ZEW Expert Brief

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Magnitudes and Capital Key Divergence of the Eurosystem's PSPP/PEPP Purchases

Update April 2023

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1. INTRODUCTION

In July 2022 the ECB has started to increase its interest rates in order to fight the high inflation rate and the rising inflation expectations. Since then, the ECB Council has enacted six interest rate increases that lifted the rate for the main refinancing operations from 0 to 3.5% by March 2023. While interest policy has thus seen a strong reversal this was less the case for asset purchases. The ECB has discontinued net asset purchases but so far only embarked on a slow pace of net reductions which furthermore is limited to one of the two large purchase programmes.

The Governing Council had decided already in December 2021 to halt net purchases under the Pandemic Emergency Purchase Programme (PEPP) at the end of March 2022.[1] By the end of June 2022 the Asset Purchasing Programme (APP) was equally put to a hold, and with it the Public Sector Purchase Programme (PSPP) as a main component of the APP. While this marks the end of the ECB's net operations in the sovereign sector for now, principal payments from maturing securities will be fully reinvested for a prolonged period. In case of the PEPP this period is proclaimed to last until at least the end of 2024. For the PSPP on the other hand full reinvestments were conducted until February 2023, since when the Eurosystem only partially reinvests the principal payments from maturing PSPP securities. Beginning in March 2023 the roll-off of the APP portfolio has started at an average pace of €15 billion per month until the end of the second quarter of 2023, after which the subsequent pace is yet to be determined.[2] In relation to the APP stock of €3.25 trillion (February 2023) these monthly net redemptions are rather limited. Hence, the Eurosystem will still remain a crucial investor for the foreseeable future given the large size of both programmes relative to public debt levels and gross domestic product.

With its continuing large importance as a (re-)investor the ECB also keeps the instruments to affect the sovereign market's national segments in an asymmetric way. The ECB's capital key serves as a guideline for the composition of purchases also for the reinvestments across the Eurosystem. For the PSPP, the ECB claims that "until the start of the run-off phase, the Eurosystem has gradually guided its monthly purchase allocation to align a jurisdiction's share in the stock of PSPP purchases as closely as possible with the respective share of the ECB's capital key. As the stock of PSPP gradually declines, developments in stocks by jurisdictions are mostly driven by the timing of redemptions. This could temporarily increase deviations, but these are currently foreseen to remain around the current level or lower."[3] For the PEPP, reinvestments under normal market conditions will be smoothed across jurisdictions and time to balance the market presence in light of unevenly distributed redemptions. This smoothing mechanism is said to potentially "lead to additional temporary deviations of the PEPP holdings from the ECB capital key allocation, but these are expected to reverse by the end of the smoothing period."[4] Under stressed market conditions, e.g. renewed market fragmentation that may hamper the monetary policy mechanism, PEPP reinvestments are given a larger flexibility. However

[1] European Central Bank, Monetary Policy Decisions, 16 December 2021, Press Release.
[2] European Central Bank, Monetary Policy Decisions, 2 February 2023, Press Release.
[3] European Central Bank, Public sector purchase programme (PSPP) - Q&A, accessed 13.03.2023 https://www.ecb.europa.eu/mopo/implement/app/html/pspp-qa.en.html.
[4] European Central Bank, Pandemic emergency purchase programme (PEPP) – Q&A, accessed 13.03.2023 https://www.ecb.europa.eu/mopo/implement/pepp/html/ecb.faq_pepp.en.html.

any such market stress would have to result from the pandemic in order to justify the use of PEPP flexibility according to the official ECB position[5].

In this report we update the quantitative analysis of the PEPP and PSPP conduct and analyze whether reinvestments are actually made in accordance to these claims. In prior versions of our report, we have detected patterns in the net purchases under PEPP and PSPP, which suggested systematic and long-run overweighting of individual countries relative to the ECB capital key.[6] Our update assesses cumulative purchases of PEPP and PSPP over the course of the programmes, the divergence from the capital key of the final maximum PEPP and PSPP stocks in March and June 2022 respectively, and the subsequent developments since the end of net purchases until January 2023. The report closes by showing the magnitude of both programmes in each country of the Eurosystem relative to GDP and public debt.

2. CUMMULATIVE PURCHASES OF PEPP AND PSPP

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

Box: PSPP and PEPP – an overview

PSPP: The **Public Sector Purchase Programme** (PSPP) started in March 2015 as the most important component of the Asset Purchase Programme (APP) and ran continuously until June 2022, with the exception of a pause in net purchases between January and October 2019. By the end of the net purchases, the PSPP stocks of the Eurosystem reached €2,744 billion (of which €2,456 billion are national debt and €289 billion supranational). The PSPP purchased 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.[7] Since then and until February 2023 principal payments from maturing securities were fully reinvested. Beginning in March 2023 only partial reinvestments are conducted, reducing the APP stock by on average €15 billion per month. This pace is fixed until the end of the second quarter of 2023, after which the subsequent reinvestment volume is yet to be determined.

PEPP: With the **Pandemic Emergency Purchase Programme** (PEPP), the Governing Council had added a second purchase programme that complemented the ongoing APP with additional net purchases between March 2020 and March 2022. PEPP is an asset purchase programme 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

[5] Confirmed in the most recent monetary policy decision: "The Governing Council will continue applying flexibility in reinvesting redemptions coming due in the PEPP portfolio, with a view to countering risks to the monetary policy transmission mechanism related to the pandemic" (ECB Press Release 16 March 2023, Monetary Policy Decision).

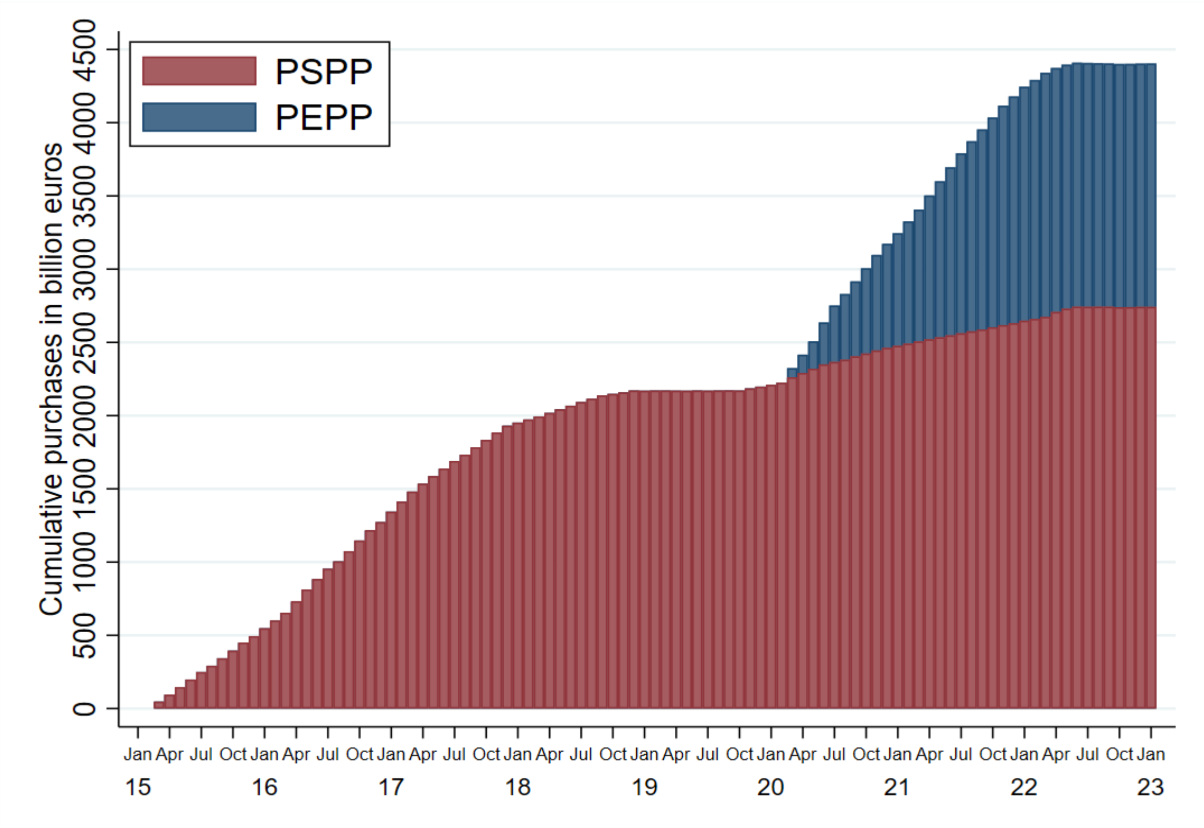
[6] See Birkholz, Carlo und Heinemann, Friedrich (2022), Magnitudes and Capital Key Divergence of the Eurosystem's PSPP/PEPP Purchases – Update June 2022, Study supported by the Brigitte Strube Foundation, ZEW-Kurzexpertise Nr. 22-05, Mannheim and Havlik, Annika and Heinemann, Friedrich (2021), Sliding 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.

[7] ECB Monetary Policy Decisions, 14 April 2022, Press Release.

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. 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. Full reinvestments of principal payments from maturing securities are planned until the end of 2024. 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 (but not any other asymmetric shock since the PEPP justification is tailored to the pandemic's economic repercussions).

By the end of June 2022, which marks the end of net purchases in PSPP and PEPP, the Eurosystem's cumulated net purchases of public sector securities through both programmes reached €4,410 billion[8] (€2,744 billion PSPP and €1,665 billion PEPP, see Figure 1). Full reinvestments of principal payments from maturing securities since the end of both programmes maintain the stock at that level until January 2023, the latest data point currently available.

Figure 1: Cumulative net purchases of PSPP and PEPP



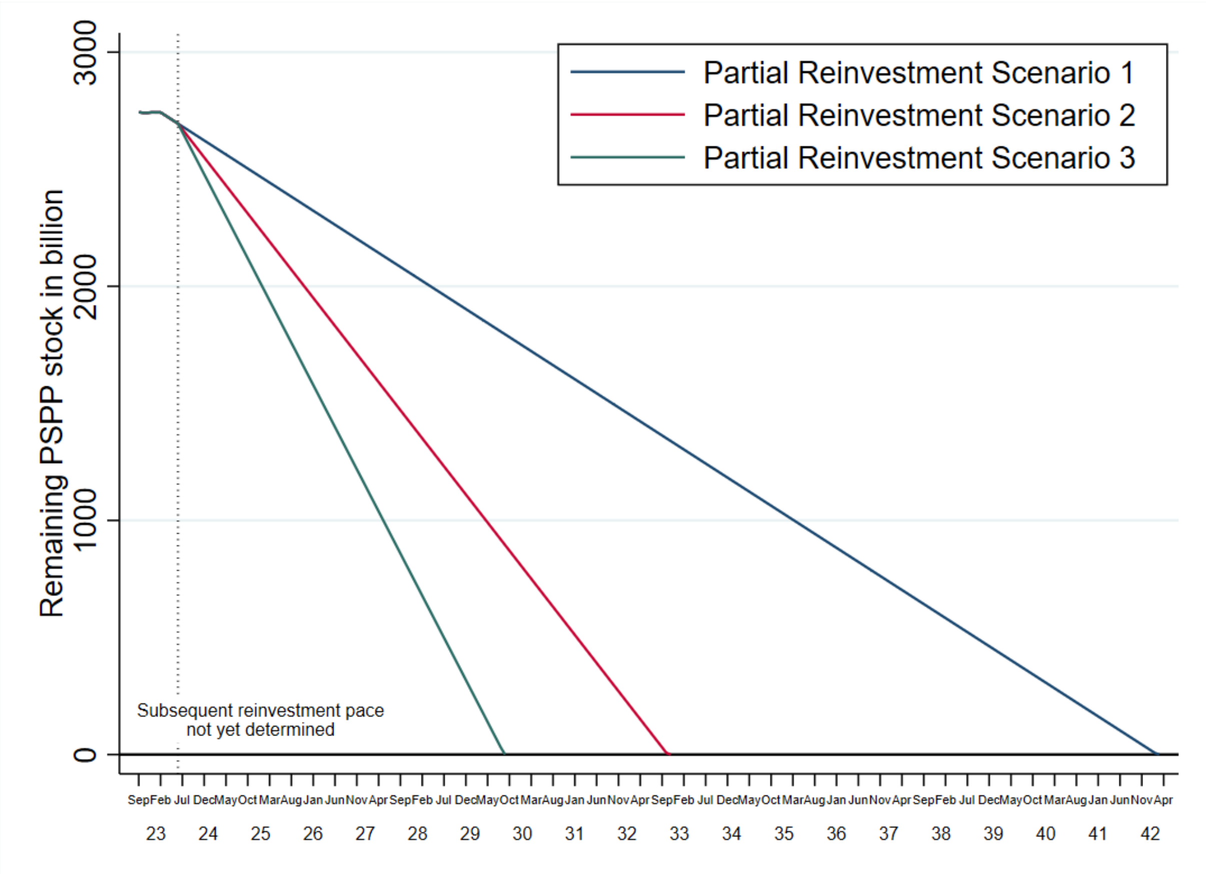
Notes: All data on PSPP and PEPP purchases are taken from the ECB website.[9] The depicted PEPP figures only include public sector securities.

[8] All figures on government bond purchases are taken from the ECB website. PEPP data is reported in bi-monthly frequency, we take the average per month.

[9] PSPP purchases: www.ecb.europa.eu/mopo/implement/omt/html/index.en.html

Given the stop of full reinvestments beginning in March 2023 and the following monthly reductions of the PSPP, we calculate three simple scenarios that depict the estimated time it would take to fully deplete the large PSPP stock that has been accumulated. While the targeted speed of reduction of the APP has been communicated until June 2023 at an average of €15 billion per month, the subsequent speed is yet to be determined. As such we assume a continuation of the current pace in scenario 1, a doubling of the speed to €30 billion in scenario 2, and a tripling of the speed to an average of €45 billion per month in scenario 3 from July 2023 onward. In each scenario we scale the monthly reduction by the PSPP's share in the APP, which is approximately 80%. Figure 2 below shows that a continuation of the current speed means a positive PSPP stock remain until 2042. A more quickened pace in scenario 2 and scenario 3 would see the PSPP stock last until end of 2032 and mid-2029 respectively. It is clear that extrapolations that far into the future are to be taken with a grain of salt, but this exercise powerfully demonstrates the longevity of commitment that has been created, and the ongoing necessity to monitor whether the reductions in the programme follow the ECB capital key as an allocation guideline, or whether reductions are asymmetric and perhaps serve to stabilize some selected countries.

Figure 2: Estimated time until full depletion of the PSPP stock



PEPP purchases: https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html

3. CAPITAL KEY DIVERGENCE – PEPP & PSPP STOCKS AT THE END OF NET PURCHASES

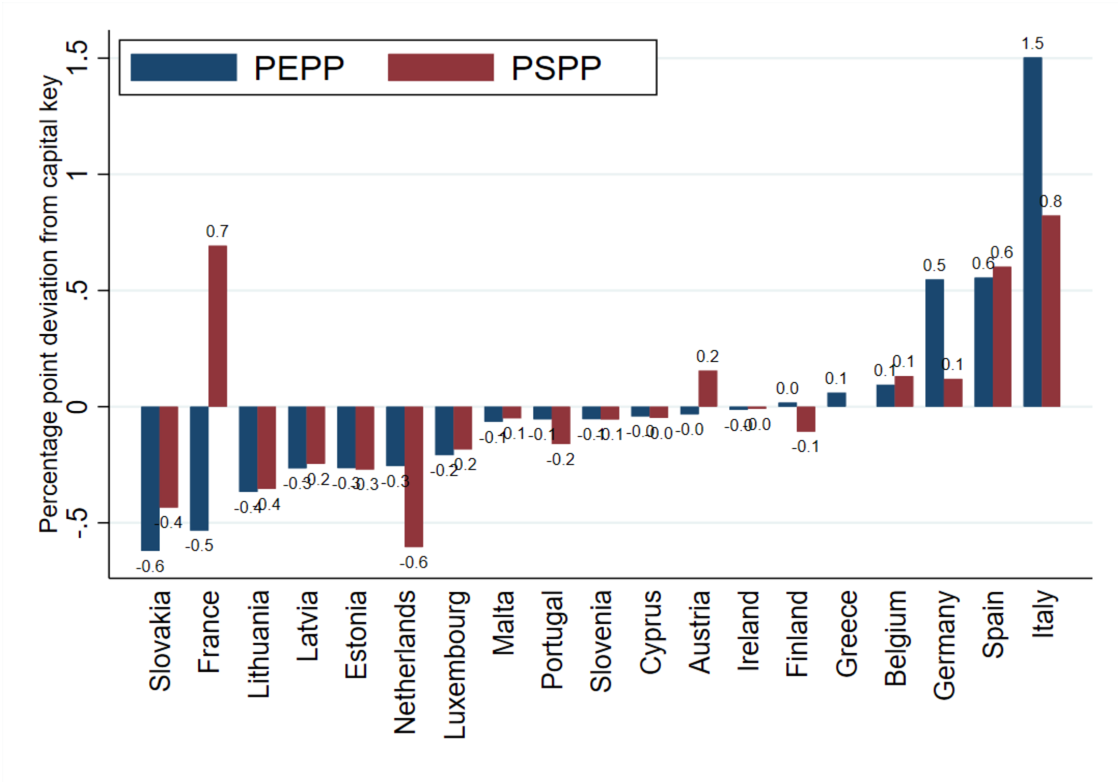
The end of net purchases marked a turning point in the ECB's public sector bond market interventions, and as such serves as a natural milestone to evaluate the final resulting maximum stocks in both programmes in relation to the ECB capital key. Figure 3 below depicts deviations from an allocation that follows the ECB capital key in percentage points (a) and percent (b) at the end of March 2022 for the PEPP and the end of June 2022 for the PSPP. Countries receiving the biggest overweighting are Italy with +9% in PEPP and +5% in PSPP, Spain with +5% in both programmes and Belgium with +3% and +4% in PEPP and PSPP respectively. Austria and France are over indexed by +5% and +3% in the PSPP, whereas Germany received +2% of net purchases in the PEPP. France is a particular case with a significant overweight in the PSPP (+3%), and an equally significant underweight in the PEPP (-3%). On the other hand the Baltic States, as well as Slovakia, Netherlands and Luxembourg are strongly underrepresented in both the PSPP and PEPP portfolio. This partially reflects low availability of public bonds in these countries.

It appears that both PSPP and PEPP were applied with some flexibility in terms of deviations from the capital key, and that Italy and Spain are still most strongly overrepresented. In light of the particular severe economic consequences of the pandemic for Spain and Italy, their overweight corresponds to the PEPP's intention. But also for the PSPP, the results show that the ECB was not able to steer the programmes as originally intended with a strong capital key orientation. In our earlier analyses we have shown that the overweight to Italy and Spain has already existed as early as 2018, and thus well before the pandemic shock.[10]

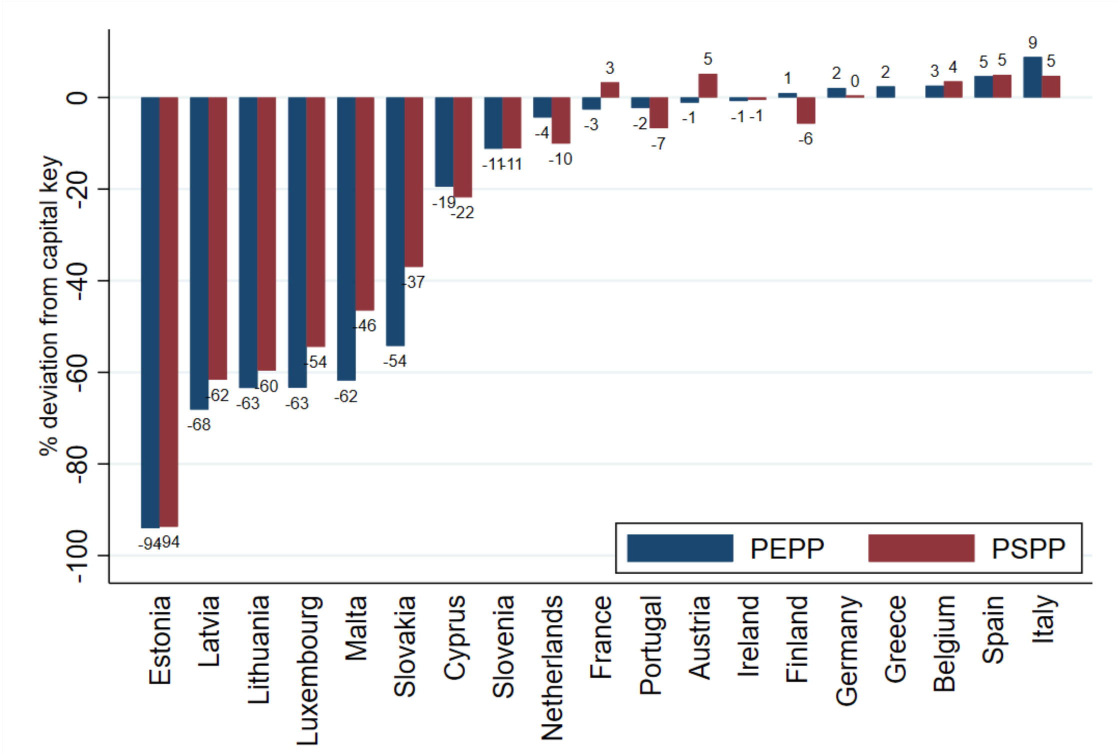
[10] Birkholz, Carlo and Heinemann, Friedrich (2022), Magnitudes and Capital Key Divergence of the Eurosystem's PSPP/PEPP Purchases - Update June 2022, ZEW-Kurzexpertise Nr. 22-05.

Figure 3: Divergence of the PSPP and PEPP stock from the capital key with the ending of net purchases

(a) Difference in percentage points



(b) Difference in percent

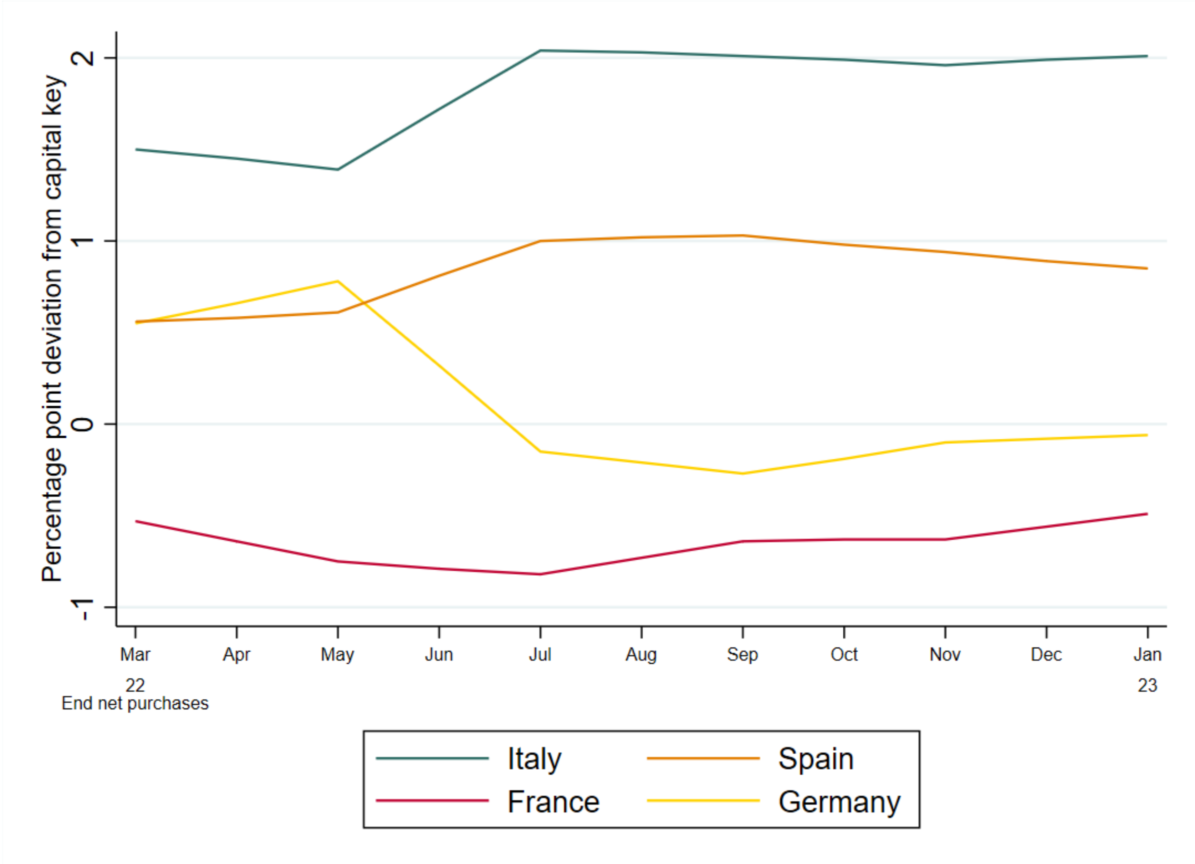


Notes: All data on PEPP and PSPP purchases and the capital keys are taken from the ECB website. Net purchases ended in March 2022 for PEPP and in June 2022 for PSPP.

4. DEVELOPMENTS SINCE THE END OF NET PURCHASES

After taking in the picture of deviations at the end of net purchases, the next question is how the reinvestments have developed in both programmes since. To this end, Figure 4 plots changes to the PEPP stocks' deviation from the ECB capital key as a result of the reinvestments since March 2022.[11] There are four noteworthy developments to take stock of: First, the overweighting of Italy and Spain increases even further over the course of full reinvestments, from 1.5 percentage points to 2 percentage points for Italy, and from 0.6 percentage points to 0.9 percentage points for Spain. This is a remarkable pattern as, by the end of 2021, both Italy and Spain had economically well recovered from the pandemic downturn. Second, Germany's share of net PEPP purchases normalizes towards an allocation right on target with the ECB capital key. Third, France, since mid-2022 sees a correction with the underweight continuously being reduced. Fourth, the other countries remain at a stable level, without major movements.

Figure 4: Percentage point divergence of PEPP stock from the capital key since the end of net purchases March 2022



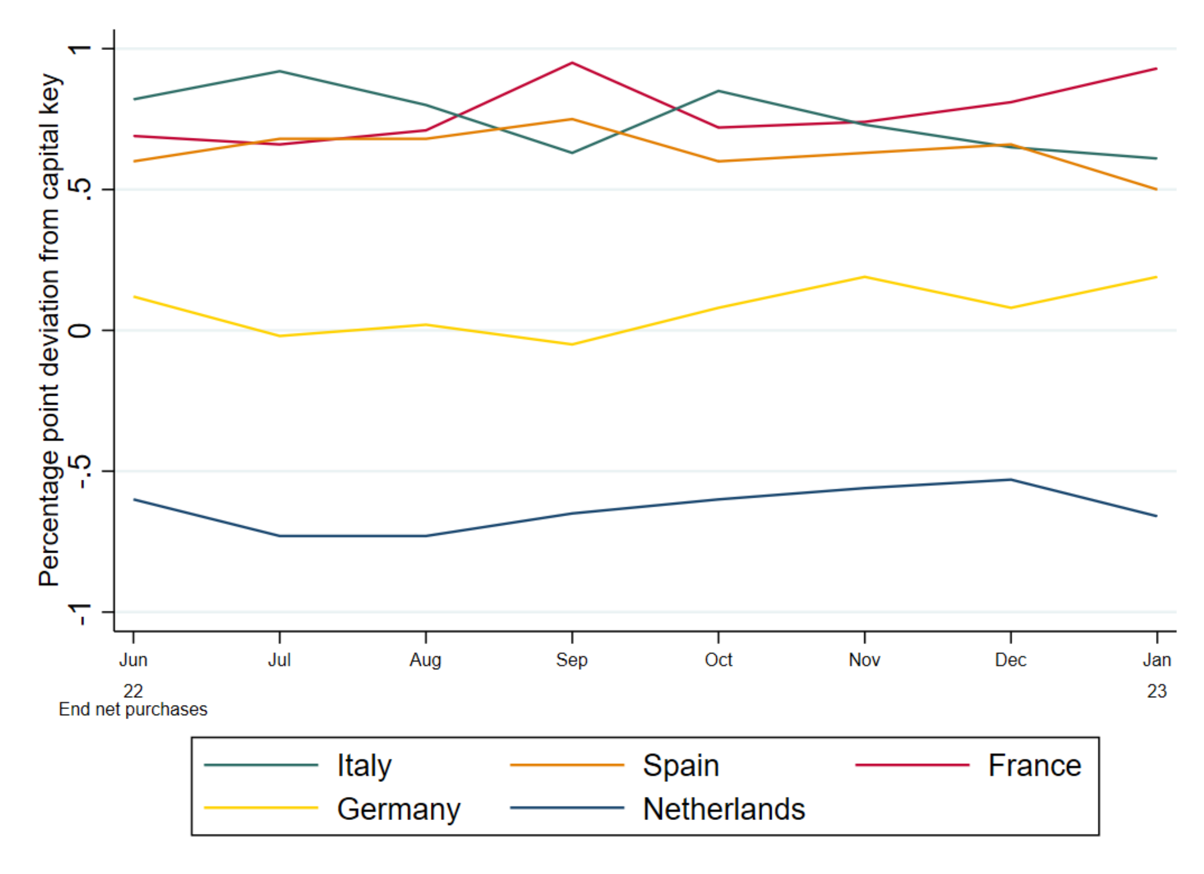
Notes: All data on PEPP purchases and the capital keys are taken from the ECB website.

Equivalently, Figure 5 below depicts the percentage point deviations of the PSPP stock due to potentially asymmetric reinvestments since June 2022. An overall calmer picture presents itself, without many major movements in the seven months of full reinvestments. Italy's overweight is on a

[11] Such figures for the PEPP and PSPP stock of each country separately can be found in the Appendix.

slight decline. One notable development is France's climb to an almost 1 percentage point overweight in January 2023.

Figure 5: Percentage point divergence of PSPP stock from the capital key since the end of net purchases June 2022



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

Taking the above Figures together, it is apparent that reinvestments under the PEPP have been applied with greater flexibility than under the PSPP. Existing imbalances in the allocation have been exacerbated.

Next we investigate whether deviations under both programmes are of meaningful absolute sizes. To this end, Table 1 below lists for each country the stock at the end of net purchases of that programme (June 2022 for PSPP, March 2022 for PEPP) and the most recent data at the end of January 2023, the target stock under perfect compliance with the ECB capital key at both times, and the resulting deviation in absolute terms. The column "*Increase/decrease of deviation*" then takes note of any increases or decreases in the deviation from the capital key between the two time periods.

Both programmes are subject to some reshuffling in the allocation across countries. The largest changes in absolute terms took place in France with plus €5.9 billion in PSPP deviation, Italy with minus €5.3 billion in PSPP but plus €7.6 billion PEPP, Spain with minus €2.6 billion PSPP and plus €4.4 billion PEPP, and Germany with plus €1.8€ billion PSPP and minus €7.5 billion PEPP deviation. For the four largest Member States the deviation from the ECB capital key in absolute terms decreased only for

Germany when taking both programmes together. Over the whole duration of both programmes, the Eurosystem has bought Italian government bonds at a total of over €45 billion more than capital key allocation would require, which represents around 2% of Italy's 2022 GDP. Spain has been overweighed by a similar margin of 1.9% in relation to its 2022 GDP.

TABLE 1: DEVIATION FROM THE CAPITAL KEY IN € MILLIONS

COUNTRY		**PSPP**			**PEPP**		
		June 22	*Jan 23*	*Increase/ decrease of deviation*	*March 22*	*Jan 23*	*Increase/ decrease of deviation*
FRANCE	*Stock*	531,309	537,023		302,286	301,843	
	Target	514,296	514,114		310,393	309,247	
	Deviation	17,013	22,908	5,895	-8,107	-7,404	-703
ITALY	*Stock*	447,981	442,578		281,028	287,660	
	Target	427,780	427,629		258,178	257,225	
	Deviation	20,201	14,949	- 5,252	22,850	30,435	7,585
SPAIN	*Stock*	315,066	312,397		189,663	193,376	
	Target	300,268	300,162		181,221	180,552	
	Deviation	14,798	12,235	-2,563	8,442	12,824	4,382
GERMANY	*Stock*	666,732	668,313		408,942	398,298	
	Target	663,797	663,562		400,622	399,143	
	Deviation	2,936	4,751	1,815	8,320	-845	-7,475
BELGIUM	*Stock*	94,972	94,731		56,796	55,793	
	Target	91,739	91,707		55,367	55,163	
	Deviation	3,233	3,024	-209	1,429	630	-799
AUSTRIA	*Stock*	77,508	75,712		43,980	44,037	
	Target	73,701	73,675		44,481	44,317	
	Deviation	3,807	2,037	-1,770	-501	-280	-221
IRELAND	*Stock*	42,422	43,115		25,533	25,999	
	Target	42,640	42,625		25,735	25,640	
	Deviation	-218	490	272	-202	359	157
SLOVENIA	*Stock*	10,774	11,285		6,499	6,626	
	Target	12,124	12,120		7,318	7,291	
	Deviation	-1,351	-835	-515	-819	-665	-154

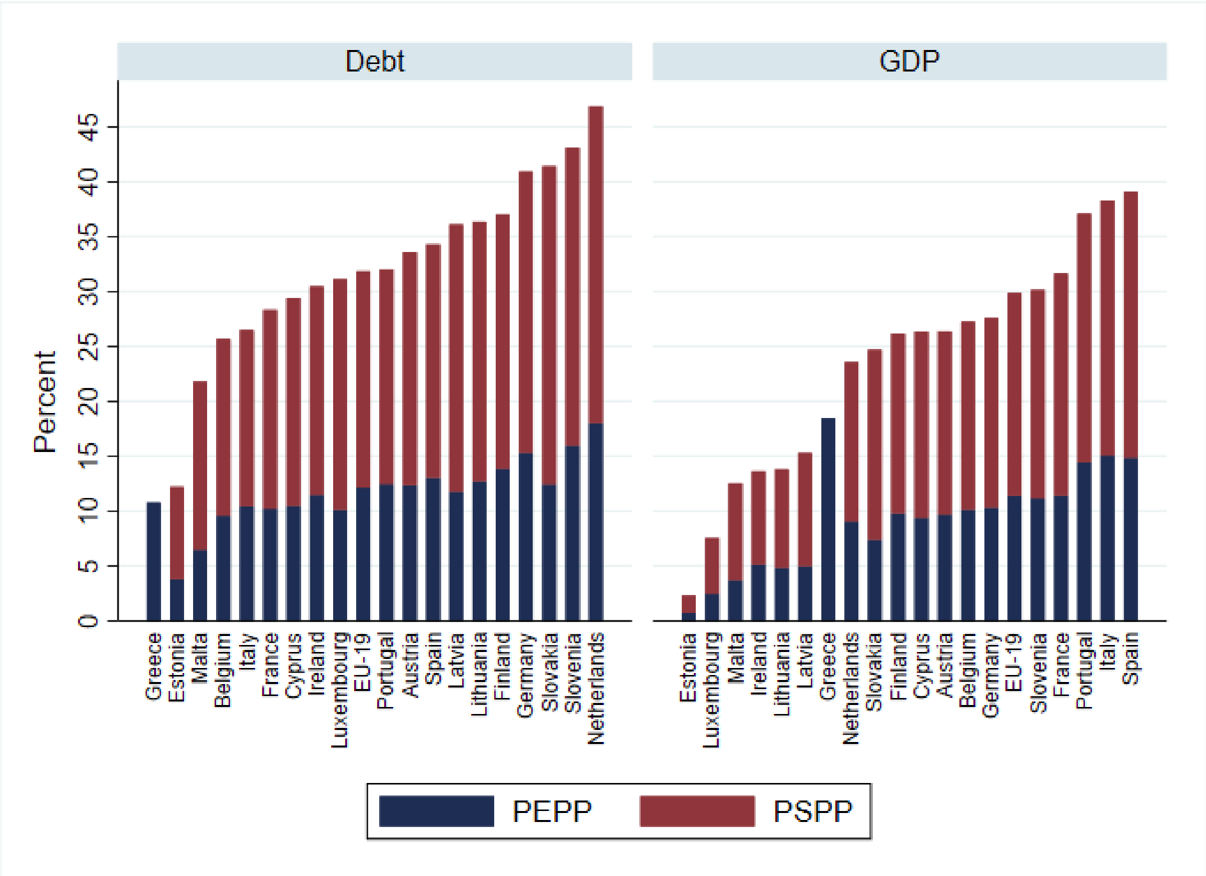
CYPRUS	*Stock*	4,238	4,521		2,633	2,493	
	Target	5,418	5,416		3,270	3,258	
	Deviation	-1,180	-895	-285	-637	-765	128
MALTA	*Stock*	1,413	1,444		609	606	
	Target	2,641	2,640		1,594	1,588	
	Deviation	-1,228	-1,196	-32	-985	-982	-3
FINLAND	*Stock*	43,614	44,711		28,182	26,952	
	Target	46,253	46,237		27,915	27,812	
	Deviation	-2,639	-1,526	-1,113	267	-860	593
LUXEMBOURG	*Stock*	3,780	3,999		1,833	1,921	
	Target	8,295	8,292		5,006	4,988	
	Deviation	-4,515	-4,293	-222	-3,173	-3,067	-106
PORTUGAL	*Stock*	54,981	54,235		34,742	33,909	
	Target	58,935	58,914		35,569	35,438	
	Deviation	-3,954	-4,679	725	-827	-1,529	702
LATVIA	*Stock*	3,766	3,978		1,887	1,911	
	Target	9,812	9,808		5,922	5,900	
	Deviation	-6,046	-5,830	-215	-4,035	-3,989	-46
ESTONIA	*Stock*	446	586		256	256	
	Target	7,093	7,091		4,281	4,265	
	Deviation	-6,647	-6,505	-143	-4,025	-4,009	-16
LITHUANIA	*Stock*	5,885	6,114		3,217	3,258	
	Target	14,574	14,568		8,796	8,763	
	Deviation	-8,689	-8,454	-234	-5,579	-5,505	-73
SLOVAKIA	*Stock*	18,170	18,824		7,965	8,030	
	Target	28,838	28,827		17,404	17,340	
	Deviation	-10,668	-10,003	-664	-9,439	-9,310	- 129
NETHERLANDS	*Stock*	132,715	131,340		85,173	83,389	
	Target	147,569	147,517		89,062	88,734	
	Deviation	-14,854	-16,177	1,323	-3,889	-5,345	1,455

Notes: All data on PEPP 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 6 shows the ratios of PSPP and PEPP stocks at the end of 2022 over estimated government debt and GDP for 2022. National differences in the relative importance are huge. In Spain, Portugal, and Italy, total cumulated PSPP and PEPP purchases until December 2022 have surpassed 35% 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 18.4% is remarkable as it exceeds any other countries' by far and suggests a crucial role for the small Greek sovereign bonds market. Furthermore a large share of Greek public debt is financed by the euro countries under the Greek Loan Facility and the EFSF/ESM. 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 the Netherlands, Slovenia, Slovakia, Germany, and Finland. This partially 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.

Figure 6: PEPP and PSPP stocks December 2022 as a share of government debt and GDP 2022



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.

The average euro area magnitude of the stocks relative to national debt at 32% 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.[12] 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.

6. CONCLUSIONS

Our essential results are the following:

- By the end of the net purchases in PSPP and PEPP, both programmes taken together have reached a total volume of €4,410 billion. Beginning in March 2023 only partial reinvestments in the PSPP reduce its stock gradually. Scenarios with differing reduction speeds reveal timelines up to until 2042 until the full depletion of the PSPP stock. This is a very low speed and signals a monetary policy asymmetry. The ECB reacts much quicker in increasing its balance sheet in times of monetary easing than it reacts through a shrinking in times of monetary tightening (even in times of very high inflation pressure).
- The countries with the largest relative overweight compared to an allocation by the ECB capital key at the end of net purchases were Italy with +9% in PEPP and +5% in PSPP, Spain with +5% in both programmes, and Belgium with +3% and +4% in PEPP and PSPP respectively. More recently, the French overweight is increasing, largely materializing through the PSPP.
- From the end of net purchases till January 2023 principal payments from maturing securities were fully reinvested in both programmes. In the PEPP reinvestments were conducted asymmetric, skewing the allocation even stronger towards Italy and Spain. This occurs at a time when the pandemic shock has largely been absorbed and, therefore, this development challenges the ECB's justification for PEPP flexibility. This flexibility is explicitly limited to fight market stress resulting from the pandemic. Using the PEPP reinvestments to manage a different asymmetric shock – e.g. due to the energy crisis – would hardly comply with the PEPP rules set by the ECB Council.
- Reinvestments in the PSPP were more stable, with the exception of France climbing to an overweighting of almost 1 percentage point. For Italy and Spain, the PSPP overweight slightly decreased in the reinvestment phase.
- During the period of reinvestments the combined PEPP and PSPP deviations from an allocation according to the capital key have increased for the four largest Member States except for Germany.
- In absolute terms, the overweight relative to the capital key in the Eurosystem sovereign stocks at the end of January 2023 has reached around €45 billion for Italy and €25 billion for Spain in both programmes combined. In terms of their GDP this asymmetric backing amounts to around 2%.

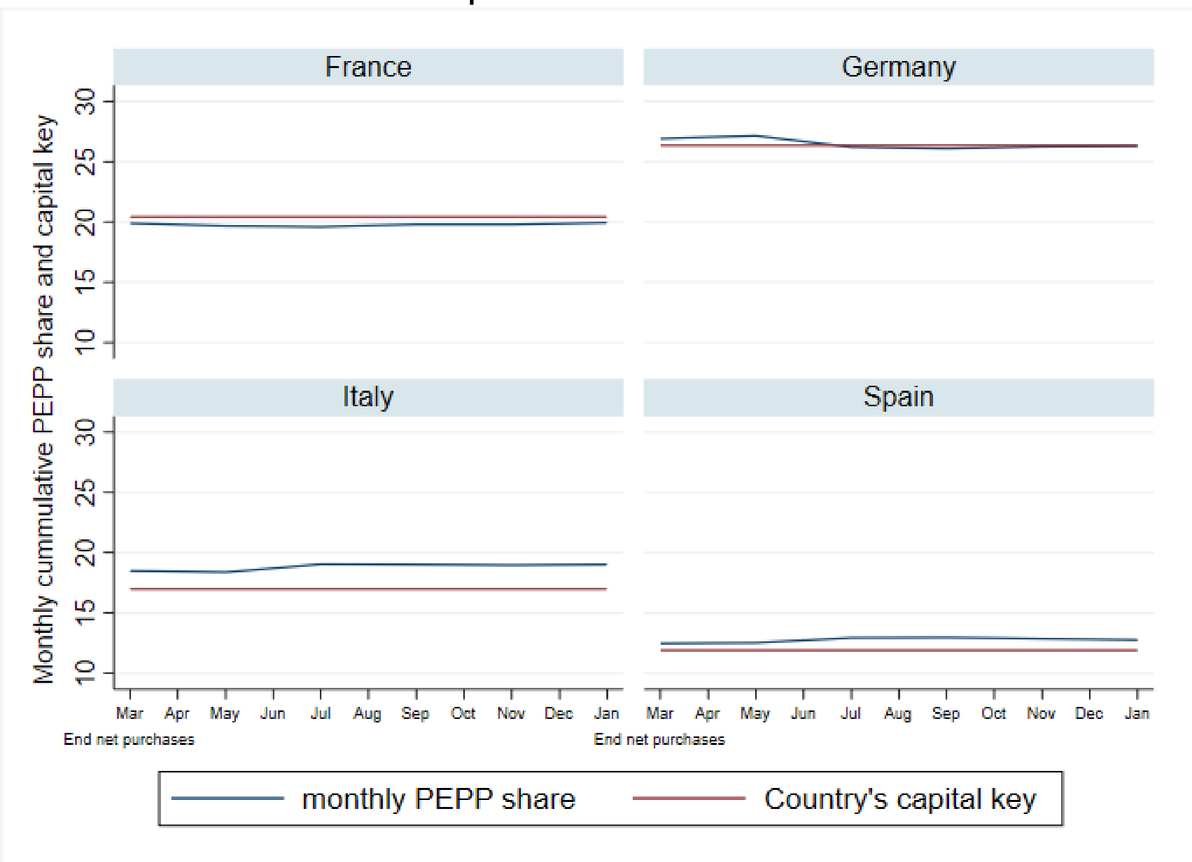
[12] See Havlik and Heinemann, footnote 2, for details.

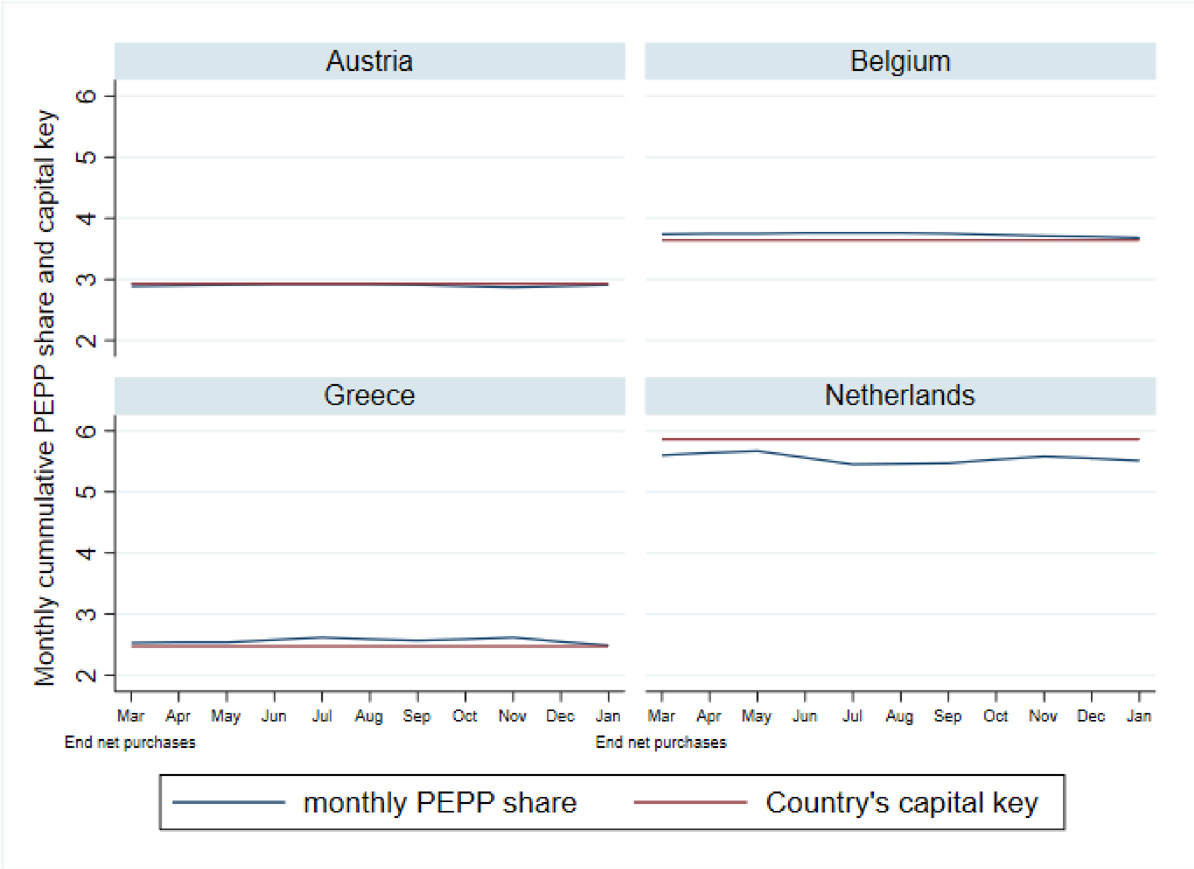
- The average ratio of accumulated PSPP and PEPP stocks to national debt has reached 32% in December 2022, which is very close to the PSPP issuer share limit. This issuer limit wants to prevent the Eurosystem from becoming the crucial investor with veto power in debt restructuring negotiations.

Overall, some of these results – the speed asymmetry in balance sheet buildup and contraction, the overweight of high-debt countries, the increasing asymmetries in the PEPP reinvestment phase although the pandemic justification no longer exists, and the closeness in holdings to issue/issuer limits – raise critical questions. They are not inconsistent to a reaction function where the ECB – besides inflation objectives – also follows a fiscal policy agenda with the intention to support the financing needs of highly indebted euro countries.

7. APPENDIX

Figures A1: Share of monthly cumulative PEPP purchases and the capital key since the end of net purchases March 2022




Austria
Belgium
Greece
Netherlands
Monthly cummulative PEPP share and capital key
2
3
4
5
6
Mar
Apr
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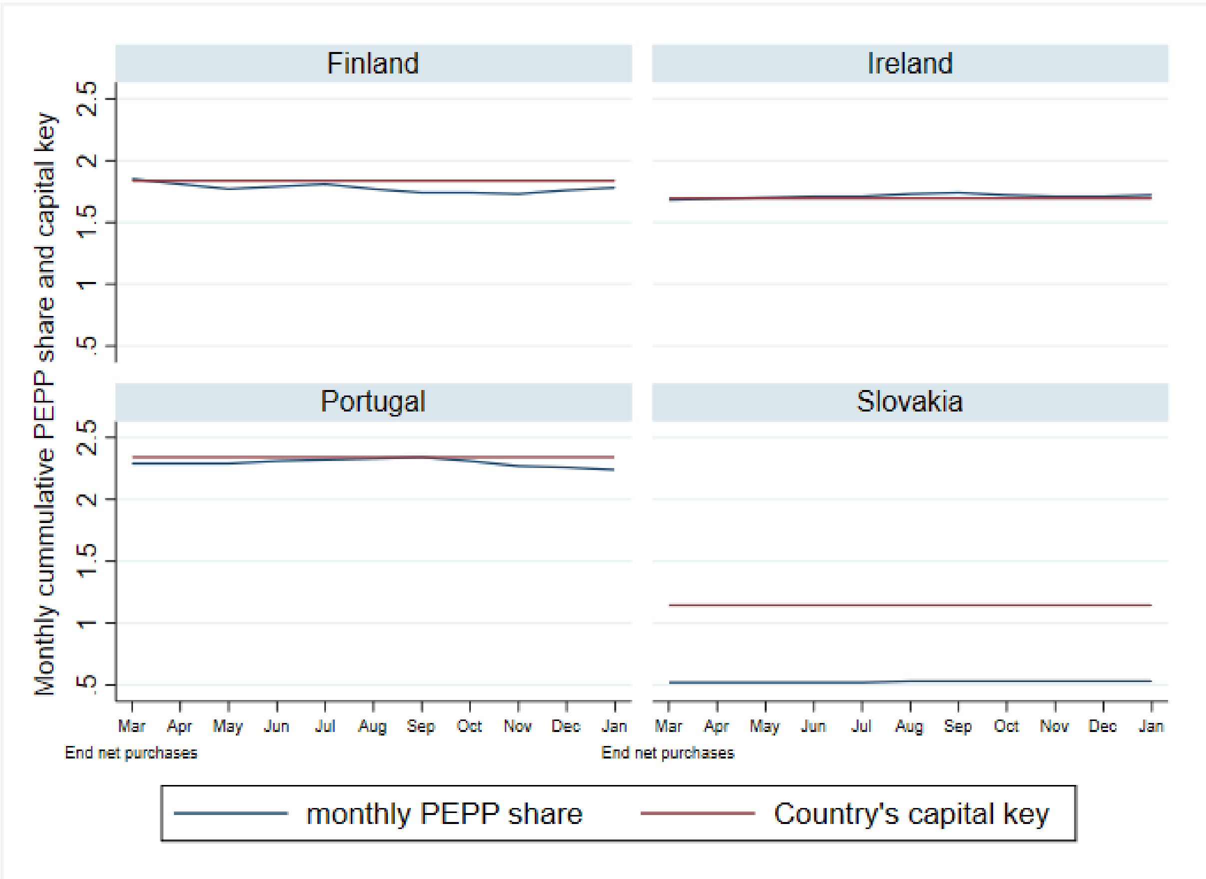
End net purchases
monthly PEPP share
Country's capital key


Finland
Ireland
Portugal
Slovakia
Monthly cummulative PEPP share and capital key
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1
1.5
2
2.5
Mar
Apr
May
Jun
Jul
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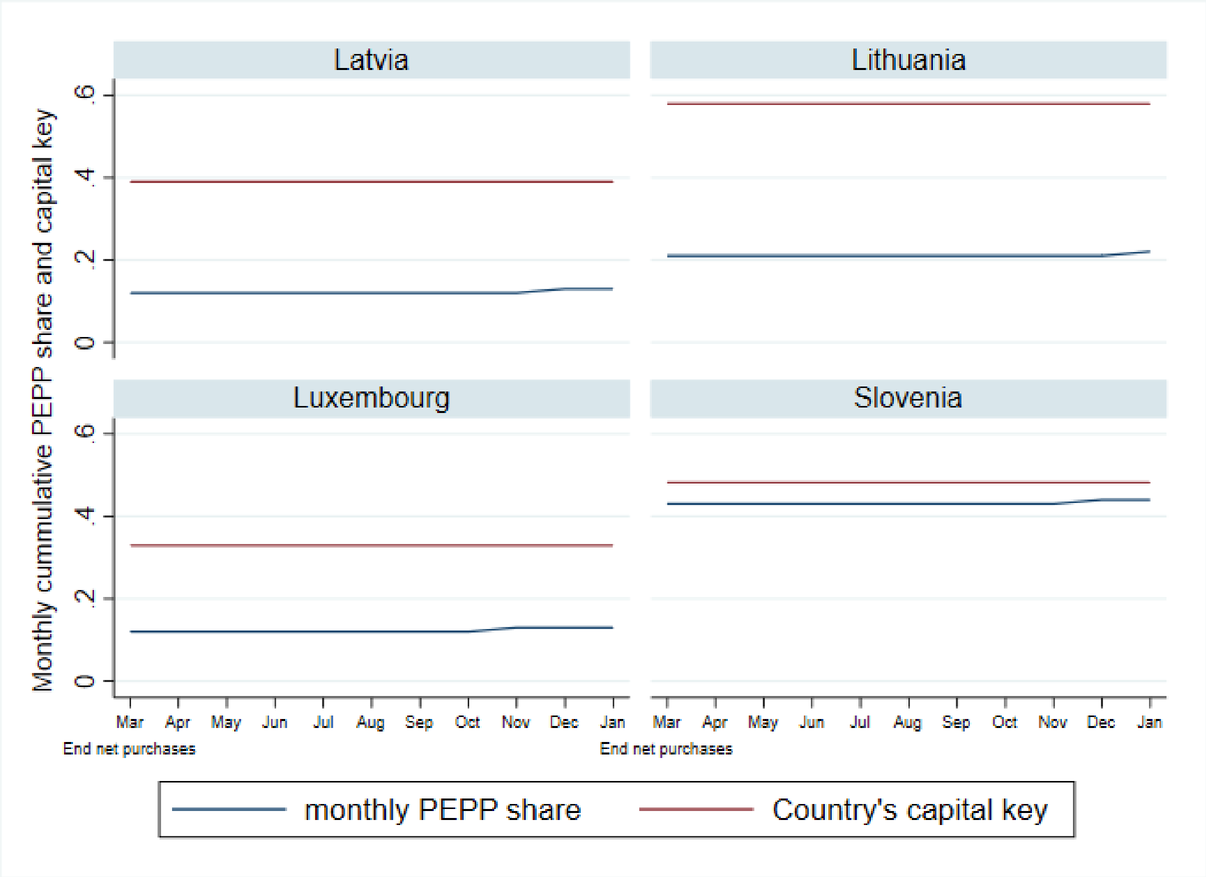
Oct
Nov
Dec
Jan
End net purchases
monthly PEPP share
Country's capital key


Latvia
Lithuania
Luxembourg
Slovenia
Monthly cummulative PEPP share and capital key
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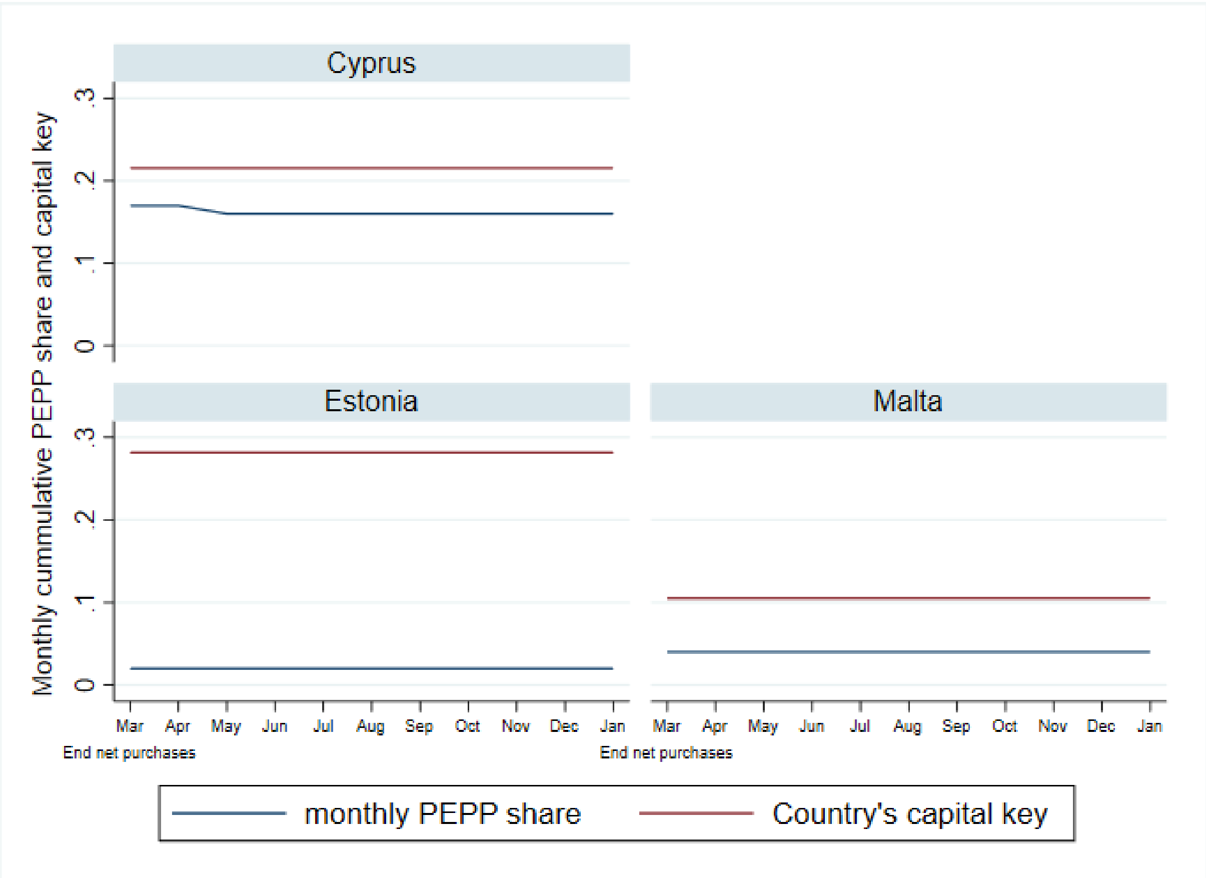
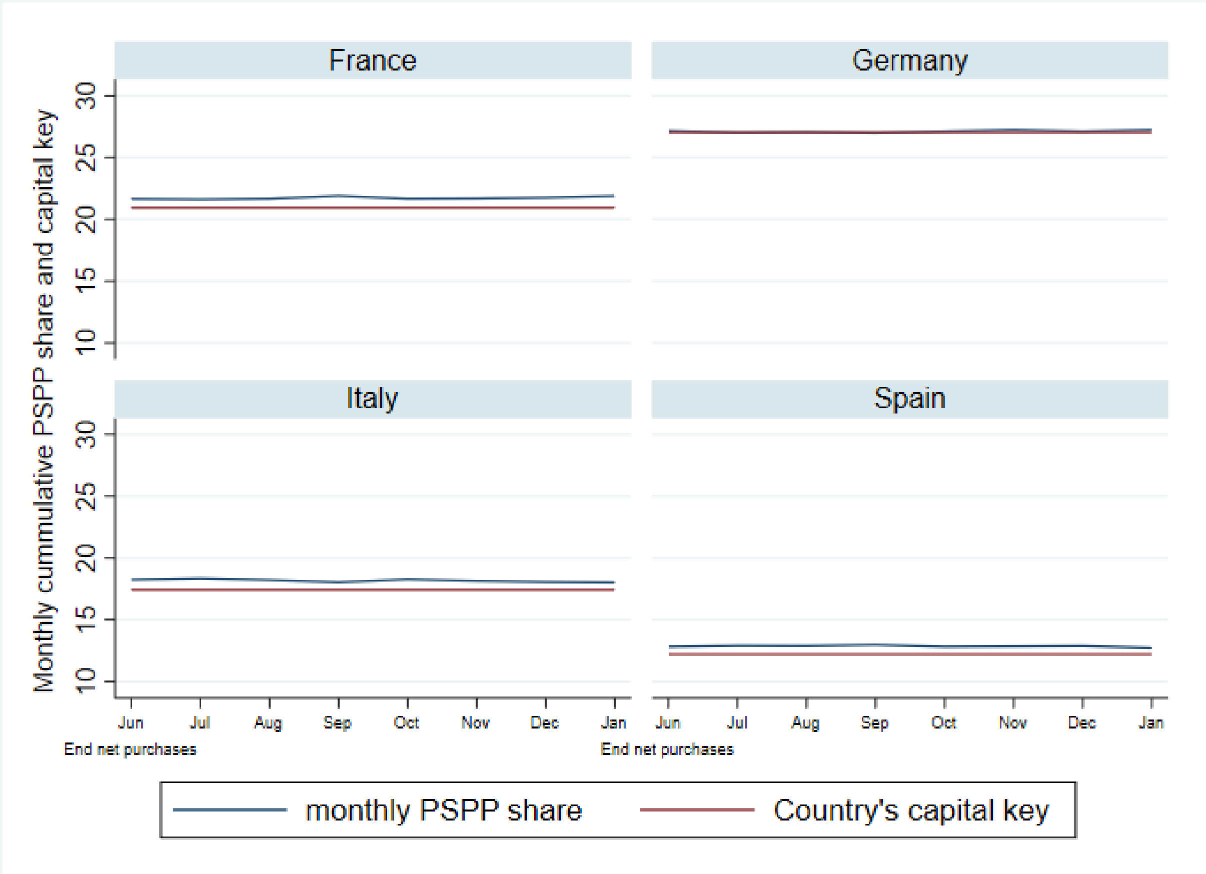
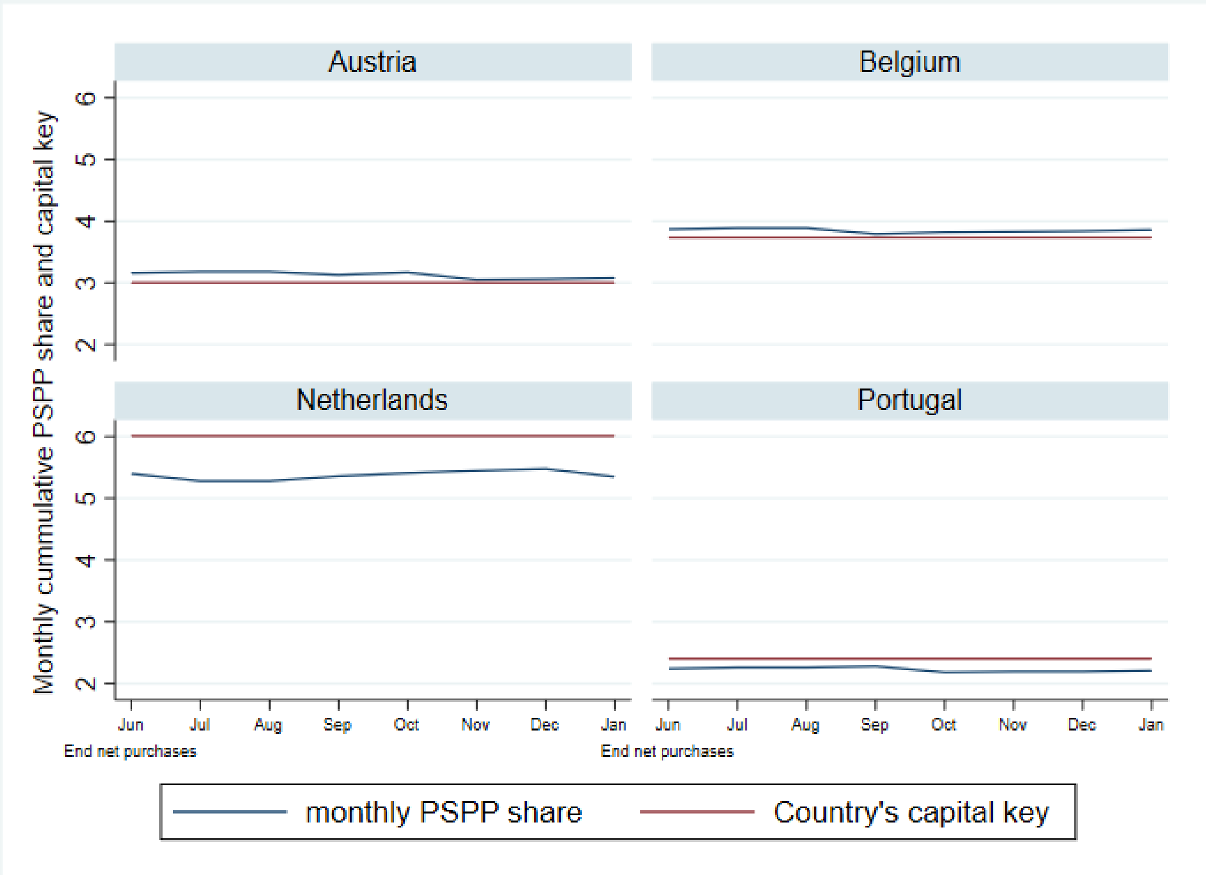
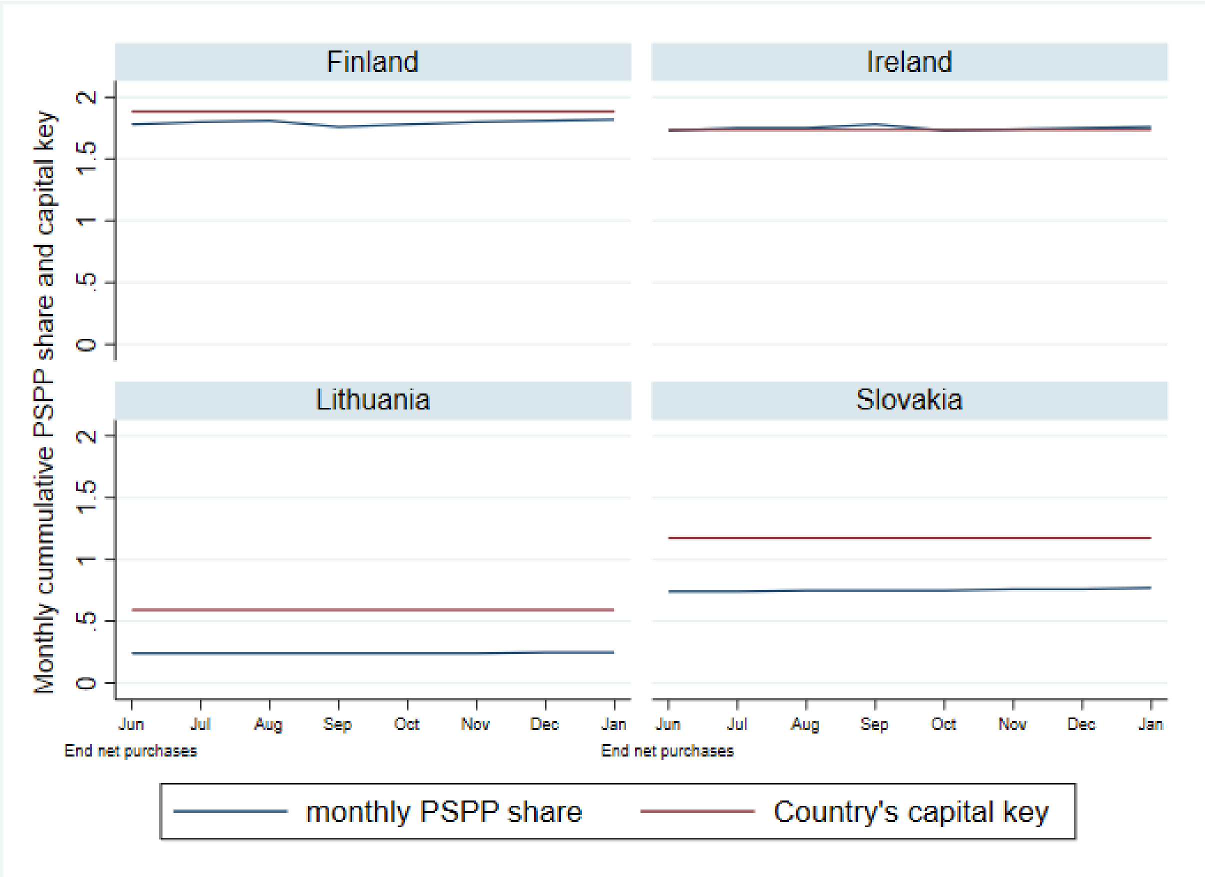
End net purchases
monthly PEPP share
Country's capital key

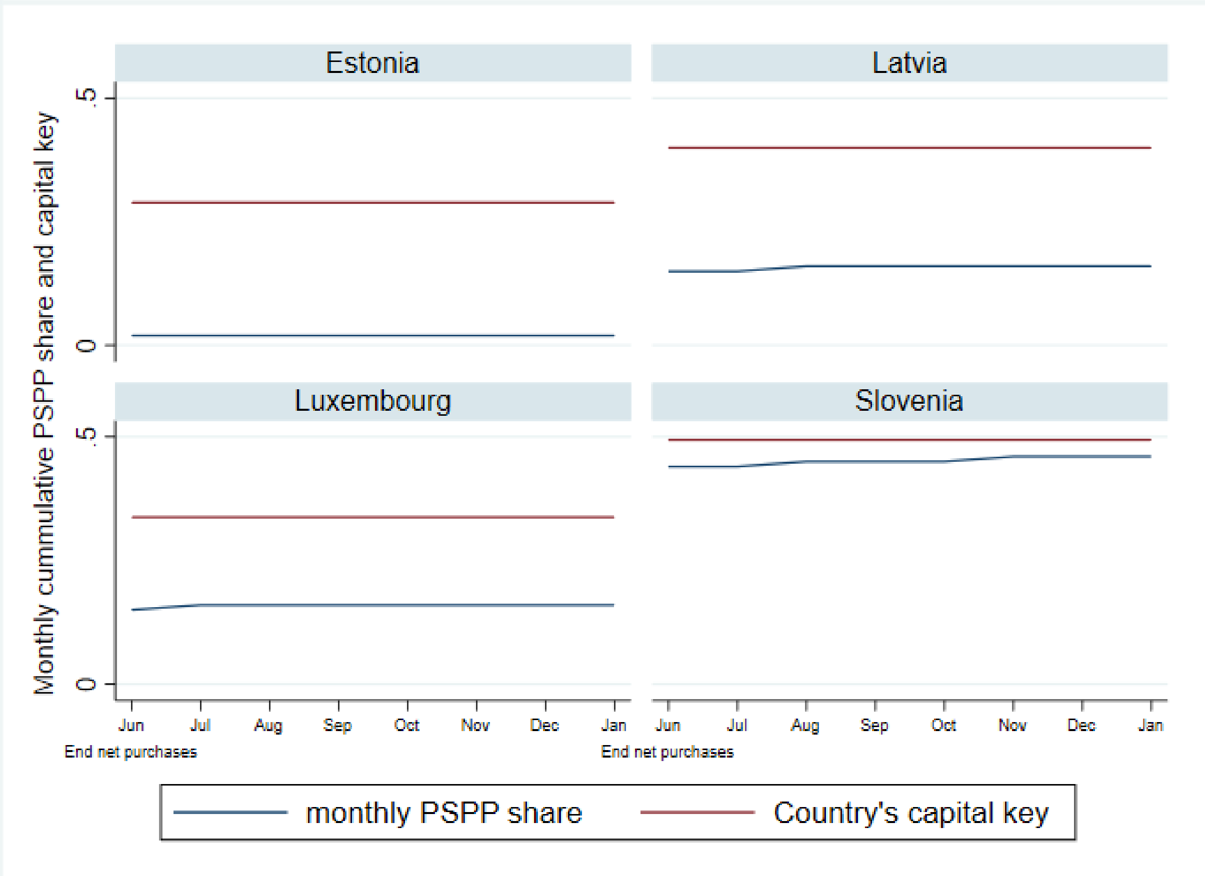

Cyprus
Estonia
Malta
Monthly cummulative PEPP share and capital key
0
.1
.2
.3
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
End net purchases
monthly PEPP share
Country's capital key

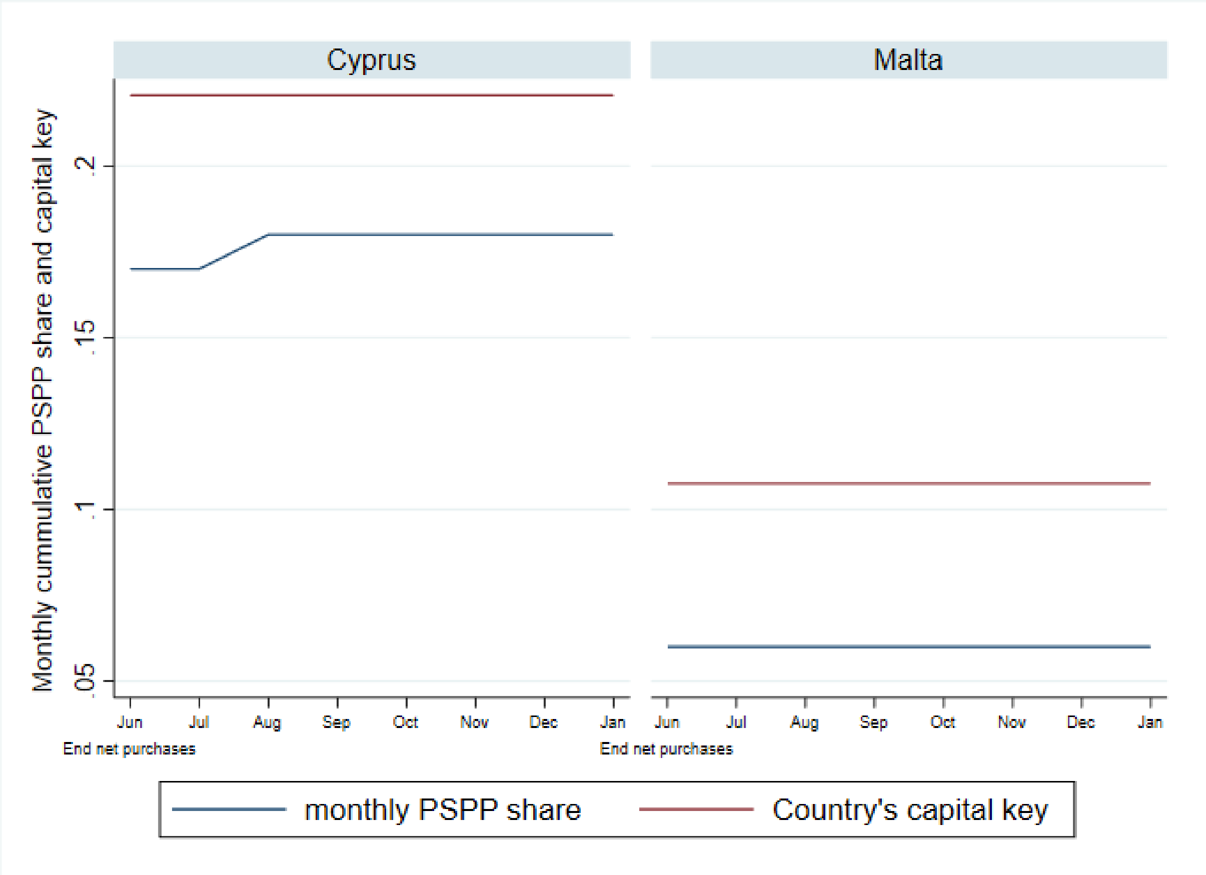
Figures A2: Share of monthly cumulative PSPP purchases and the capital key since the end of net purchases March 2022






Finland
Ireland
Lithuania
Slovakia
Monthly cummulative PSPP share and capital key
0
.5
1
1.5
2
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
End net purchases
monthly PSPP share
Country's capital key


Estonia
Latvia
Luxembourg
Slovenia
Monthly cummulative PSPP share and capital key
0
.5
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
End net purchases
monthly PSPP share
Country's capital key



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