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MAGNITUDES AND CAPITAL KEY DIVERGENCE OF THE EUROSYSTEM'S PSPP/ PEPP PURCHASES – UPDATE DECEMBER 2020

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EXECUTIVE SUMMARY

Since March 2020, the Eurosystem has been purchasing government bonds under the Pandemic Emergency Purchase Programme (PEPP). The PEPP was set up as a non-standard policy measure to encounter the economic and financial consequences of the Covid-19 pandemic and is an additional program to the ongoing Public Sector Purchase Programme (PSPP).

This study updates the quantitative analysis by Havlik and Heinemann (2020) with a focus on the Eurosystem's PSPP and PEPP transactions since the outbreak of the pandemic. With respect to the PSPP/PEPP purchases made between March and September 2020, this expertise assesses the size of purchase flows and stocks, country allocations and their magnitude relative to this year's projected government deficits. Moreover, we assess the speed of purchases in light of the current existing envelopes.

Key findings are as follows:

- By the end of September 2020, the Eurosystem's cumulated net purchases of public sector securities reached €3 trillion. With the ongoing speed, the stock of public sector securities in the euro area central banks' balance sheets will amount to €3.2 trillion by the end of 2020. This corresponds to 28% of total public debt in the euro area.
- At the current speed of purchases, the PEPP envelope of €1,350 billion is sufficient to continue purchases until July 2021, i.e. beyond the earliest end date of net purchases (June 2021) which has been announced. If the ECB extends the purchases until the end of 2021, an additional amount of €500 billion would be sufficient to finance purchases at the current speed and, on top, include a €120 billion margin.
- While the ECB capital key is the benchmark for the allocation of PEPP purchases across Member States, the ECB wants to apply this benchmark in a flexible way. This flexibility has been used extensively since March. For the PEPP, the deviations in percent from national capital keys are highest for Italy (+17%), Cyprus (+16%), Greece (+10%), Slovenia (+8%), Spain (+7%), and Portugal (+4%).
- The comparison of PSPP and PEPP transactions since March reveals the striking result that, for high debt countries, divergences are higher under PSPP than under PEPP. This is remarkable since PSPP rules prescribe a stricter orientation to the capital key than the PEPP. For France and Germany, the divergence analysis leads to different signs for both programs. While French public sector securities are bought far below proportion under PEPP, they are given a massive overweight under PSPP. While German public bonds are bought just about right under PEPP, they are currently heavily underweighted under PSPP.
- The combined analysis of PSPP and PEPP flows since March provides a full and meaningful picture. It shows an overshooting of purchases for several countries that reaches, for example, 45% for Cyprus and 25% for Italy. Further countries with a significant overweight are Spain (+11%), Belgium (+7%), Slovenia and France (both +3%). Hence, the underweighting of France under PEPP gives a misleading signal as both programs combined actually overweight the country.

- The analysis of the accumulated PSPP stocks since 2015 reveals the long-run trend in divergence from the capital key. For countries such as Belgium, France, Italy, and Spain, an increasing overweight has already been observable between 2015 and 2018 and therefore well before the pandemic began in spring 2020. However, the divergence of PSPP stocks from the capital key has further increased in 2020, particularly for Italy and Spain to a noticeably large extent.
- A final step of the analysis puts the PSPP/PEPP purchases in proportion to current fiscal indicators. These results show that the central bank involvement is very substantial, even relative to the exceptionally high borrowing requirements in the deepest recession in Europe since the Second World War. For a couple of national government bond markets, the Eurosystem's net purchases this year will be of a similar magnitude or even higher than the general government's large deficit. This is the case for Cyprus, Greece, Portugal, Italy, Germany, and Slovenia.

The analysis reaches the conclusion that the Eurosystem's current practice of public sector purchases has effectively suspended the capital key orientation for both programs. In light of the rulings both by the European Court of Justice and the German Federal Constitutional Court this is a challenging finding for the compliance of purchases with EU law beyond the current economic crisis. The results on the macroeconomic magnitudes of purchases suggest that high debt countries are heavily dependent on the Eurosystem's indirect support for a smooth financing of the public sector.

1. INTRODUCTION

Since the outbreak of the coronavirus pandemic in March 2020, the Eurosystem has been buying government bonds under the Pandemic Emergency Purchase Programme (PEPP). The PEPP was set up as a non-standard policy measure to encounter the economic and financial consequences of the pandemic and complements the ongoing Public Sector Purchase Programme (PSPP). PSPP is by far the most important component of the ECB's Asset Purchase Programme (APP) and has been in operation since March 2015, with the exception of a pause in net purchases between January and October 2019.

Havlik and Heinemann (2020)[1] analyzed both the rules, size, and structure of both programs in July 2020. Their comprehensive synopsis of the changing purchase rules of PSPP and PEPP since March 2015 has shown that program constraints have become more lax over time and over various dimensions. The loosening relates to eligible issuers, minimum credit quality, maturity restrictions, yield restrictions, issue and issuer limits, and capital key orientation. With the PEPP, the ECB Council has explicitly renounced a strict capital key orientation for the country allocations.[2] However, a key result from the quantitative analysis was that the Eurosystem's government bond purchases under PSPP increasingly deviated from the ECB capital key, which appeared to be the case well before the Covid-19 pandemic began.

This study updates the quantitative analysis of Havlik and Heinemann (2020) with a focus on the Eurosystem's PSPP and PEPP transactions since the outbreak of the pandemic. With regard to PSPP/PEPP purchases made between March and September 2020, this expertise assesses the size of purchase flows and stocks, country allocations and their proportionality to the ECB capital key, and their magnitude relative to GDP, public debt and deficits. Moreover, we assess the speed of purchases in light of the current existing envelopes.

[1] Havlik, Annika and Heinemann, Friedrich, (2020), Sliding Down the Slippery Slope? Trends in the Rules and Country Allocations of the Eurosystem's PSPP and PEPP, Econpol Policy Report 21.

[2] The ECB PEPP Decision (2020/440 24 March 2020, Recital 5) still defines the capital key as the "benchmark" for allocations across jurisdictions but announces a "flexible approach" to the application of this benchmark.

2. PURCHASE SPEED AND REMAINING PEPP ENVELOPE

The box below summarizes details on the history and the current purchase details both of the PSPP and the PEPP.

Box: PSPP and PEPP – current purchase speeds and envelopes

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 September 2020, the cumulated PSPP net purchases of the Eurosystem reached €2,405 billion (of which €2,150 billion are national debt and €255 billion supranational). The PSPP purchases bonds from all euro members with the exception of Greece. APP net purchases currently amount to €20 billion per month plus purchases from an additional Corona crisis-related envelope of €120 billion. PSPP net purchases between July and September amounted to €18.2 billion a month.

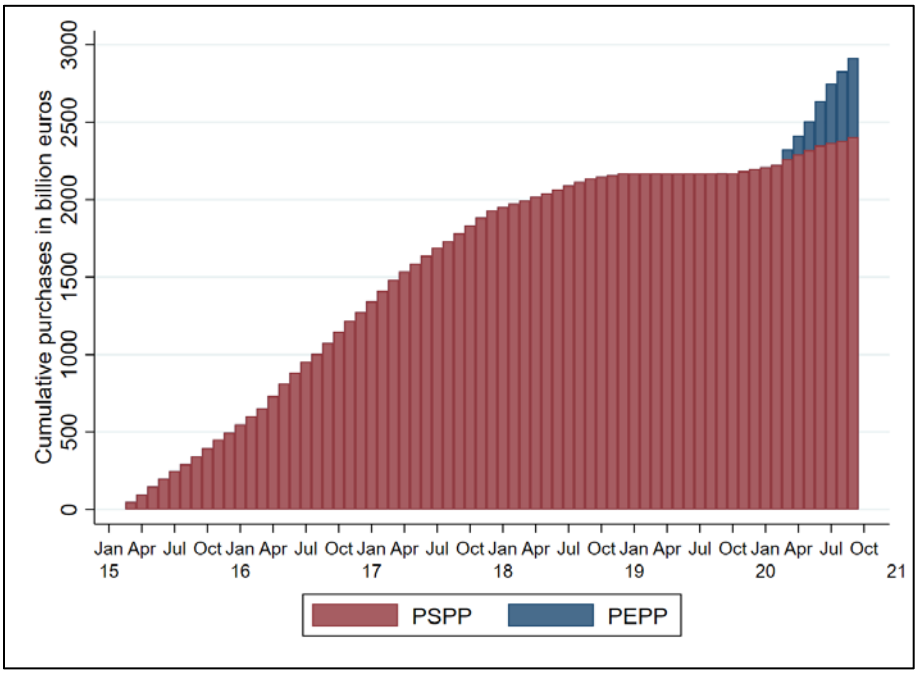
PEPP: With the **Pandemic Emergency Purchase Programme** (PEPP), the Governing Council has added a second purchase program that complements the ongoing APP. PEPP is an asset purchase program of private and public sector securities. Initially, it was set up with a target of €750 billion until the end of 2020, but the ECB Council increased the envelope further in June 2020 to €1,350 billion and extended the horizon for net purchases until at least June 2021. As in the APP, purchases of government bonds are by far the most important item under PEPP. The PEPP buys bonds from all euro members including Greece. By the end of September 2020, the Eurosystem PEPP holdings of public sector securities amounted to €512 billion, which is 90% of all PEPP purchases. Between July and September 2020, the average monthly PEPP net purchases of public securities reached €75.3 billion.

By the end of September 2020, the Eurosystem's cumulated net purchases of public sector securities reached €2,948 billion[3] (€31 billion SMP[4], €2,405 billion PSPP and €512 billion PEPP, see also Figure 1 for PSPP and PEPP). The pace of the ongoing further accumulation is high with monthly net purchases currently (from July to September) at around €94 billion (see Box). Assuming a constant speed in the coming months, the Eurosystem's holdings will reach a magnitude of €3,200 billion by the end of this year. This will then amount to 29% of the euro area's GDP in 2020 and 28% of total euro area government debt (that reaches approximately 100% of GDP in this year).

Figure 2 shows the speed of net purchases for both programs each month from March to September 2020. Since the ECB publishes data for PSPP purchases on a monthly basis and PEPP data only on a bimonthly basis, the graph presents precise monthly data for PSPP, whereas data for PEPP are presented is only shown by two-month averages. The data show a peak of interventions in June and July with a subsequent decline.

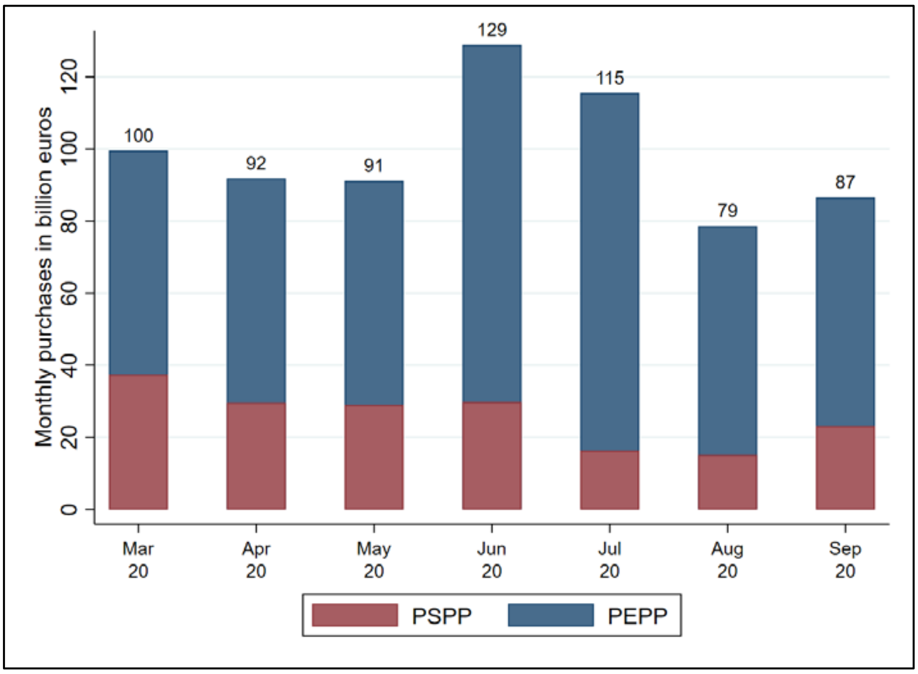
[3] All figures on government bond purchases are taken from the ECB website.
[4] The Security Markets Programme (SMP) was active between 2010 and 2012. No new net purchases have been made since then. The figure for the SMP refers to 30 October 2020.

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: Monthly net purchases of PSPP and PEPP

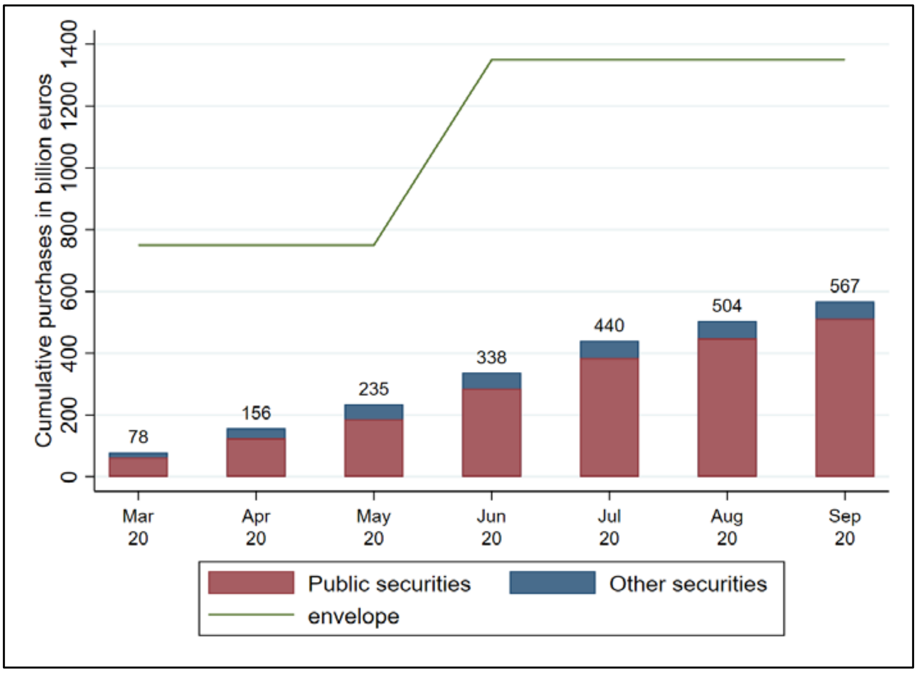


Notes: All data on PSPP and PEPP purchases are taken from the ECB website. The depicted PEPP figures only include public sector securities.

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

Currently, the announced upper limit for PEPP purchases amounts to €1,350 billion. Figure 3 shows the PEPP accumulation of public and private sector securities since March relative to the initial envelope of €750 billion and the increased envelope of €1,350 billion, which has been in place since June.

Figure 3: Cumulative net purchases of PEPP



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

The graph indicates a considerable leeway below the current €1,350 billion ceiling. By the end of September, the leeway stood at €783 billion. Extrapolating the recent speed of accumulation (a monthly average of €76.5 billion of PEPP net purchases of public and private sector securities between July and September 2020), the space is enough to continue purchases until July 2021, i.e. beyond the currently announced earliest end date of net purchases (June 2021).

If the ECB Council, in light of the economic backlash from the second wave of infections, decides to prolong the program until the end of 2021, these calculations indicate that an additional envelope of approximately €500 billion would not only cover purchases at the current level but also provide an additional margin.[6]

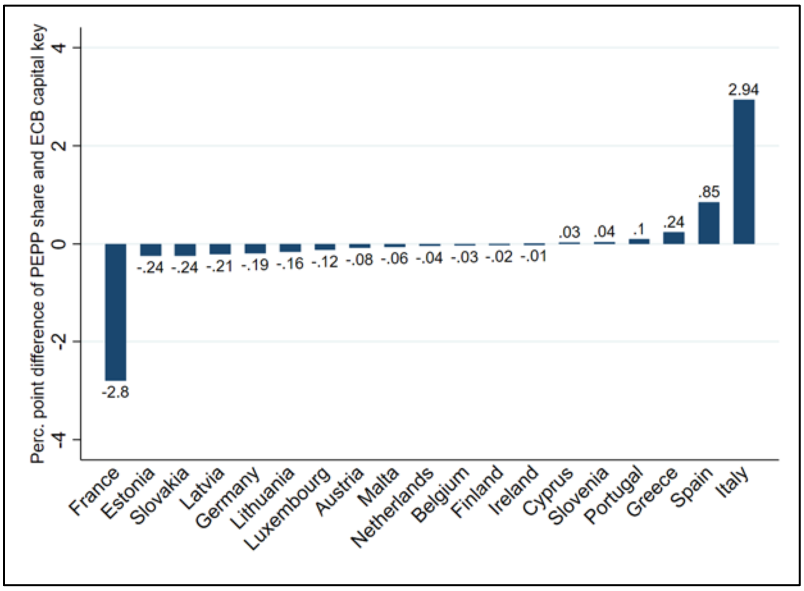
[6] The current envelope suffices to feed purchases until July 2021. Five additional months until December 2021 at the current speed amount to approximately €380 billion. An increase of the envelope by €500 billion would thus allow an additional margin of €120 billion.

3. CAPITAL KEY DIVERGENCE - PEPP

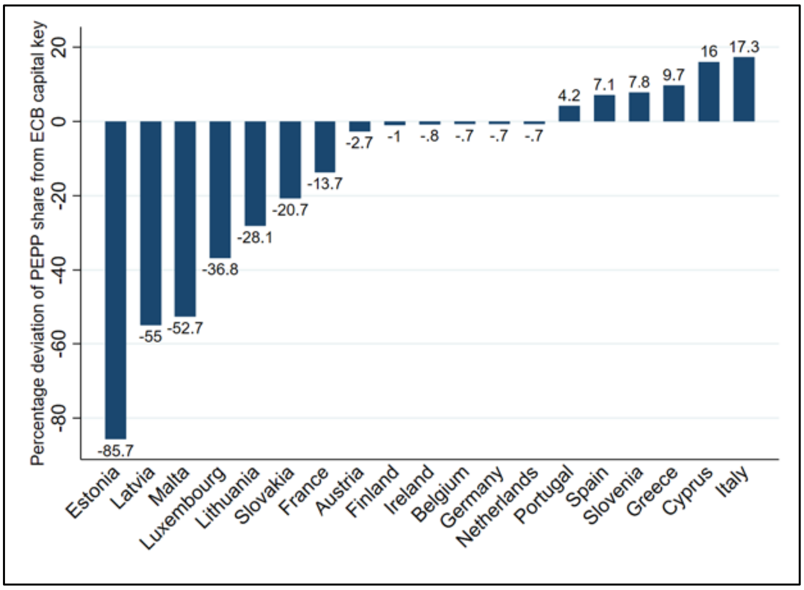
Given the explicit downgrading of the capital key orientation, it was to be expected that the PEPP shares would show a larger divergence from the capital key than the PSPP. Nevertheless, the emerging picture shows some very pronounced results.[7]

Figure 4: Divergence of PEPP net purchases March to September 2020 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.

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. The relative positive deviations from the national capital key are highest for Italy (+17%), Cyprus (+16%), Greece (+10%),

[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.

Slovenia (+8%), Spain (+7%), and Portugal (+4%). By contrast, high (i.e. double-digit) negative deviation can be observed for the three Baltic states, Malta, Luxembourg, Slovakia, and France.

4. CAPITAL KEY DIVERGENCE – PSPP AND PEPP COMBINED

A meaningful analysis of the divergence of country allocations from the capital key requires the examination of combined purchases both under PSPP and PEPP.

The Eurosystem might use the formal separation between both programs to practice regulatory arbitrage and concentrate the divergence from the ECB capital key on the PEPP and to be more compliant with the PSPP rules (that still emphasize the capital key orientation). In Figure 5, we explore whether PSPP purchases were conducted closer to the capital key as soon as PEPP started. We compare the sum of the respective programs' purchases from March to September as country shares in total purchases per program. The graph depicts the difference of these shares to the capital key for each country. The graph does not indicate any such compliance arbitrage. On the contrary, the PSPP shares for Italy, Spain, Belgium, and France were even higher (and further away from the capital key) than the PEPP shares for these countries. For example, the deviation from the capital key for Italy is +45% under PSPP, but "only" +17% under PEPP.

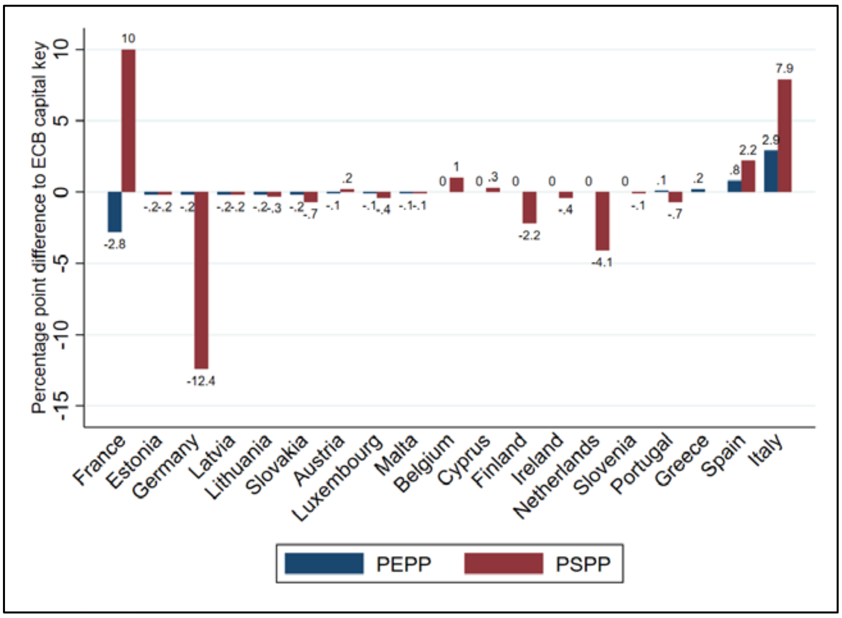
This leads to an important conclusion: an analysis of country allocations of PEPP in isolation would lead to an underestimate in the divergence from the capital key of high debt countries in the euro area.

An interesting observation emerges for France and Germany. For both countries, the proportionality analysis leads to different signs for PEPP and PSPP. While French public securities are bought far below proportion under PEPP, they are given a massive overweight under PSPP. While German government bonds are bought just about right under PEPP, they are currently heavily underweighted under PSPP.

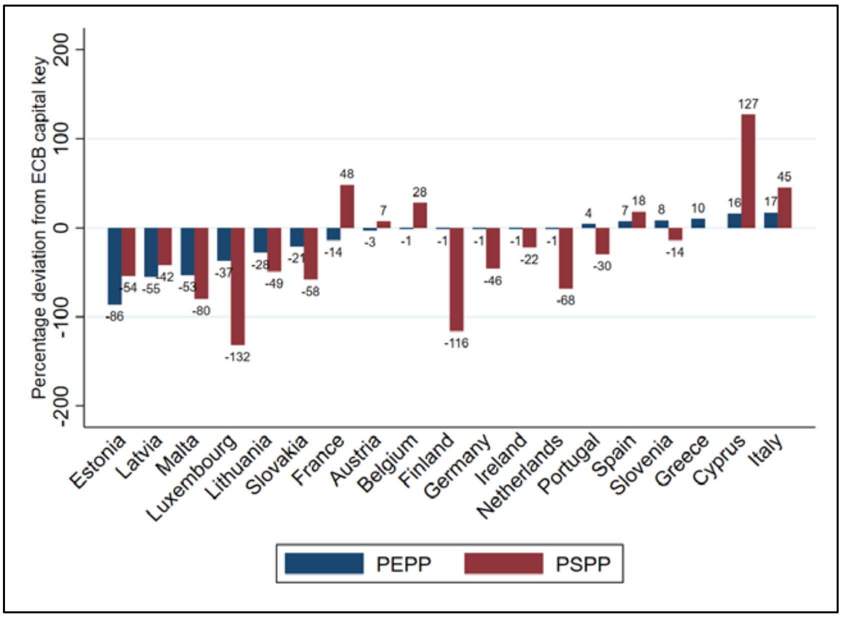
One could speculate whether these divergences might reflect a strategy of window dressing. Given the large public attention for the new program, the Eurosystem might have an incentive to use the PSPP to create a less dramatic divergence from capital keys for the PEPP. However, this asymmetry with an even larger divergence under PSPP than under PEPP does not seem to comply with program rules, since PSPP rules are less flexible on the capital key benchmark.

Figure 5: Divergence of PSPP and PEPP separate net purchases March to September 2020 from capital key

(a) Difference in percentage points



(b) Difference in percent

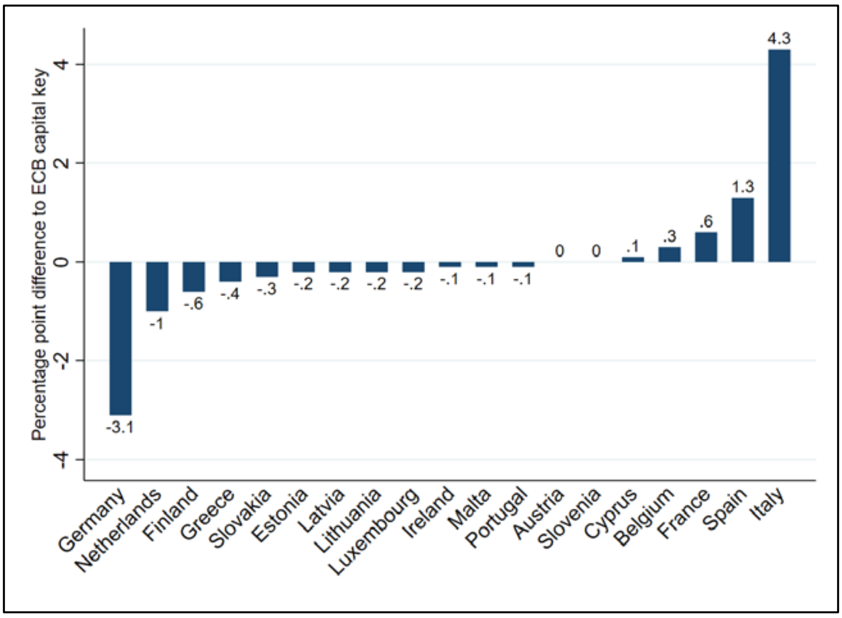


Notes: All data on PEPP purchases and the capital keys are taken from the ECB website.

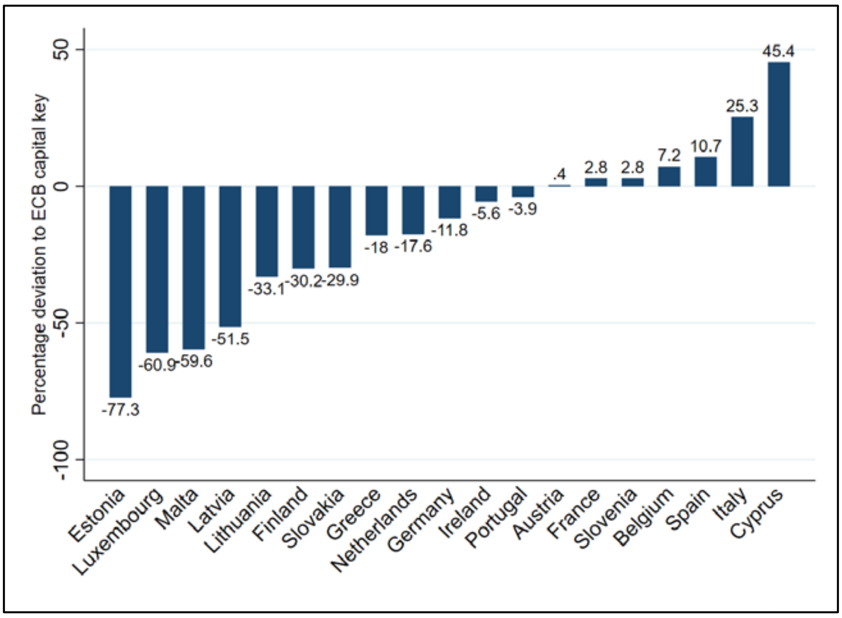
In order to gain a meaningful overview, a consolidated analysis of the PSPP and PEPP flows is required. Figures 6 (a) and (b) show the divergence of the sum of PSPP and PEPP net purchases between March and September from capital keys. As Figure 6 (b) shows, the divergence amounts to 45% for Cyprus and 25% for Italy. Additional countries with a significant overweight are Spain (+11%), Belgium (+7%), Slovenia and France (both +3%).

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

(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. CAPITAL KEY DIVERGENCE – TREND SINCE 2015

Given the longer history of the PSPP that dates back to 2015, it is only possible to assess trends in the divergence from the capital key for this program. The orientation of purchases to the ECB capital key is officially still in place. In the following section, we calculate how the PSPP's breakdown of accumulated stocks across countries in the euro area compares to the capital key over the years.[8]

Figure 7 provides an overview how the accumulated stocks of PSPP have diverged from the ECB capital key. Over all three different points in time, Belgium, France, Italy, and Spain had positive and growing deviations from the capital key, i.e., PSPP purchases of their government bonds exceeded the shares that were intended (the Austrian upward trend ended in 2018). The particularly big increase from 2018 to 2020 in Spain and Italy was a combined effect of increasing purchasing shares and a downward adjustment of ECB capital shares for both countries which took effect in 2019. France's capital share in the ECB fairly stayed the same, yet we observe a similar increase for Italy. Germany also had significant positive deviations at the end of 2015 and 2018, but it also had the highest negative percentage point deviation of all countries in 2020.[9]

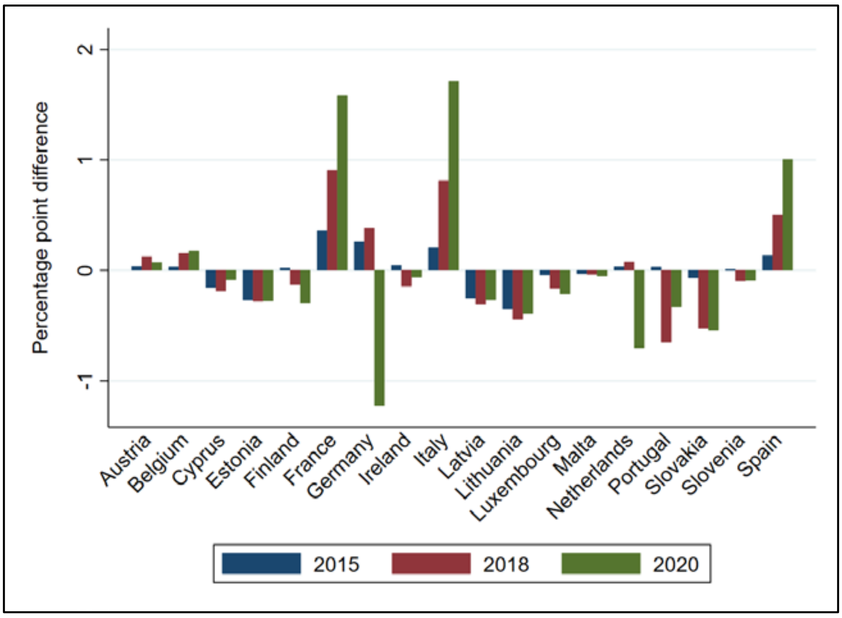
This analysis of the PSPP enables a clear conclusion to be made. It ultimately shows that the Eurosystem has not been successful in its attempt to steer the program in line with capital keys. The systematic upward trend and the growing distance of shares from the capital key for high debt countries such as Belgium, France, Italy, and Spain demonstrates that the divergence was not merely a temporary phenomenon of flows but clearly describes the trend for the resulting stocks. The special circumstances and need for intervention in the Covid-19 pandemic cannot explain this tendency, as the trend was already clearly under way before the pandemic and was already pronounced when the ECB temporarily discontinued purchases at the end of 2018. However, it is important to note that the divergence of PSPP stocks from the capital key has seen a further increase in 2020, which can be especially identified for three countries, Italy, Spain, and France.

[8] Greece is non-eligible for the PSPP. Hence, we adjust the capital key analysis by focusing on the remaining 18 countries in the euro area. In the following, our reference capital share is each euro area NCB's share in the total capital share of these 18 countries. Cyprus was non-eligible in the beginning but became eligible after a rating-upgrade in September 2018: https://greece.greekreporter.com/2018/09/28/ecb-begins-cyprus-bonds-purchases-following-investment-grade-upgrade/.

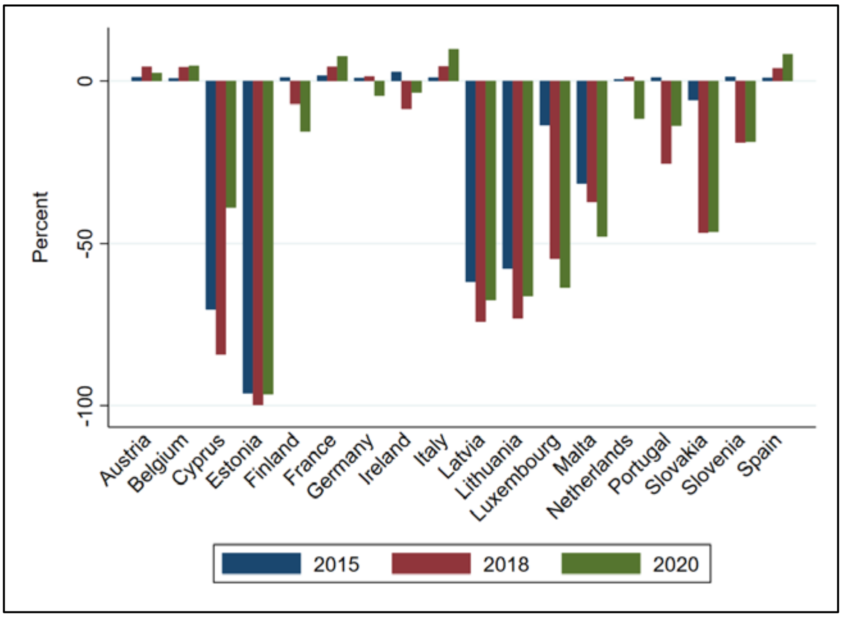
[9] Although Portugal is a country with a public debt-to-GDP level above the euro area zone average, the available material in the market is limited as a consequence of the ESM borrowing. This explains the underweight for this country.

Figure 7: Divergence of PSPP stock from ECB capital key

(a) Difference in percentage points



(b) Difference in percent



Notes: All data on PSPP purchases and the capital keys are taken from the ECB website. Data refer to total stocks end of year for 2015/2018 and to September 2020. The calculations take account of the adjustment of the capital key in 2019.

6. MACROECONOMIC MAGNITUDE PEPP/PSPP

Finally, we look at the magnitude of PSPP and PEPP relative to important macroeconomic and aggregate fiscal indicators. Figure 8 shows the ratios of PSPP and PEPP stocks at the end of September 2020 over debt and GDP. National differences in the relative importance are huge. In Spain, Italy, and Portugal, total cumulated PSPP and PEPP purchases until September 2020 amounted to more than 25% of GDP 2020. By contrast, in six countries – Estonia, Ireland, Malta, Latvia, Lithuania, and Luxembourg – PSPP and PEPP corresponds to less than 15%. In Luxembourg and Estonia, the share is even lower than 7%.

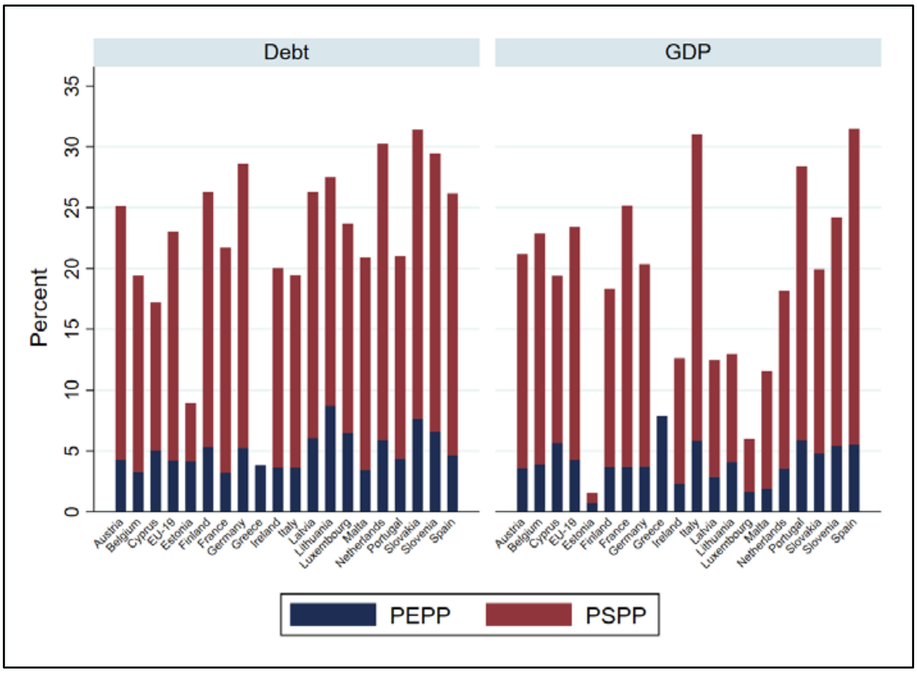
Due to the substantially longer history of PSPP, PEPP's relative magnitude still remains much smaller. However, the highly differing importance across countries in the euro area is already becoming visible for the new program, as indicated by Figure 9 which zooms in on the ratio of the PEPP holdings to GDP. The "top positions" in the new program are currently held by Greece, Portugal, Italy, Cyprus, Spain, and Slovenia who all have shares of PEPP in GDP of more than 5%, markedly above the euro zone average at 4%.

In Figure 8, we observe the highest share of total PSPP/PEPP holdings to public debt for Slovakia. The metric relative to public debt also leads to high ratios for countries like the Netherlands, Germany, and Finland that have debt-GDP-ratios below average.

Another interesting aspect is to analyze the importance of the Eurosystem's (indirect) financing of the public deficit of countries in the euro area in the current year. Therefore, we aggregate total PSPP and PEPP purchases from January to September 2020 for each country and put them in relation to the current deficit forecast for 2020 (deficit projections taken from the European Commission's Autumn Forecast). This is outlined in Figure 10 which shows the results for all countries. We add a line at 9/12 (75%) to account for the fact that the PSPP and PEPP data are only available for the first nine months of the year. Ratios around that value indicate that the Eurosystem has been on course in the first months of 2020 to (indirectly) fully finance the coronavirus crisis year's deficits for the respective country.

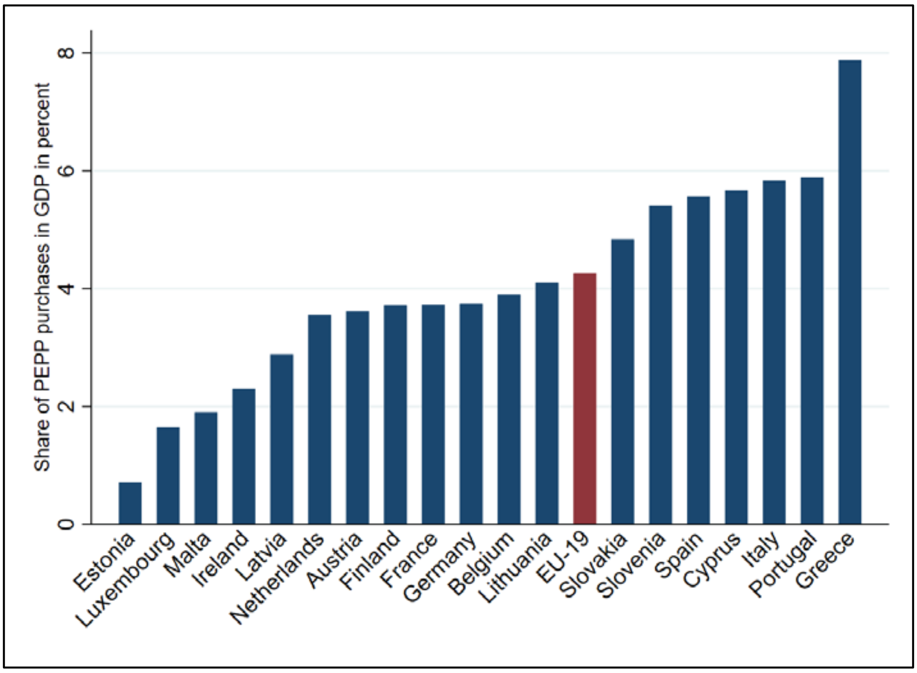
The results show that the Eurosystem's involvement is substantial, even relative to the exceptionally high borrowing requirements in the deepest recession in Europe in the post-war period. With regard to several national government bond markets, the Eurosystem's net purchases in this year will be of a similar magnitude or even higher than the general government's deficit and could well be the case for Cyprus, Greece, Portugal, Italy, Germany, and Slovenia.

Figure 8: PEPP and PSPP stocks (September 2020) as a share of government debt and GDP 2020



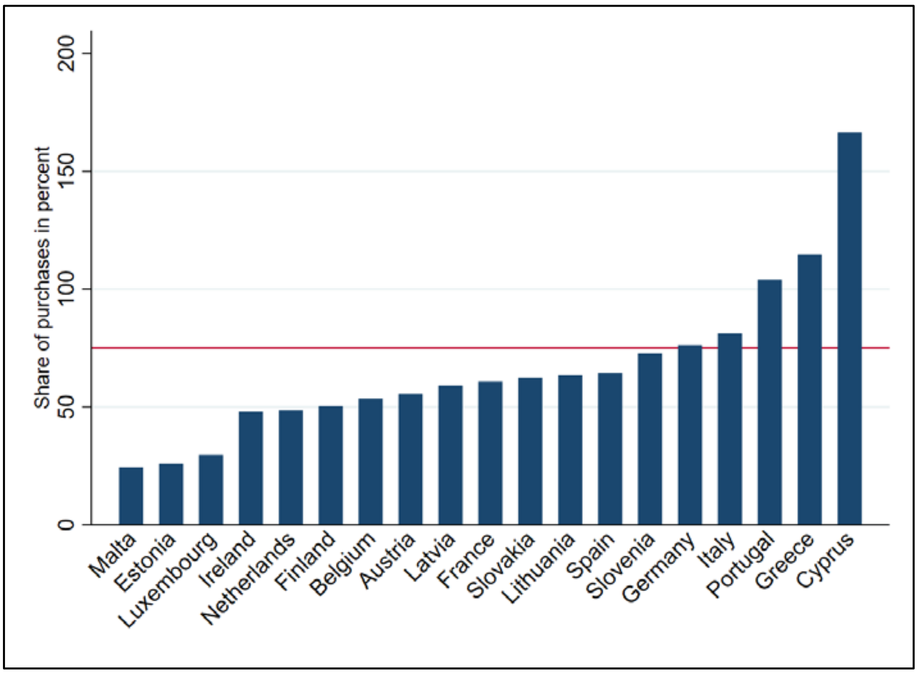
Notes: Data on debt and GDP are taken from the AMECO database by the European Commission. The underlying GDP variable is defined as GDP at current prices. The variable debt is defined as general government gross debt. All data on PSPP and PEPP purchases are taken from the ECB website.

Figure 9: Share of PEPP purchases March to September 2020 over GDP 2020



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

Figure 10: PEPP and PSPP net purchases relative to expected public deficit 2020



Notes: The horizontal red line represents 9/12 (75%) that is the share of January to September of the full year. It signals whether a pro rata temporis PSPP/PEPP intervention in the further year will lead to a full financing of a country's deficit. Own calculations. Sources: GDP and deficits: AMECO database; PSPP and PEPP: ECB.

7. CONCLUSIONS

This analysis has provided insight on the allocation trends of the Eurosystem's sovereign purchases seven months after the start of the PEPP. The results demonstrate that the Eurosystem not only makes substantive use of the explicit PEPP flexibility to diverge from the ECB capital key. Moreover, for some high debt countries, the divergence under PSPP is even larger. Hence, the Eurosystem has in effect suspended the capital key orientation for both programs.

In its PSPP ruling, the European Court of Justice (ECJ) had stressed the importance of constraining rules and the capital key orientation for its own Art. 123 compliance test. In its PSPP judgement from 11 December 2018 (C-493/17) that answered the German Federal Constitutional Court's request for a preliminary ruling, the ECJ discusses a possible infringement of Art. 123. Here, the ECJ explicitly acknowledges the argument that the ECB purchases bonds "in accordance with the key for the subscription of the ECB's capital" rather than "with other criteria such as, for example, the level of the respective debts of each Member State" (C-493/17, nb. 140). The Court further acknowledges that this safeguard avoids the risk that countries could provoke higher purchases of their debt with increasing public deficits.

It goes without saying that Europe and the euro area are currently facing an economic emergency, with the dramatic consequences that the Covid-19 pandemic will have on economic development. Moreover, governments need fiscal space in this situation to fight the recession with appropriate stabilization tools. It is highly likely that this kind of emergency argument will also be acknowledged once the PEPP is contested at national courts or the European Court of Justice.

However, once economic conditions have improved in Europe, it seems obvious that government bond purchases with the current massive disproportionalities will be difficult to defend as compliant with Art. 123. Our analysis has also shown that the misbalances are not simply the result of the special circumstances in the pandemic since PSPP did not comply with its own rules well before the pandemic began and it increasingly diverged from the capital key orientation.

Our results on the macroeconomic magnitudes of purchases point to a heavy dependence of high debt countries on the Eurosystem. The indirect financial support that is currently provided by the national central banks and the ECB in the crisis is of remarkable generosity as, for several countries, it reaches a level equal to the full annual government deficits in 2020, which are of a historic magnitude.

All this points to enormous challenges of a future post-coronavirus exit from PEPP/PSPP for the financial stability of high debt countries within the euro area.

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