consequence of the Fed’s much more drastic monetary policy turn; second, the recession risks in China as a consequence of the zero Covid policy; and third, the fallout from the Russian aggression against Ukraine with its dramatic consequences for prices and availability of energy in Europe.

Against this backdrop, this study updates the quantitative analysis of the PEPP and PSPP conduct since the outbreak of the pandemic.[2] The earlier empirical studies have revealed that indeed both programmes, the PEPP and the PSPP, had been applied with significant divergence from the ECB capital key. This expertise assesses PSPP/PEPP purchases from March 2020 to the end of PEPP net purchases in March 2022 including the size of purchase flows and stocks, country allocations and their proportionality to the ECB capital key, and their magnitude relative to GDP and public debt. The results offer some hints to which extent the flexibility of purchases under the PEPP has indeed been used to protect high-debt euro countries that would be most likely be confronted with spread increases in a worsening economic environment.

[1] European Central Bank, Monetary Policy Decisions, 16 December 2021, Press Release.

[2] For a detailed earlier analysis see: Havlik, Annika and Heinemann, Friedrich (2021), Sliding Down the Slippery Slope? Trends in the Rules and Country Allocations of the Eurosystem’s PSPP and PEPP, Credit and Capital Markets, 54(2): 173-197.

2. CUMMULATIVE AND MONTHLY PURCHASES OF PEPP AND PSPP

The box below summarizes current and historic purchase details of both PSPP and PEPP.

Box: PSPP and PEPP – current purchase speed and envelope

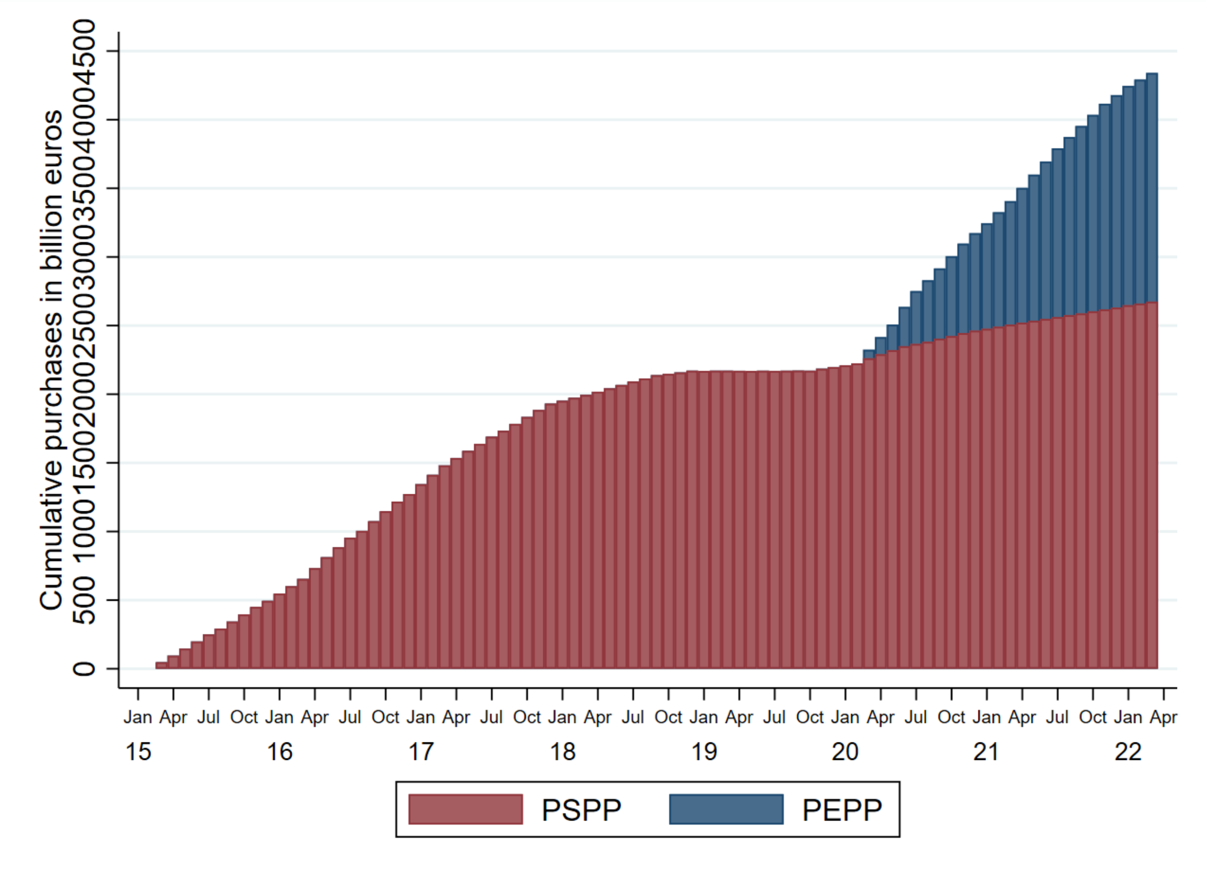
PSPP: The **Public Sector Purchase Programme** (PSPP) started in March 2015 as the most important component of the Asset Purchase Programme (APP) and continues until this day, with the exception of a pause in net purchases between January and October 2019. By the end of March 2022, the cumulated PSPP net purchases of the Eurosystem reached €2,674 billion (of which €2,394 billion are national debt and €281 billion supranational). The PSPP purchases bonds from all euro members with the exception of Greece. APP net purchases were on a downward path after March 2022, with €40 billion in April, €30 billion in May and €20 billion in June.[3]

PEPP: With the **Pandemic Emergency Purchase Programme** (PEPP), the Governing Council had added a second purchase program that complemented the ongoing APP with additional net purchases between March 2020 and March 2022. PEPP is an asset purchase program of private and public sector securities. Initially, it was set up with a target of €750 billion until the end of 2020, but the ECB Council increased the envelope in two steps: First in June 2020 to €1,350 billion and second in December 2020 to €1,850 billion. In December 2021 the decision to discontinue net purchases at the end of March 2022 was reached, with the distinct option to reinvest maturing principal payments from securities purchased under the PEPP. The PEPP has bought bonds from all euro members including Greece. By the end of March 2022, the Eurosystem PEPP holdings of public sector securities amounted to €1,666 billion, which is 97% of all PEPP purchases. For the PEPP, allocation rules are more flexible than for the PSPP. The issue and issuer limits for the PSPP that define maximum thresholds for the purchases do not apply for the PEPP. Moreover, the allocation of purchases across euro countries has to follow the ECB capital key more stringently for the PSPP, whereas the PEPP rules claim a larger margin of flexibility to match the asymmetry of the pandemic shock.

By the end of March 2022, the Eurosystem's cumulated net purchases of public sector securities through both programmes reached €4,340 billion[4] (€2,674 billion PSPP and €1,666 billion PEPP, see Figure 1).

[3] ECB Monetary Policy Decisions, 14 April 2022, Press Release.
[4] All figures on government bond purchases are taken from the ECB website.

Figure 1: Cumulative net purchases of PSPP and PEPP

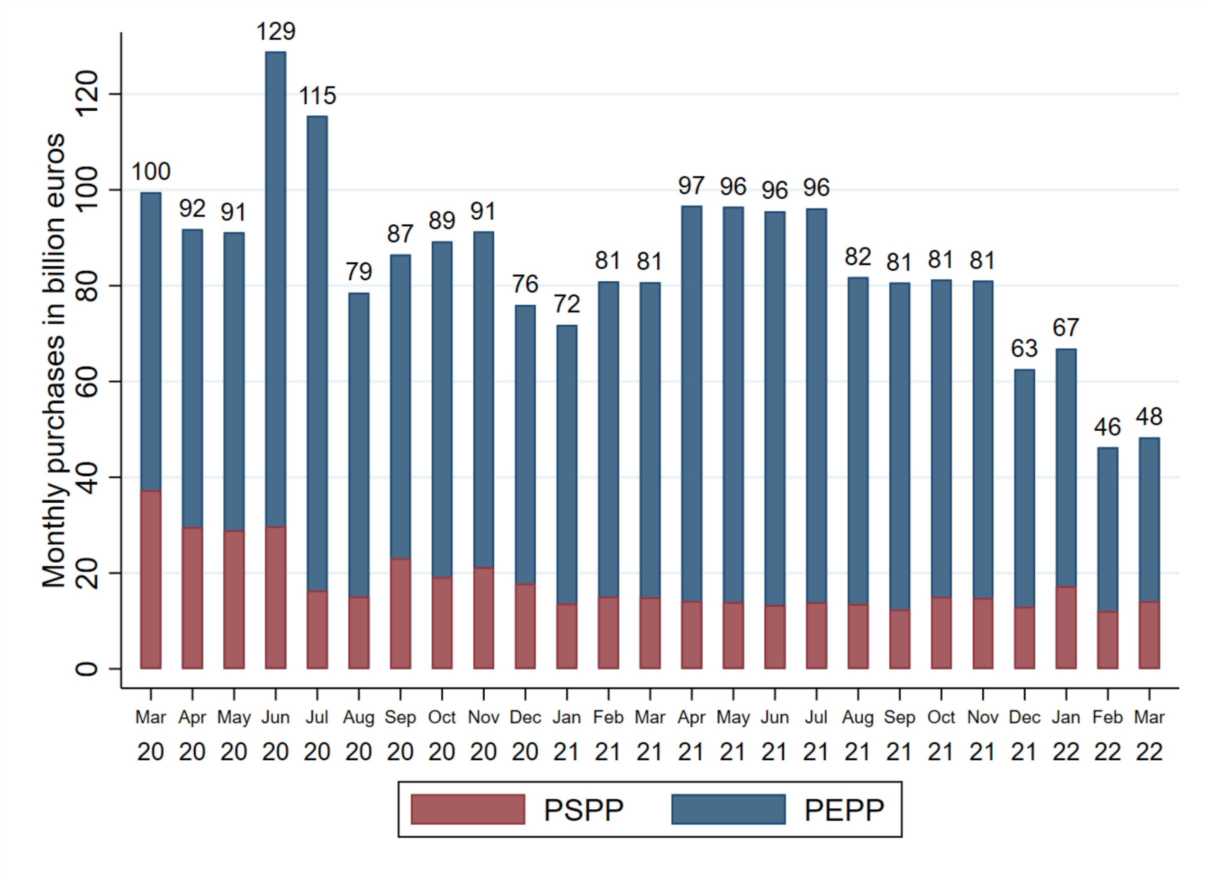


Notes: All data on PSPP and PEPP purchases are taken from the ECB website.[5] The depicted PEPP figures only include public sector securities.

Figure 2 shows the speed of net purchases for both programs from March 2020 to March 2022. Since the ECB publishes data for PSPP purchases on a monthly basis but PEPP data only on a bimonthly basis, the graph presents precise monthly data for PSPP, whereas data for PEPP are depicted as two-month averages. The data show a peak of interventions in June and July 2020 with a subsequent decline that was again slightly reversed in summer 2021. Since then, a more steady decrease of net purchases took place, with a combined purchases reaching a minimum of €46 billion in February 2022. Average monthly PEPP purchases were roughly equal in 2020 (€71 billion) and 2021 (€70 billion), but almost halved in 2022 (average January to March: €39 billion). PSPP purchases declined from a monthly average of €24 billion (March to December 2020) to €14 billion in 2021, remaining stable at €14.5 billion in the first quarter of 2022.

[5] PSPP purchases: www.ecb.europa.eu/mopo/implement/omt/html/index.en.html
PEPP purchases: https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html

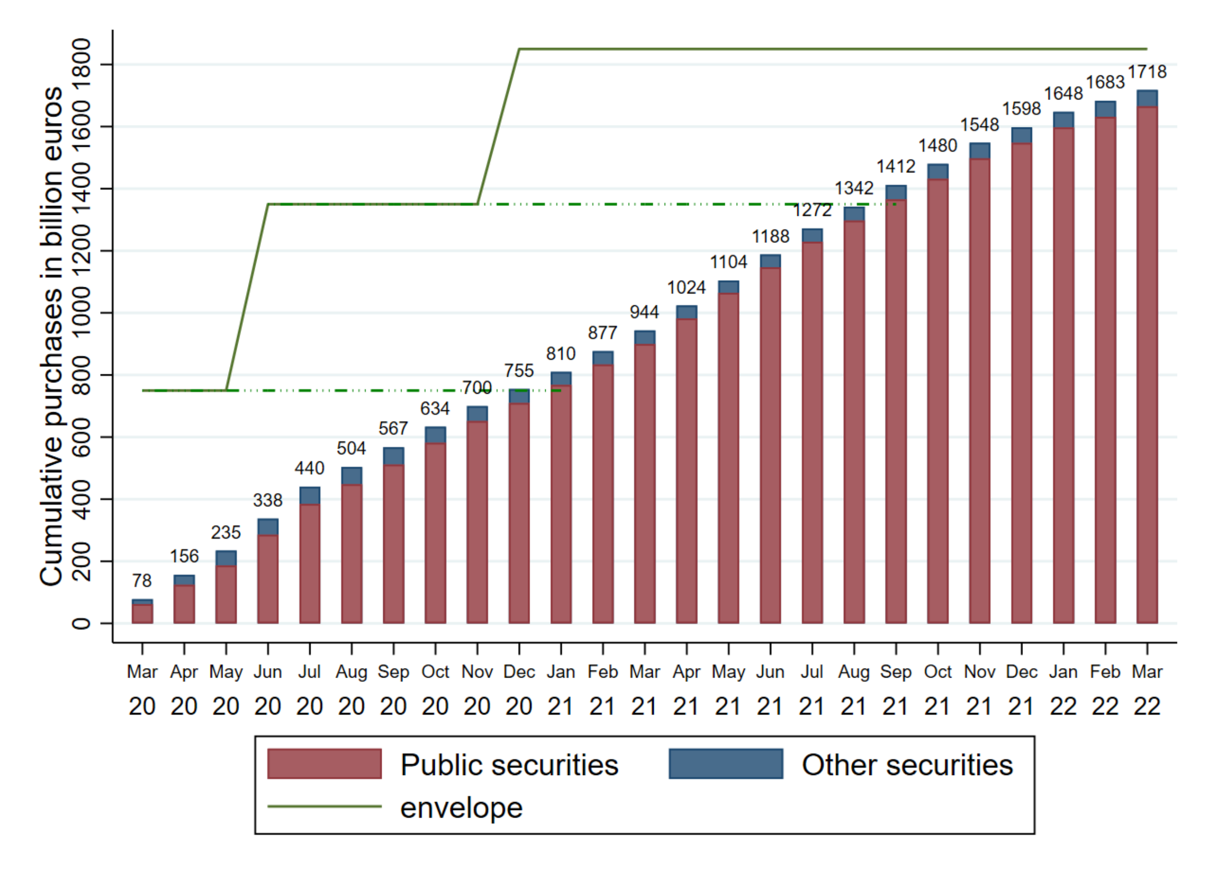
Figure 2: Monthly net purchases of PSPP and PEPP



Notes: All data on PSPP and PEPP purchases are taken from the ECB website. The depicted PEPP figures only include public sector securities.

The currently announced upper limit for PEPP purchases amounts to €1,850 billion. Figure 3 shows the PEPP accumulation of public and private sector securities since its onset relative to the initial envelope of €750 billion, and the increased envelopes of €1,350 (since June 2020) and €1,850 billion (since December 2020). Now that the net purchases have been officially discontinued, the total volume of the PEPP can be evaluated against its envelope. While in September 2021, purchases were on track to utilize the full envelope, the PEPP has finally undershot this level by €132 billion due to the slowdown of purchases towards the end of the programme. This undershooting might be indicative of decreased financial distress in the Euro Area from a relaxation of the Covid restrictions and reopening of markets.

Figure 3: Cumulative net purchases of PEPP relative to envelopes



Notes: All data on PEPP purchases are taken from the ECB website.

3. CAPITAL KEY DIVERGENCE – PEPP

The PEPP was designed with higher flexibility compared to the PSPP. In particular, the ECB capital key orientation that was supposed to govern country allocation of purchases for the PSPP did not apply for the PEPP as a strict rule.[6] The extent to which this flexibility has been used, signals the degree of specific protection some countries have received over the two years of the programme.

Figure 4 (a) displays the deviation of a country's PEPP share in total PEPP purchases from the national shares in the ECB capital in percentage points and Figure 4 (b) in percent.[7] The divergence is presented for the full programme period from March 2020 to March 2022, and for the three periods March 2020 to December 2020, January 2021 to September 2021, and October 2021 to March 2022 separately, in order to highlight the development over time. The countries are ordered according to the size of the divergence indicator for the entire period.

[6] Indeed, also the PSPP has increasingly failed to allocate purchases according to the ECB capital key, see Havlik and Heinemann, footnote 2.

[7] When calculating country shares in total sovereign purchases, we exclude purchases of supranational securities (e.g. European Union, European Investment Bank, European Stability Mechanism). Hence, 100% represent the purchases of national jurisdictions' and agencies' securities.

Since its onset, the PEPP shows the largest upward divergence for Italy (+8.9% relative to capital key), Spain (+4.7%), Belgium (+2.6%), and Greece (+2.4%). Countries bought far below the capital key share are the Baltic States, Malta, Luxemburg, Slovakia, Cyprus, and Slovenia. The heavy underweighting of countries like the Baltic States is a natural outcome of the fact that these countries have a very low level of public debt and their sovereign bonds markets therefore lack the material to be purchased by the national central banks.

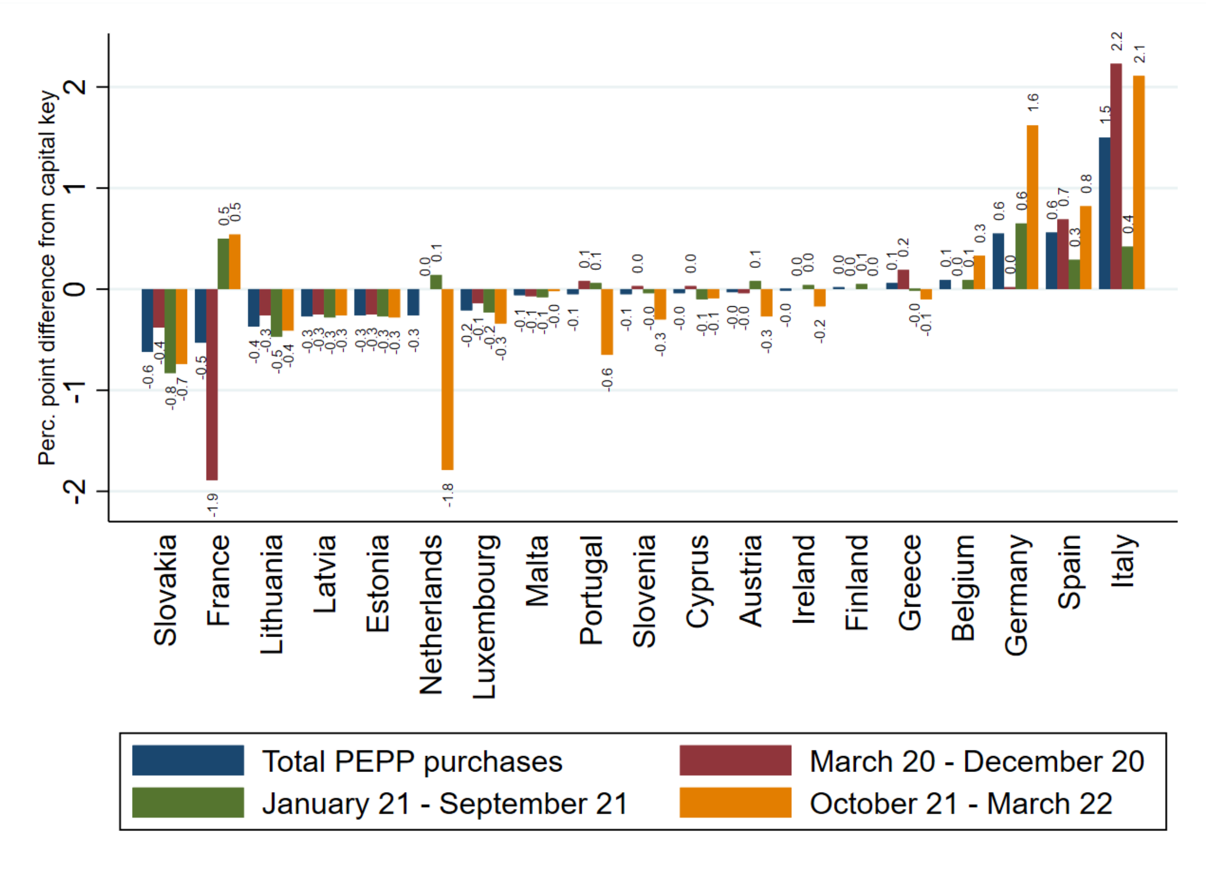
On the other hand, the overweight of Greece is particularly remarkable given that official loans from the European Stability Mechanism (ESM) and bilateral loans finance a large share of government debt, with the consequence that bond financing plays a more limited role. Therefore purchases above the capital key indicate an even larger importance of Eurosystem purchases for Greece, considering the relative size of its bond market.

Analyzing the PEPP flows over the three time periods reveals that purchases were shifted remarkably between countries over time, indicating that the Eurosystem did take advantage of the flexibility of the programme. The Southern European countries were initially strongly overweighted (e.g. Italy with 13.1%), normalized in the second period, to then shoot up again in the final phase of the PEPP (Italy +12.4%, Spain +6.8%). Initial underweighting or proportional purchases of France and Germany also reverted into moderate overweighting of the two.

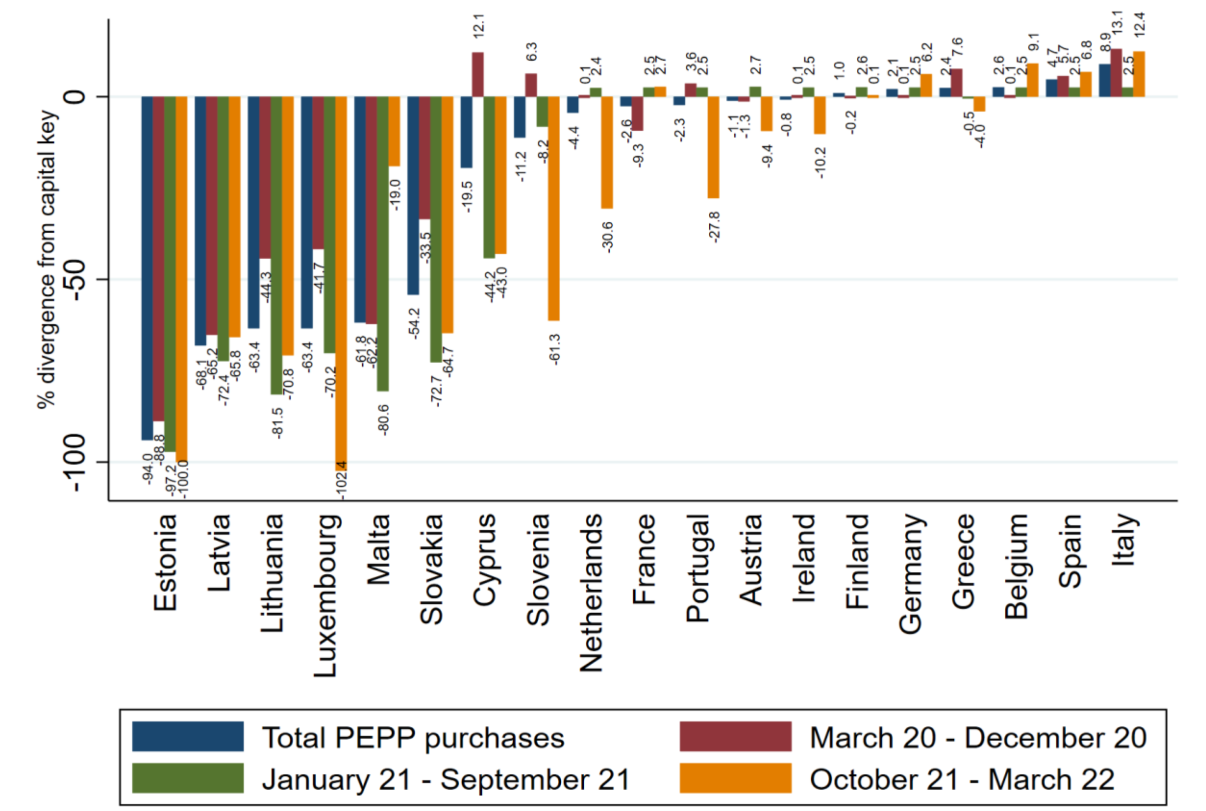
This changing overweight for the Southern Europeans corresponds with spread developments. The period from January to September 2021 was characterized by low and stable Southern European spreads, whereas spreads started to increase in autumn 2021. Thus, the allocation path would be consistent with a Eurosystem reaction function that increases Southern European purchase shares with an increase in those countries' bond spreads.

Figure 4: Divergence of PEPP net purchases March to March 2022 from capital key

(a)   Difference in percentage points



(b)   Difference in percent



Notes: All data on PEPP purchases and the capital keys are taken from the ECB website.

To understand these dynamics better Figure 5 depicts a more detailed drill down into the temporal progression of the divergence of PEPP purchases related to the countries respective capital keys for France, Germany, Italy, and Spain.

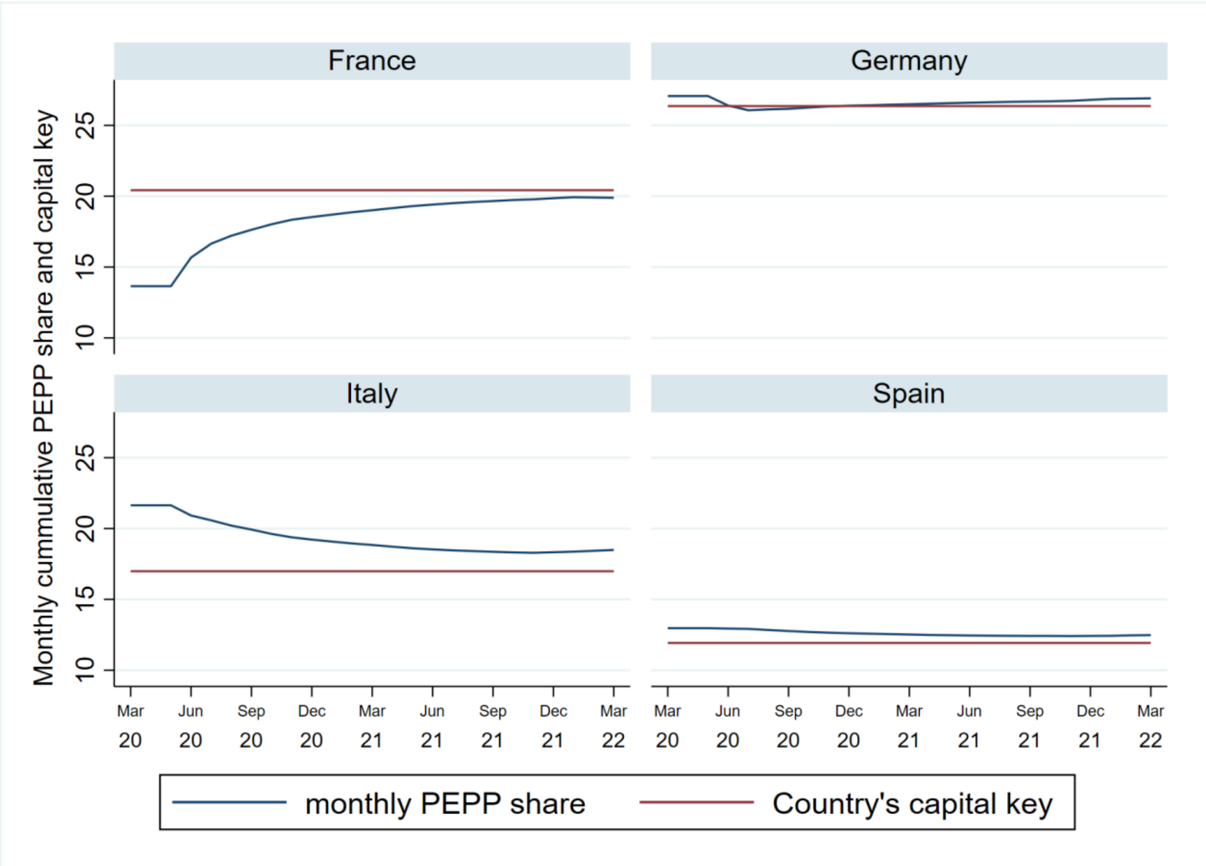
From the large countries, only France started out with a very sizable and negative divergence from the capital key. Over the course of the programme, this initial underweighting was sequentially reduced, however never fully recovered. As such France ends the PEPP in March 2022 underweighted by 0.5 percentage points.

Italy mirrors the picture in France, only that it starts out strongly overweighed. This initial positive divergence from the capital key was compensated by a relative reduction in the speed of purchases for Italy. In the end this adjustment, which came to an end in autumn 2021, did not fully offset the initial disparity though, leading to Italy's share of net purchases remaining 1.5 percentage points above its capital key.

Germany and Spain on the other hand had less turbulent courses through the PEPP. Both started with small overweighting, which culminates in a final overweighting of 0.6 percentage points for both countries, after a number of slight adjustments in their relative purchases.

Overall the figure paints a picture of normalization that, however, stopped in the autumn of 2021, when Southern European spreads started to rise, which might have provoked a larger weight of purchases on these country segments.

Figure 5: Share of monthly cumulative PEPP purchases and the capital key



Notes: All data on PEPP purchases and the capital keys are taken from the ECB website.

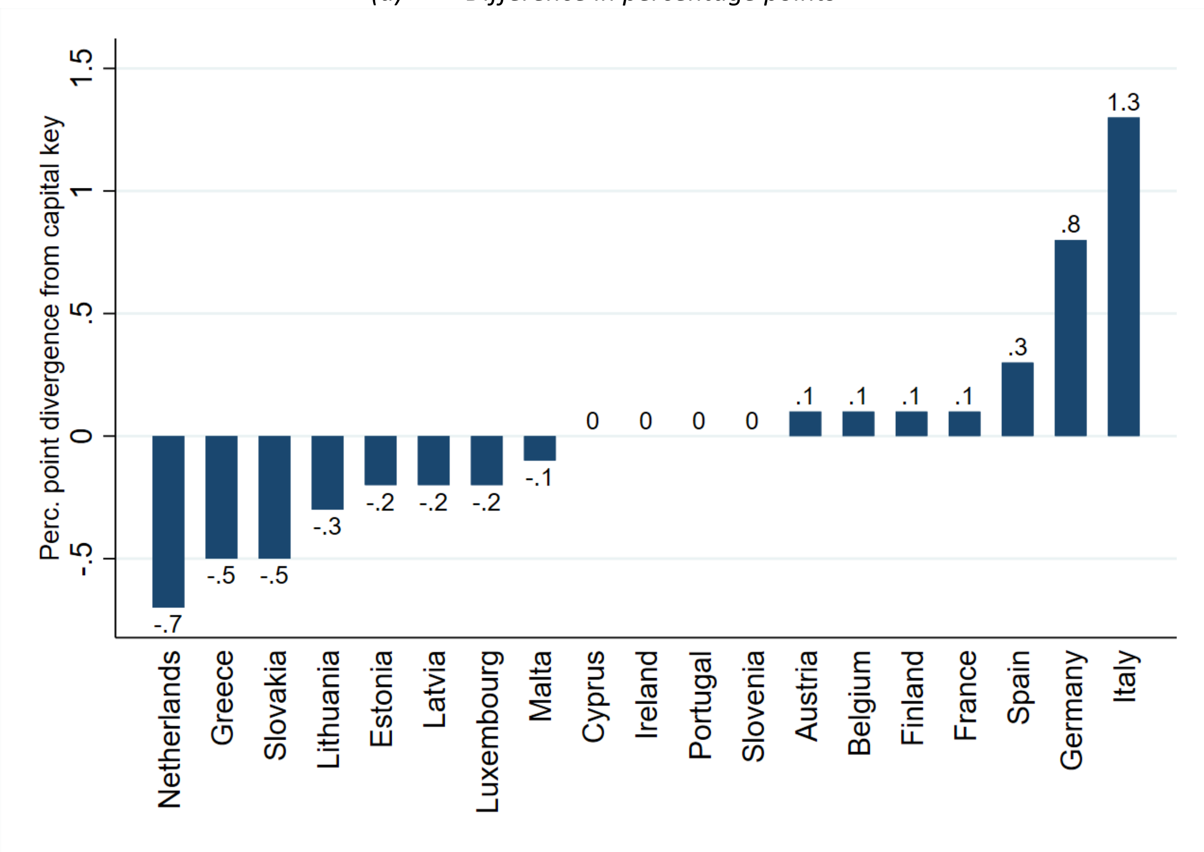
4. CAPITAL KEY DIVERGENCE – PSPP AND PEPP COMBINED

A meaningful comprehensive analysis of the divergence of country allocations from the capital key requires the examination of combined purchases under PSPP and PEPP. Therefore, Figures 6 (a) and (b) show the divergence of the sum of PSPP and PEPP net purchases between March 2020 and March 2022 from capital keys. As Figure 6 (b) shows, the divergence reaches a maximum of +18% for Cyprus and +7.5% for Italy. Other countries with smaller overweighting of less than 3.5% are Finland, Germany, Spain, Austria, Belgium, and Portugal. France is almost bought to proportion with an overweight of only 0.4%. The result for France is striking and points to a very significant overweight under the PSPP, since this country was temporarily very strongly underweighted in the PEPP. Countries losing out relative to their capital key are the Baltic States, where again the argument of the scarcity of purchasable bonds applies, Malta, Luxemburg, Slovakia, and the Netherlands. Since Greek bonds are not purchased in the PSPP, the strong underweight of 19.1% in combined purchases makes intuitive sense, even given the positive divergence of Greece in the PEPP.

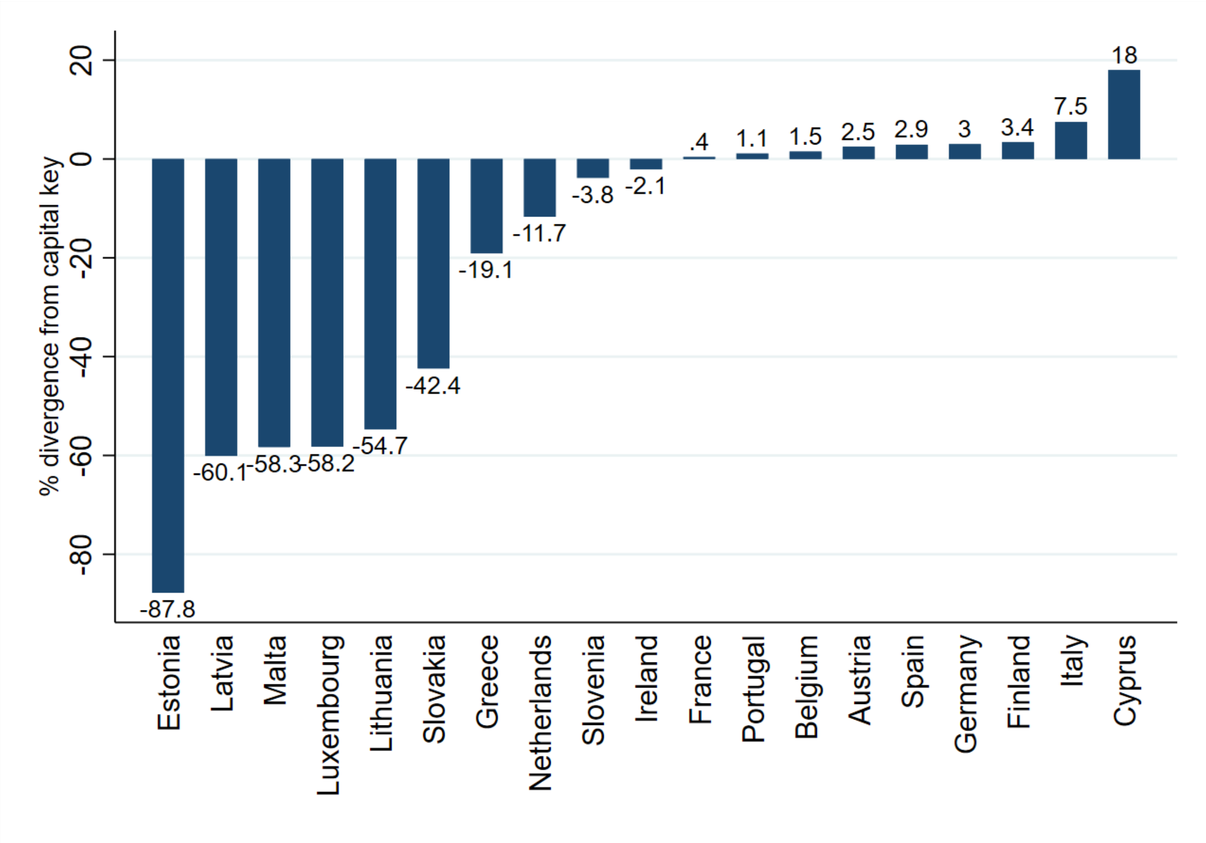
Overall the figure shows that divergences from the capital key remain after considering purchases from the PEPP and the PSPP jointly. Defensive arguments along the line of over- or underweighting in one programme being compensated by the other are therefore not credible.

Figure 6: Divergence of PSPP and PEPP combined net purchases from capital key March 2020 to March 2022

(a) Difference in percentage points



(b) Difference in percent



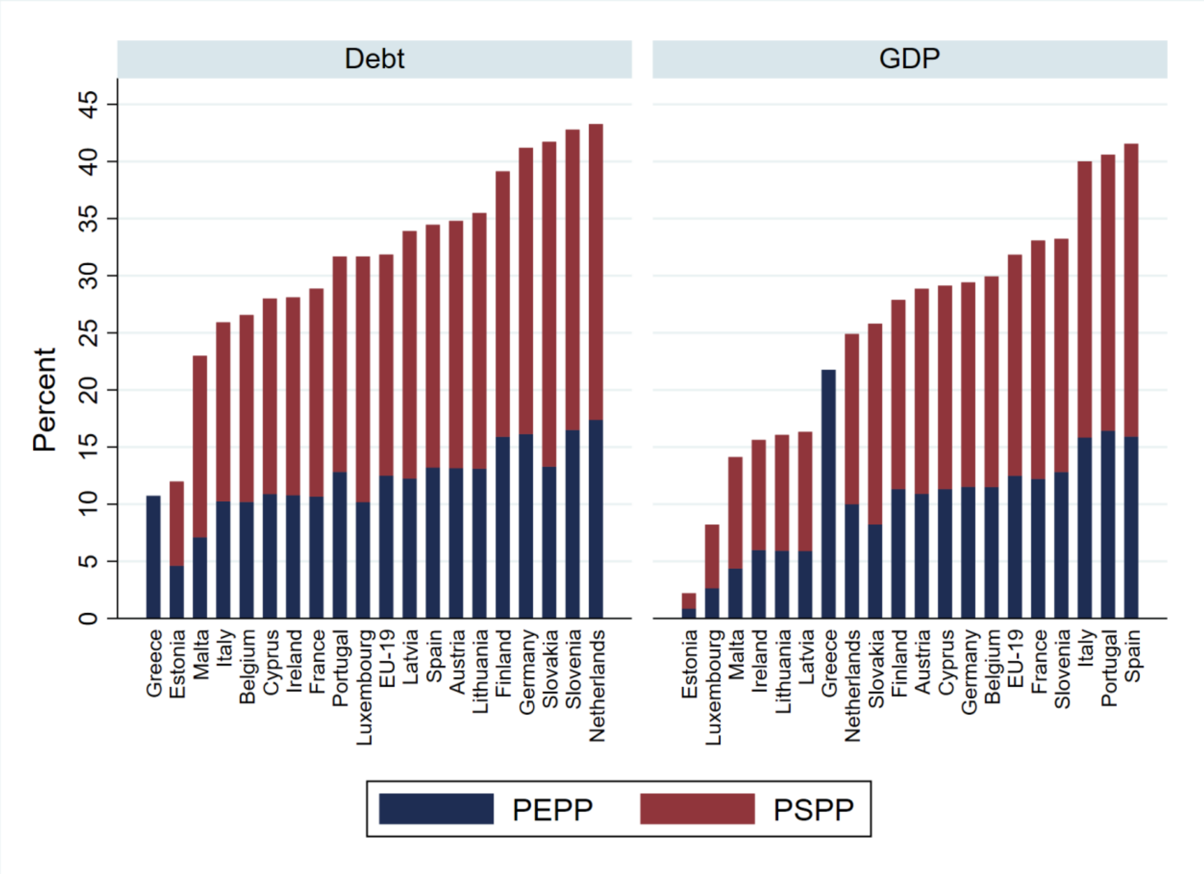
Notes: All data on PEPP and PSPP purchases and the capital keys are taken from the ECB website.

5. MACROECONOMIC MAGNITUDES

Finally, we look at the magnitude of PSPP and PEPP relative to macroeconomic indicators. Figure 7 shows the ratios of PSPP and PEPP stocks at the end of March 2022 over government debt and GDP for 2021. National differences in the relative importance are huge. In Spain, Portugal, and Italy, total cumulated PSPP and PEPP purchases until March 2022 have surpassed 40% of GDP. By contrast, for the Baltic States, Luxemburg, Malta, and Ireland, combined PSPP and PEPP stocks are close to or below 15% of GDP. The Greek PEPP to GDP ratio with 22% is remarkable as it exceeds any other countries' by far and suggests a crucial role for the small Greek sovereign bonds market. But also the PEPP-GDP holdings for Portugal, Spain, and Italy are far above the Euro area average. Relative to total government debt, we observe the highest share of total PSPP/PEPP holdings to public debt for Slovenia, the Netherlands, Slovakia, Germany, and Finland. For the latter four this reflects their lower public debt levels. The results show that the Eurosystem's involvement is substantial, even relative to the exceptionally high borrowing requirements in the years of crisis.

The average euro area magnitude of the stocks relative to national debt at 31.8% is important also with respect to the PSPP's issuer share limit of 33%. This limit correspond to the Collective Action Clauses (CACs) for euro area issues and their majority rules for a collectively agreed debt restructuring. These CACS define a blocking minority of 33%. Hence, the upper limit under the PSPP – according to the explanation given explicitly by the ECB Council itself – wanted to avoid that the Eurosystem becomes a veto player in debt negotiations as this would further increase the concerns of an infringement against the ban on monetary financing of Art. 123 TFEU.[8] The fact that the average holdings of the combined PEPP and PSPP stocks now have reached this limit signals a crucial red line with respect to the monetary financing debate.

Figure 7: PEPP and PSPP stocks (March 2022) as a share of government debt and GDP 2021



Notes: Data on debt and GDP are taken from the AMECO database by the European Commission. The underlying GDP variable is defined as GDP at current prices. The variable debt is defined as general government gross debt. All data on PSPP and PEPP purchases are taken from the ECB website.

6. CONCLUSIONS

Our essential results are the following:

- Between the start of the pandemic crisis in March 2020 and March 2022 the countries with the largest relative PEPP overweight were Italy, Spain, Belgium, and Greece. The overshooting was largest for Italy with +8.9%.
- The combined analysis of PEPP and PSPP purchases over these two years also confirms the strong Italian overweight with +7.5%, which is second only to Cyprus (+18%).

[8] See Havlik and Heinemann, footnote 2, for details.

- Germany has been overweighted as well with combined purchases 3% above the German share in the ECB capital key.
- After an initially even stronger overweight of the Southern European countries, PEPP purchases became more proportional in the first three quarters of 2021. However, starting in autumn 2021, the share of Italy and Spain started to again divert more strongly from the ECB capital key reference indicator. This time profile is consistent with a reaction function, where the Eurosystem tries to protect countries against a spread increase through higher purchase shares. Such a behavior would be consistent with the ECB Council's concerns about "fragmentation" as an obstacle to the monetary transmission mechanism.
- The average ratio of accumulated PSPP and PEPP stocks to national debt has almost reached 33% in March 2022, which is exactly the PSPP issuer share limit. This issuer limit wants to prevent the Eurosystem from becoming the crucial investor with veto power in debt restructuring negotiations. It has played a prominent role in the PSPP cases at the European Court of Justice and the German Federal Constitutional Court as one of the safeguards against an infringement of the ban of monetary financing according to Art. 123 TFEU.

The results indicate the following for the period following the (preliminary) end of the Eurosystem's net sovereign bond purchases:

- With the end of the net purchases, high-debt euro countries lose protection that has not only been a theoretical possibility but has been practiced over the past two years to fight spread increases. The end of net purchases is therefore a risk that could increase pressure on southern European bonds. However, the ECB's readiness to continue with repurchases from maturing PEPP bonds both for a longer period, and in a flexible way might offer some continued protection, albeit at what likely is a lower level.
- A new escalation of spread developments would therefore quickly bring the re-activation of net bond purchases back into discussion.
- A continued monitoring of the Eurosystem's repurchases is important in order to keep track to which extent individual euro countries receive special protection from the central bank, even with an increasing distance to the pandemic shock that legitimized asymmetric purchases in the first place.
- With respect to the increasing risks of an Art. 123 infringement, the end of net purchases comes just at the right moment. A further accumulation of sovereign bonds in central bank balance sheets would increasingly push Eurosystem holdings above the issuer limit. This development would definitely transform the Eurosystem from a monetary policy player into also a fiscal policy player that would possess veto power in possible future debt restructuring negotiations.

AUTHORS

Carlo Birkholz
ZEW – Leibniz Centre for European Economic Research
Mannheim GmbH
L 7, 1
Tel.: +49 (0)621 1235-160
68161 Mannheim
carlo.birkholz@zew.de

Prof. Dr. Friedrich Heinemann
ZEW – Leibniz Centre for European Economic Research
Mannheim GmbH
L 7, 1
Tel.: +49 (0)621 1235-149
68161 Mannheim
friedrich.heinemann@zew.de