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Sliding Down the Slippery Slope? Trends in the Rules and Country Allocations of the Eurosystem's PSPP and PEPP

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Abstract

This study analyzes trends in the Eurosystem's rules and country allocations of the Public Sector Purchase Program (PSPP) and the Pandemic Emergency Purchase Program (PEPP). The synopsis of purchase rules reveals how the ECB Council has loosened the initially strict constraints over time and various dimensions. For the year 2020, the analysis shows that the divergences of net purchases from the ECB capital key are substantive. The analysis of the PSPP stocks since 2015 illustrates that this increasing divergence from the capital key was on its way already before the pandemic. A final step of the analysis puts the PSPP/PEPP net purchases in proportion to current fiscal indicators. These results prove that, for several euro countries, the central bank net purchases fully match even the exceptionally high borrowing requirements of 2020. The study concludes with reflections on the challenges for a program exit after the end of the pandemic.

Keywords: quantitative easing, ECB capital key, fiscal dominance, unconventional monetary policy

JEL Classification: H63, E42, H12

I. Introduction

Over the last decade, the Eurosystem has become one of the crucial players in the market for euro area government bonds. Through several programs, the ECB and the national central banks of the euro area have bought public sector securities (see Box 1). Purchases already started ten years ago during the unfolding euro area debt crisis with the Securities Market Program (SMP). The SMP was followed by the Outright Monetary Transactions (OMT) program,

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which, however, has never been activated (*Krishnamurthy* et al. 2017). Since then, the actual central bank involvement in the European markets for government bonds has reached a new breadth and magnitude only with the Public Sector Purchasing Program (PSPP), established in 2015 (*Lehment* 2018). The PSPP is by far the most important component of the ECB's Asset Purchase Program (APP) and has been in operation since March 2015, with a pause in net purchases between January and October 2019. In addition, since the outbreak of the coronavirus pandemic in March 2020, the Eurosystem has accelerated purchases further under the Pandemic Emergency Purchase Program (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 PSPP (*Lane* 2020b).

Box 1: The Eurosystem's Public Sector Purchase Programs

SMP: Central bank purchases started with the **Securities Market Program** (SMP) established in May 2010 (European Central Bank 2010) as a crisis instrument in the evolving euro area debt crisis. At this time, the euro area sovereign bond markets suffered from a lack of market liquidity for the fiscally fragile Member States with a dramatic widening of spreads. The ECB Council argued that the program would support the monetary transmission mechanism, which the Council found severely hampered in this crisis environment. Throughout the program duration, the ECB emphasized that the liquidity effects of the SMP were fully absorbed through compensating sterilization operations (*Smith* 2020). The holdings of the Eurosystem under the SMP reached a maximum of € 218 billion in September 2012 (*Koetter* et al. 2017). The SMP was highly selective as the purchases only included the countries most affected by the debt crisis: Italy, Spain, Greece, Portugal, and Ireland.

OMT: Since September 2012, the **Outright Monetary Transaction** (OMT) program offers support for euro area countries that have an agreement with the European Stability Mechanism (ESM) (European Central Bank 2012). With the OMT, the ECB reacted to increasing tensions in the euro area sovereign bond markets with further rising interest rates spreads for various euro countries. With the establishment of the OMT program, the SMP was terminated. As for the SMP, the ECB Council justified the new program with the aim of safeguarding an appropriate monetary policy transmission and a uniform effectiveness of its monetary policy in all parts of the euro area. Equally, the program's liquidity effects were announced to be fully sterilized like for the SMP before. A major difference to the SMP is the OMT program's strict conditionality so that only those euro Member States may benefit that have an agreed adjustment or precautionary program with the European Stability Mechanism (ESM). So far, the OMT has never been activated and has played no role as an option in the pandemic since 2020.

PSPP: The **Public Sector Purchase Program** (PSPP) started in March 2015 (European Central Bank 2015) as the most important component of the Asset Purchase Program (APP) and continues until this day, with the exception of a pause in net purchases between January and October 2019. Its motivation differed substantially from the preceding sovereign purchase programs and their objective to address sovereign bond market fragmentation. Instead, the PSPP is justified with a more conventional monetary policy line of reasoning. The ECB Council pointed to the risk of a decline of the euro area inflation rate even further below its objective and the threat that the significant fall of oil prices could lead to second-round effects of a further decline in prices and wages. With ECB interest rates at their lower bound and since the ECB judged the ongoing purchases of private sector securities as not sufficiently effective it extended its purchase program to public sector securities. Different to the SMP and the OMT, the PSPP targets the euro area as a whole and not a limited number of crisis countries. A further difference is that PSPP explicitly wants to increase liquidity whereas the earlier programs had been designed as neutral in this respect.

By the end of November 2020, the cumulated PSPP net purchases of the Eurosystem reached € 2,445 billion (of which € 2,189 billion are national debt and € 256 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 September and November amounted to € 21.2 billion a month.

PEPP: With the **Pandemic Emergency Purchase Program** (PEPP), the Governing Council has added a second purchase program that complements the ongoing APP (European Central Bank 2020b). 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 two steps in June and December 2020 to € 1,850 billion and extended the horizon for net purchases until at least March 2022. With the PEPP, the ECB reacted to the extraordinary financial and economic circumstances as consequence of the COVID-19 pandemic. The ECB Council argued that these developments jeopardize the proper functioning of the monetary policy transmission process and the objective of price stability. In its decision, the Council emphasized the need of a higher degree of flexibility in design and implementation compared to the APP due to the PEPP's different and broader monetary policy objectives. 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 November 2020, the Eurosystem PEPP holdings of public sector securities amounted to € 652 billion, which is 93 % of all PEPP purchases. Between September and November 2020, the average monthly PEPP net purchases of public securities reached € 67.9 billion.

The empirical economic literature has extensively looked into the effects of these programs on sovereign interest rates and risk spreads: For the SMP, *Eser/Schwaab* (2016) show that, on intervention days, the targeted yields decreased, and that yield volatility was reduced in general. For the OMT, *Ghysels* et al. (2017) find that yields were significantly reduced for countries that had a program with the European Stability Mechanism. The evidence is equally robust for the PSPP (*Altavilla* et al. 2015; *Urbschat/Watzka* 2020) and, based on first hints, for the new round of QE in reaction to the pandemic (*Hartley/Rebucci* 2020). First empirical evidence for the PEPP indicates a strong spread compression effect of the PEPP announcements whereas announcement of EU fiscal support (inter alia through the Corona reconstruction package Next Generation EU) had no comparable impact (*Havlik* et al. 2021). While this compression of (possibly) excessive and panic-driven sovereign risk spreads is clearly an intended objective of these programs (*Schnabel* 2020), there is a continuing debate on the possible unintended consequences of government bond purchases (for critical positions see, e.g., *Feld* et al. 2016; *Folkerts-Landau/Schneider* 2017).

We contribute to this debate with a specific focus on, first, the trends in PSPP and PEPP *program rules* and, second, the *allocation across countries*. A careful scrutiny of both the constraints and the breakdown of purchases across countries is both of economic and legal relevance. Rules like issue and issuer limits, credit standards or the role of the ECB capital key as a guiding compass were installed as safeguards against accusations that the Eurosystem becomes a crucial or even dominant player for the financing of euro area governments. The capital key orientation signals economically, to which extent the ECB bond purchases serve a symmetric or an asymmetric purpose. By construction, ECB's traditional interest rate instruments are of a symmetric nature since interest rates cannot differentiate between economies in a currency area with free capital movements. Equally, symmetric government bond purchases would just target the euro area as a whole and tailor purchases in proportion to country size. Any such consistently symmetric use of the purchase programs offers much less points of criticism. A central bank that operates at the zero lower bound and an interest rate below the target level has good arguments to make use of just another symmetric instrument.

However, disproportionate purchases that systematically over- or underweight certain countries indicate an asymmetric use and require a particular justification. A continuous trend of both relaxations of rules and growing asymmetries in the country allocations would increasingly face both economic and legal concerns. The economic concern is that the Eurosystem may enter a stage of "fiscal dominance" where central banks are effectively forced to finance government deficits of highly indebted countries (*Bordo*/*Levy* 2020). It is a controversial issue to which extent the ECB is already at risk of being fiscally dominated (*Blommestein/Turner* 2012; *Fischer* 2020; *Havlik* et al. 2021; *Schnabel* 2020; *Wyplosz* 2019). We emphasize that an asymmetric use (relative to the capital key) should not necessarily be qualified as inconsistent with the ban of monetary financing. It may be justified on grounds of monetary policy if, for example, the transmission of monetary policy is not equally smooth in all euro economies. This can be the case with a strongly asymmetric economic shock as it has occurred with the Corona pandemic. ECB representatives argue that, under the conditions of the Corona crisis, the transition of changes in risk-free interest rates to sovereign yields is disturbed and that this hampers the monetary transmission mechanism (*Lane* 2020a; *Lane* 2020b). The ECB justifies the high flexibility of PEPP explicitly as an instrument against the widening of risk premia. However, systematic divergence from ECB capital keys already before the crisis or a relative overweight of high-debt countries in particular – any such result strengthens concerns that the Eurosystem might increasingly enter the blurred territory of fiscal dominance. Moreover, a view that *any* increase in risk premia of highly indebted euro countries must be prevented in the current crisis is disputable (*Esteves/Sussman* 2020). The Corona shock constitutes a fundamental solvency shock for the particularly affected euro countries. If the ECB prevented any increase in spreads, even if this increase fully reflects the objective deterioration in credit risk, this could be seen as an undue distortion of the market pricing of risk. Such a behavior might entail an implicit monetary policy subsidization of sovereign borrowers with sustainability risks.

The legal debate is to which extent purchases are still in full compliance with the ban of monetary financing of governments according to Art. 123 TFEU (*Grund* 2016; *Hansen/Meyer*, 2020). Art. 123 TFEU prohibits direct purchases of government debt instruments. None of the ECB programs implies direct purchases where central banks acquire securities when they are issued on the primary markets. However, secondary market purchases may be qualified as infringing Art. 123 as well, if the specific features of purchases suggest a mere circumvention of the ban of direct purchases.

Legal concerns about asymmetric allocations or a relaxation of rules do not only arise from the recent ruling of the German Federal Constitutional Court (FCC).[1] The European Court of Justice (ECJ) itself has stressed the importance of constraining rules and the capital key orientation for its own Art. 123 compliance test in its PSPP judgment from 11 December 2018 (European Court of Justice 2018). This judgment answered the FCC's request for a preliminary ruling. In this context, the European Court asks whether the PSPP might reduce the impetus to conduct a sound budgetary policy. Here, the ECJ explicitly acknowledges the argument that the ECB buys 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" (European Court of Justice 2018: 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, which would indicate an Art. 123 infringement. In its PSPP verdict from 5 May 2020 that contests the compliance of the PSPP with ECB monetary policy competences, the German court did not challenge the ECJ's view on Art. 123, also emphasizing precautions like the capital key orientation or issuer and issue limits that keep PSPP at a still sufficient distance from circumventing the ban on direct purchases. It is thus remarkable, that the ECJ and the German FCC, who are in conflict on the proportionality of purchases, largely seem to agree in their views on a possible Art. 123 infringement and the role of safeguards like the capital key compass. While it is correct, that the ECJ had accepted the OMT with its highly selective country focus and without issue or issuer limits (European Court of Justice 2015a), the OMT is equipped with an alternative strong constraint. OMT purchases are conditional on the respective country being subject to an ESM program. This makes moral hazard effects unlikely and sets strong political incentives for the benefiting country to end the monetary (OMT) and fiscal (ESM) support as soon as possible. The binding effectiveness of this OMT conditionality was impressively confirmed from the experience in 2020 when the Italian government rejected any ESM support amidst the pandemic crisis since the constraints on national autonomy were seen as politically inacceptable.[2]

[1] In its judgment of 5 May 2020, the German FCC has ruled that the ECB exceeded its monetary policy competences with its decision on the PSPP (Bundesverfassungsgericht, 2020). The Court argued that the ECB failed to provide a sufficient proportionality check on possible negative side effects of PSPP. The court emphasized that its PSPP ruling does not concern new measures taken in the context of the coronavirus crisis.

[2] Apart from the PEPP, the SMP is the only purchasing program in the ECB history without any well-defined precautions against an Art. 123 infringement. The fact that the ECB Council replaced the SMP by the much more restricted OMT can be seen as a signal that the ECB Council itself saw severe legal risks for a possible continuation and massive expansion of this unconstrained selective program. The ECJ never assessed the SMP directly but only indirectly. In its "Accorinti v. ECB" ruling on the role of the ECB in the

Whichever position one may take in these economic and legal controversies, the debate needs to be informed of the actual state and trends in the rules and asymmetries for both PSPP and PEPP, which is exactly the contribution of our study.

In a first step, we identify the trends in the rules of public sector purchases under the PSPP and PEPP. Subsequently, we analyze country allocations of PSPP and PEPP over time. Finally, we compare the magnitudes of aggregate purchases to GDP, national debt levels and the financing requirements in the crisis year 2020, followed by conclusions on the legal and economic risks of the programs.

II. PSPP and PEPP Rules

With the PEPP, not only the magnitudes of government bond purchases have increased (see below Figure 1). Also the initially restrictive rules with respect to purchase limits, issuer groups, credit quality, and maturity range have been continuously loosened, both over the course of the PSPP and, in a more radical way, with the establishment of PEPP.

Table 1 presents a synopsis of rules for the PSPP as of 2015 (column 1), for the current PSPP rulebook after all amendments to date (column 2), and for the public sector purchases under PEPP (column 3). These rules determine risk sharing between ECB and national central banks (NCBs), eligibility of securities, creditor status, and allocation rules including the relevance of the ECB capital key.

A characterizing feature of both programs is the decentralized conduct. The ECB itself is responsible for only 10 % of PSPP/PEPP purchases and invests its share exclusively into issues from national jurisdictions and agencies. With 90 %, the NCBs do the bulk of transactions, from which they invest 10 percentage points into supranationals (e.g., ESM, European Investment Bank, European Union). Apart from these supranationals, NCBs buy securities from issuers of their own jurisdiction, a principle that shall limit risk sharing across NCBs (*Belke/Gros* 2019).

A couple of PSPP/PEPP rules are of relevance for the conduct of possible future orderly debt restructurings that can result from negotiations with bond-

Greek debt restructuring, the Court made a remark that the ECB has "broad discretion" and that the SMP is within the monetary policy mandate (European Court of Justice, 2015b). However, the "Accorinti" ruling does not include an extensive Art. 123 review of the SMP. Due to the termination of the SMP in 2012, the legal disputes, also involving the German Federal Constitutional Court, had at that time already shifted to the OMT so that the SMP has never been subject to a comprehensive ECJ screening.

holders. For both programs, the Eurosystem accepts a "pari passu" treatment, i.e., it excludes any privileged treatment compared to private investors in case of a debt restructuring. This rule is set to avoid the destabilizing market expectation that the holdings remaining with private investors will bear the full burden of any future haircut. The issue limits of the PSPP correspond to the existing Collective Action Clauses (CACs) and their majority rules for a collectively agreed debt restructuring (*Fang* et al. 2018). Since the standardized CACs of euro area governmental issuance define a blocking minority of 33 % (Economic and Financial Committee 2011), this threshold, under PSPP, has been the upper limit of the aggregate Eurosystem holdings. The rationale is that the Eurosystem wants to avoid a decisive role in any debt restructuring, as this situation would further emphasize the Eurosystem's role as a strategic creditor and further increase the concerns of an Art. 123 infringement. The Governing Council itself has given this motivation and has emphasized that the issue limit wants to "avoid obstructing orderly debt restructurings" (European Central Bank 2020a. recital 7).

Table 1 demonstrates that, throughout all eligibility and portfolio rules, there is a tendency to loosen the initial PSPP constraints. From the Governing Council's perspective, this loosening is a technical necessity, as, with the increasing purchase volumes, the Eurosystem would otherwise run out of eligible securities. The higher flexibility in the country allocations of the PEPP compared to the PSPP also corresponds to the ECB position that the pandemic disruption has threatened the monetary policy transmission. In this respect, its monetary policy motivation is similar to the selective OMT. With this perspective, a possible higher country selectivity of the PEPP serves as a counter-measure against the risk of a new panic-driven vicious circle in the euro area sovereign bond markets. However, the relaxation or full suspension of rules comes at the cost of shifting the Eurosystem further into the position of a crucial and strategic creditor for euro area governments. At the same time, legal risks are likely to increase as more and more precautions that have been stressed in the ECJ's PSPP verdict are being abandoned.

The list of relaxations is long. It includes the rules for eligible issuers, minimum credit quality, maturity restrictions, yield restrictions, the issue and issuer limits, and the binding character of the ECB capital key for country allocations alike. While the initial PSPP only invested in securities of national jurisdictions, purchases under PSPP and PEPP now encompass also regional and local jurisdictions. While the PSPP until today excludes Greek bonds due to their limited credit quality, the PEPP rules include an explicit waver for the Hellenic Republic. With this waver, the ECB has effectively given up the credit rating requirements of the PSPP for sovereigns, as Greece (besides Cyprus temporarily) was the only euro member not fulfilling those requirements so far. Initial PSPP rules prohibited the purchases of bonds with maturities below two years while PEPP allows purchases almost until maturity (i. e., 70 days before). No formal relaxation has occurred with respect to the 'blackout period' according to which the Governing Council applies a minimum period before Eurosystem purchases of a newly issued security are possible (ECB 2015, Art. 4). However, since the effective length of the blackout period and detailed transaction data are not publicly available, it is not possible to examine whether the average length of the blackout period has actually been stable since 2015. Thus, we are unable to verify whether this constraint has been effectively stable. Central bank investments into bonds with a negative yield to maturity have been possible from the start of PSPP but, initially, not below the rate of the deposit facility. Today, both PSPP and PEPP allow negative yields to maturity further below. Issuer and issue limits have been lifted over the course of the PSPP program and are fully suspended for the PEPP. The suspension of issue and issuer limits for the PEPP de facto also renders issue and issuer limits for PSPP irrelevant since the Eurosystem's aggregate holdings from both programs may now increase above the PSPP limits. Hence, the Eurosystem has de facto accepted to become a strategic investor with a blocking minority in any possible future debt restructuring negotiation. The possible argument that issue and issuer limits still apply to the PSPP and perhaps also separately to the PEPP[3] is of a formal nature and hardly of material substance. The external legal position of the Eurosystem as a creditor is independent from the internal program context of bond holdings. Hence, ECB voting rights in future debt restructuring negotiations as determined in CACs will reflect the Eurosystem's aggregate bond holdings, no matter under which program a specific security has been purchased.

Equally, the Governing Council has loosened the rules on the binding orientation of country allocations to the ECB capital key. The first PSPP ECB decision from March 2015 stipulates that the distribution of purchases across jurisdictions shall be according to the NCB's subscriptions to the ECB's capital. The first version of the rule did not make any explicit distinction between flows and stocks. This initially strong statement signaled a continuous relevance of the capital key in any phase of the program's operation. Today, the ECB only describes the capital key orientation of PSPP as referring to the stock of security holdings, opening leeway for temporary divergence in the flow of net purchases. The PEPP goes even further. It still upholds the principal importance of the capital key to guide the distribution "on a stock basis". However, it explicitly states that purchase flows may fluctuate.

[3] Art. 4 of the PEPP decision (European Central Bank, 2020b) states that PEPP holdings are not consolidated with the Eurosystem's PSPP holdings to assess the PSPP's issue/issuer limit according to Art. 5 of the PSPP Decision (European Central Bank, 2020a). However, the issue/issuer limit is not explicitly suspended for the PEPP. Hence, formally, one could argue that the limits still hold separately for both programs.

It is difficult to understand to which extent the new PEPP formulation still attributes any relevance to the capital key at all. The wording seems to suggest that, in the long run or towards the (unknown) end of PEPP, the distribution of stocks should converge to NCBs' shares in the ECB's capital, but is irrelevant until then.

The 2020 ECB Decision on PEPP gives the following explanation (European Central Bank 2020b, recital 6): "A flexible approach … is nonetheless essential to prevent current dislocations in the aggregate euro area sovereign yield curve from being translated into further distortions in the euro area risk-free yield curve." Although this official formulation is hard to interpret, it seems to suggest that the divergence of PEPP's country allocations from the capital key is justified on grounds of distorted sovereign risk spreads. ECB chief economist Philip Lane has confirmed that the ECB wants to prevent risk premia from diverging from their fundamentally justified level in the situation of the acute crisis (*Lane* 2020b; *Schrörs* 2020). So far, however, the ECB has not made this risk premia targeting explicit nor has it made specific how it quantifies fundamentally justified risk spreads for countries with high and currently quickly increasing public debt levels that objectively point to a severe deterioration in fundamental creditworthiness.

In the following, we focus our analysis on the country distribution of PSPP and PEPP purchases. The analysis clarifies to which extent, in the course of the PSPP and for the first months of PEPP, the ECB capital key has been an effective orientation. Corresponding to the ECB's shifting emphasis from a comprehensive guiding role of the capital key to a stock orientation, we provide data both for the flows and the stocks.

Table 1

Synopsis Rules PSPP 2015, PSPP 2020, PEPP

	PSPP – Initial Rules March 2015[1]	*PSPP – Current Rules June 2020*[2]	*PEPP*[3]
Start	March 2015 (paused between January and October 2019)		March 2020
Credit Quality Minimum Requirements	Minimum Credit Quality Step 3 in Eurosystem's harmonized rating scale, excluding Greece and Cyprus	Minimum Credit Quality Step 3 in Eurosystem's harmonized rating scale, excluding Greece (Cyprus eligible due to rating increase)	Waver for Hellenic Republic whose securities are eligible under PEPP although the country continues not to fulfill Credit Quality Step 3

	PSPP – Initial Rules March 2015[1]	*PSPP – Current Rules June 2020*[2]	*PEPP*[3]
Start	March 2015 (paused between January and October 2019)		March 2020
Risk Sharing ECB and NCBs[4]	20 % of purchases with risk sharing	20 % of purchases with risk sharing	20 % of purchases with risk sharing
Treatment of Eurosystem Relative to Private Investors	Same treatment ('pari passu')	Same treatment ('pari passu')	Same treatment ('pari passu')
Issuer Groups	Central government, international organizations, multilateral development banks	Central, regional and local government, continuously increasing list of eligible agencies, international organizations, development banks	Same as PSPP 2020
Issue Share Limit: Maximum Amount per ISIN	25 %	International organizations/multilateral development banks: 50 % per issue National/regional/local/agency: 33 % per issue (25 % for non-standard collective action clauses)	No effective limits
Issuer Share Limit: Aggregate Limit for Issues of One Issuer, Consolidated Across all Eurosystem Central Banks	33 %	International organizations/multilaterals: 50 % National/regional/local/agency: 33 %	No effective limits
Remaining Maturity	2 years to 30 years	1 year to 30 years	70 days to 30 years
Negative Yield Below Rate of Deposit Facility	Not permitted	Permitted "to the extent necessary"	Permitted "to the extent necessary"

(continue next page)

(Table 1 continued)

	PSPP – Initial Rules March 2015[1]	*PSPP – Current Rules June 2020*[2]	*PEPP*[3]
Start	March 2015 (paused between January and October 2019)		March 2020
Allocation Supranationals/ Nationals	12/88	10/90	10/90
Role of ECB Capital Key	Distribution of purchases across jurisdictions 'shall be' according to capital key. No distinction between flows and stocks.	Distribution of purchases across jurisdictions guided, on a stock basis, by capital key.	Distribution, on a stock basis, guided by capital key. Purchases "allowing for fluctuation in the distribution of purchases flows … among jurisdictions."

[1] European Central Bank (2015), [2] European Central Bank (2020a), [3] European Central Bank (2020b), [4] Risk sharing results from supranational bonds (amounting initially to 12 % of total PSPP purchases and 10 % since March 2016) and national bonds purchased by the ECB (initially 8 % of total PSPP purchases and 10 % since March 2016). The risks of securities from national, regional and local jurisdictions bought by NCBs (80 % of total PSPP) are not shared (*Belke/Gros* 2019).

III. Effective National Allocations in the Crisis Year

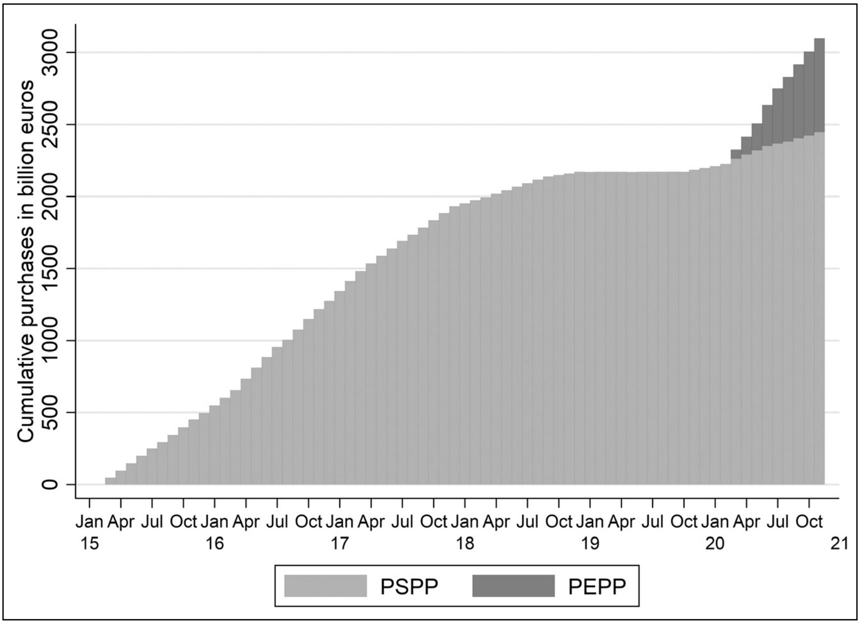
By the end of November 2020, the Eurosystem's cumulated net purchases of public sector securities reached € 3,128 billion[4] (€ 31 billion SMP[5], € 2,445 billion PSPP and € 652 billion PEPP, see also Figure 1 for PSPP and PEPP). Towards the end of 2020, the Eurosystem's holdings will have reached a magnitude of € 3,200. This amounts to 28 % of both the euro area's GDP in 2020 and total euro area government debt (that reaches approximately 100 % of GDP end of 2020) (European Commission 2020).

Figure 2 (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 2 (b) in percent.[6] The relative positive deviations from the national capital key are highest for Italy (+14 %), Cyprus (+13 %), Greece (+8 %), Slovenia

[4] All figures on government bond purchases are taken from the ECB website.

[5] The figure for the SMP refers to 30 October 2020.

[6] When calculating country shares in total sovereign purchases, we exclude purchases of supranational securities. Hence, 100 % represent the purchases of national jurisdictions' and national agencies' securities.



Notes: All data on PSPP and PEPP purchases are taken from the ECB website.[7] The depicted PEPP figures only include public sector securities.

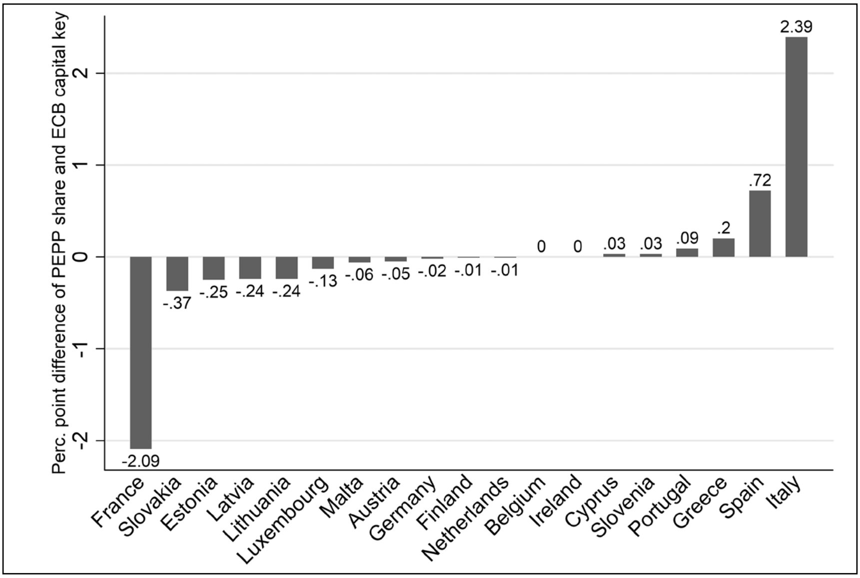
Figure 1: Cumulative Net Purchases of PSPP and PEPP

(+7 %), Spain (+6 %), 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.

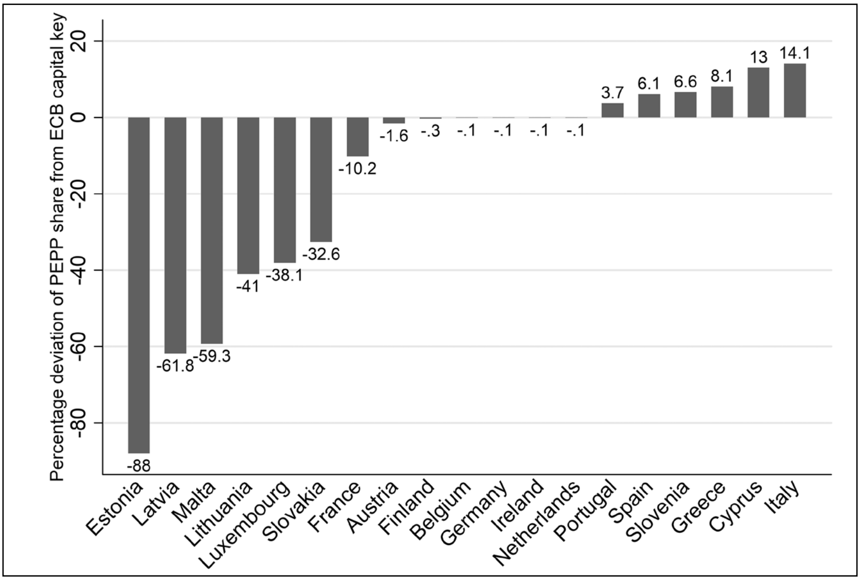
Given the explicit downgrading of the capital key orientation, we expect that the PEPP shares show a larger divergence from the capital key than the PSPP. Nevertheless, the emerging picture shows some very pronounced results.

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 3, 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 November as country shares in total purchases per program. The graph depicts the dif-

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



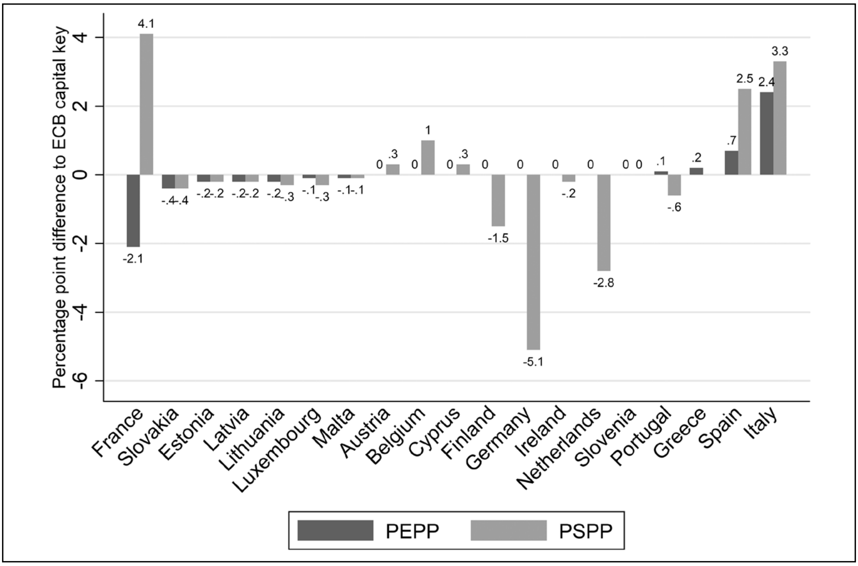
(a) Difference in Percentage Points



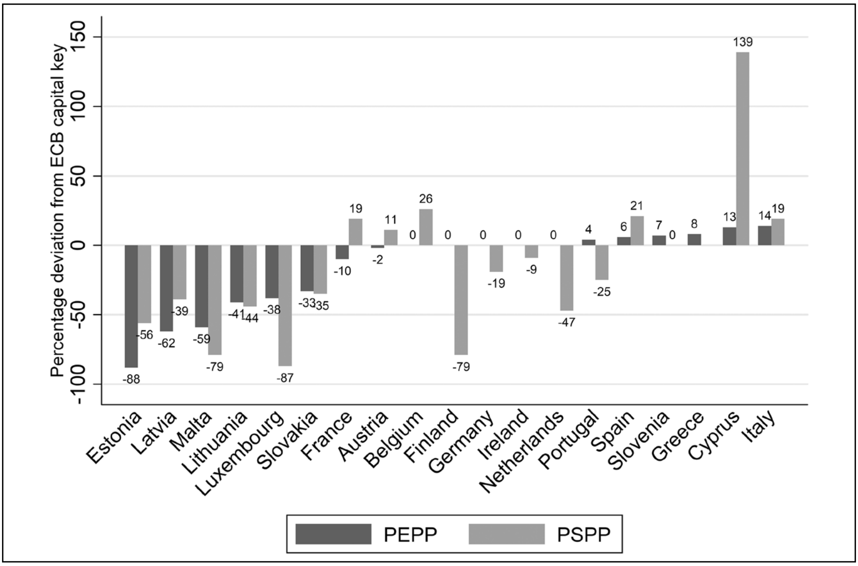
(b) Difference in Percent

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

Figure 2: Divergence of PEPP Net Purchases March to November 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 3: Divergence of PSPP and PEPP Separate Net Purchases March to November 2020 from Capital Key

ference 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 Spain is +21 % under PSPP, but "only" +6 % 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 high overweight under PSPP. While German government bonds are bought just right under PEPP, they are currently heavily underweighted under PSPP. 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.

In order to gain a meaningful overview, a consolidated analysis of the PSPP and PEPP flows is required. While both programs are formally distinct and have been justified by different monetary policy arguments (see Box 1) the consolidated analysis both of stocks and flows is important and meaningful. The aggregate flow of purchases – independent from how they originate from the different programs – determine the relative support for the country segments of the euro sovereign market. Moreover, the aggregate stocks determine the Eurosystem's voting rights in a possible future debt restructuring negotiation for which the program origin of the total Eurosystem holdings is irrelevant.

Figures 4 (a) and (b) show the divergence of the sum of PSPP and PEPP net purchases between March and November from capital keys. As Figure 4 (b) shows, the divergence amounts to 46 % for Cyprus and 16 % for Italy. Additional countries with a significant overweight are Spain (+11 %), Belgium (+7 %), Slovenia (+6 %) and Austria (both +2 %).

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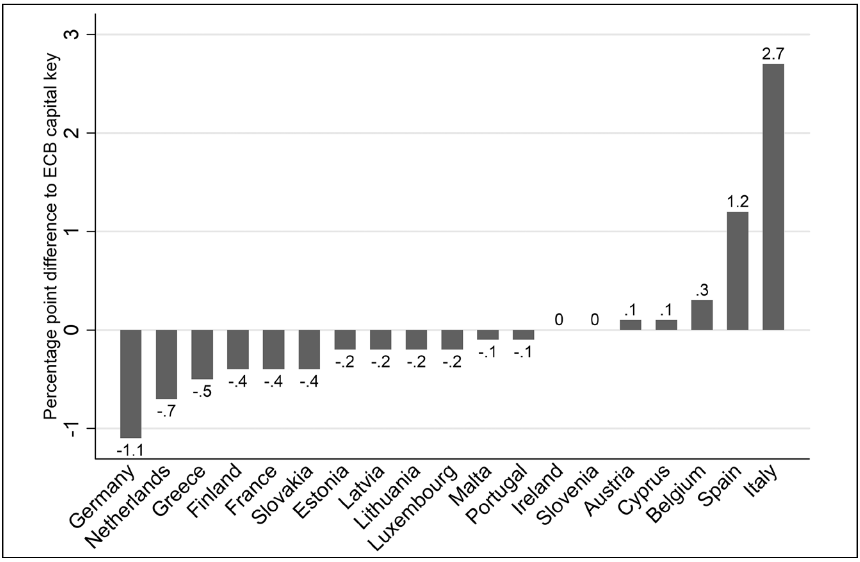
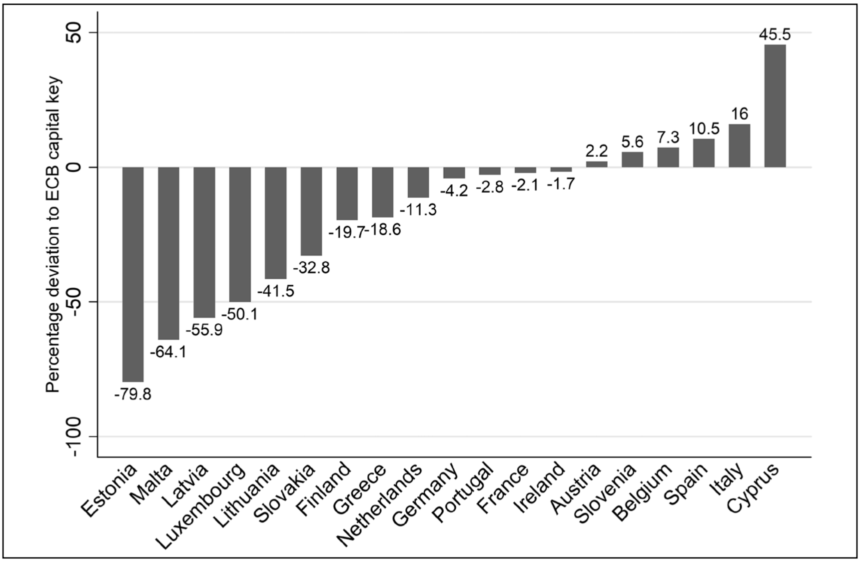


(a) Difference in Percentage Points



(b) Difference in Percent

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

Figure 4: Divergence of PSPP and PEPP Combined Net Purchases March to November 2020 from Capital Key

IV. Trends in Divergence from Capital Key since the Start of PSPP

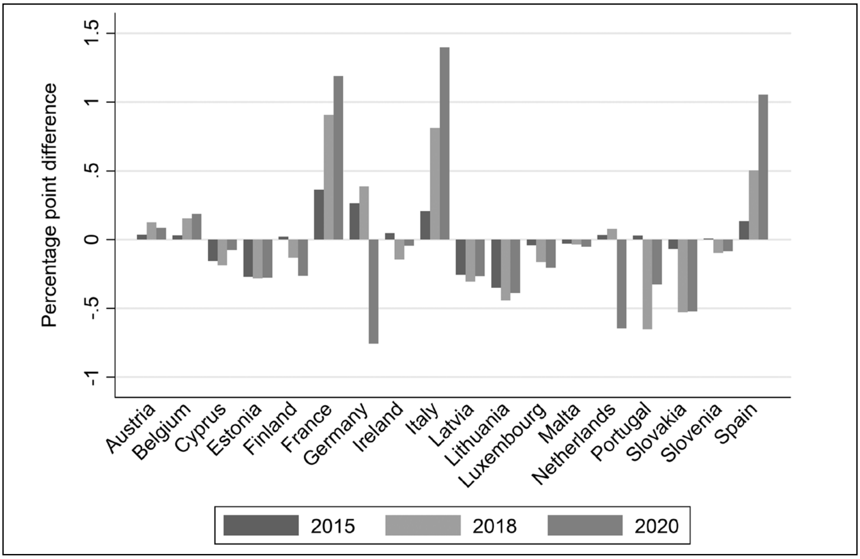
Given the longer history of the PSPP that dates back to 2015, it is only possible to assess a multi-annual trend in the divergence from the capital key for this program. The orientation of purchases to the ECB capital key is officially still in place. In the following section, we calculate how the PSPP's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

Figure 5 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. 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]

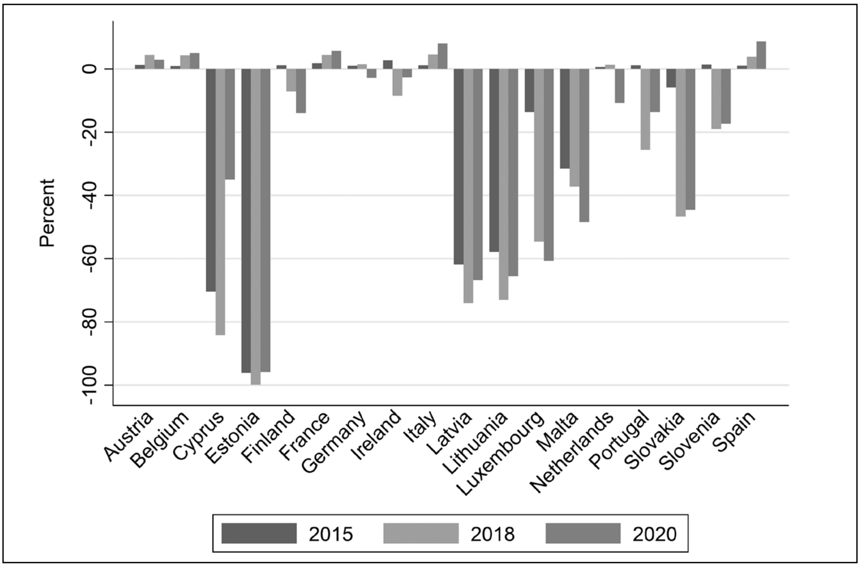
This analysis of the PSPP leads to a clear conclusion. It ultimately shows that the Eurosystem has not been successful in its attempt to steer the program in line with capital keys. The systematic upward trend and the growing distance of shares from the capital key for high-debt countries such as Belgium, 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.



(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 and 2018 and to November 2020. The calculations take account of the adjustment of the capital key in 2019.

Figure 5: Divergence of PSPP Stock from ECB Capital Key

V. Macroeconomic Magnitude

Finally, we look at the magnitude of PSPP and PEPP relative to important macroeconomic and aggregate fiscal indicators. Figure 6 shows the ratios of PSPP and PEPP stocks at the end of November 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 November 2020 amounted to more than 30% of GDP 2020. By contrast, in six countries – Estonia, Ireland, Malta, Latvia, Lithuania, and Luxembourg – PSPP and PEPP correspond to less than 15% of GDP. 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 7, 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 7% or more, markedly above the euro zone average at 5%.

In Figure 6, 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-to-GDP-ratios below average.

Another interesting aspect is to assess the importance of the Eurosystem's role as a secondary market investor relative to the public deficit of countries in the euro area in the current year. Therefore, we aggregate total PSPP and PEPP purchases from January to November 2020 for each country and put them in relation to the current deficit forecast for 2020 (deficit projections taken from European Commission 2020). Figure 8 shows the results for all countries. We add a line at 11/12 (92%) to account for the fact that the PSPP and PEPP data were only available for eleven months of the year at the time of the analysis. Ratios around that value indicate that the Eurosystem has been on course to buy sovereign bonds of a magnitude that fully corresponds to the coronavirus crisis year's deficits for the respective country. The question to which extent these massive secondary market transactions constitute a circumvention of a ban of monetary financing of Art. 123 TFEU is subject to a continuous controversy. However, our results show that the Eurosystem's involvement is of a very substantial size, 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, Germany, Slovenia, and Italy.

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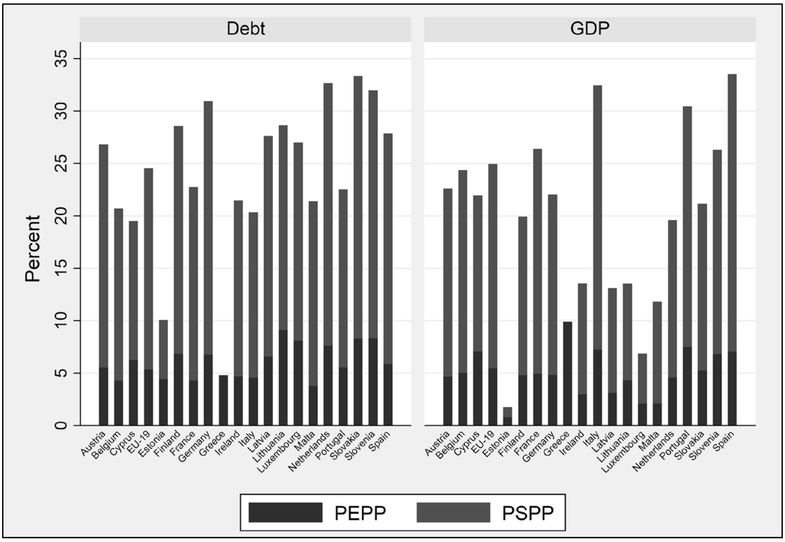
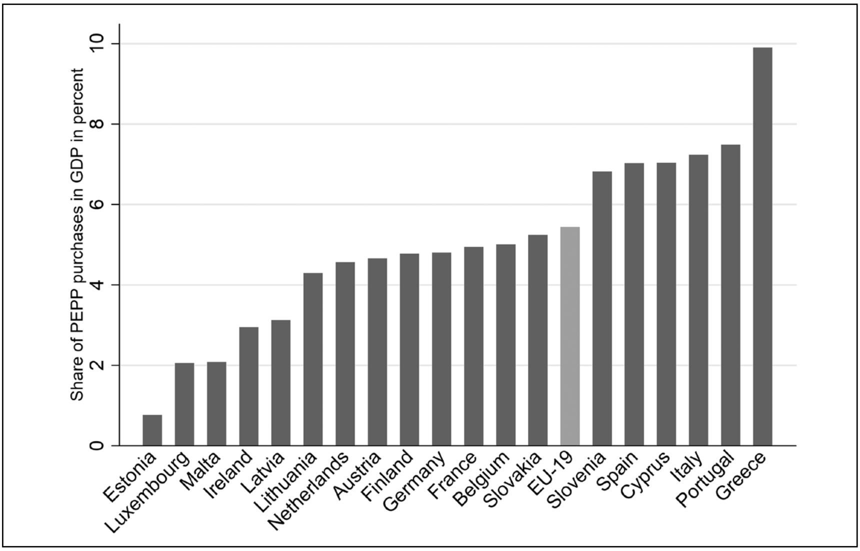


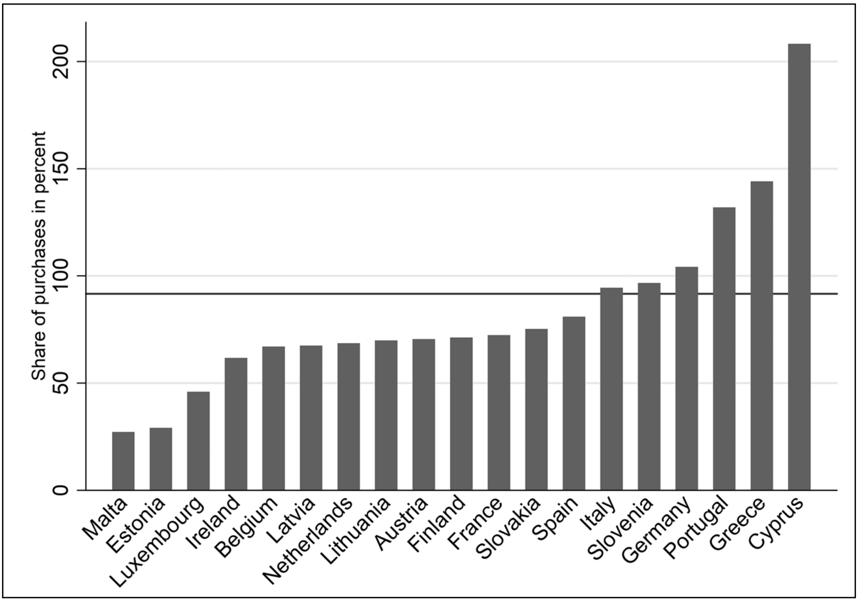
Notes: Data on debt and GDP are taken from the AMECO database by the European Commission. The underlying GDP variable is defined as GDP at current prices. The variable debt is defined as general government gross debt. All data on PSPP and PEPP purchases are taken from the ECB website.

Figure 6: PEPP and PSPP Stocks (November 2020) as a Share of Government Debt and 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 7: Share of PEPP Purchases March to November 2020 over GDP 2020



Notes: The horizontal red line represents 11/12 (92 %) that is the share of January to November 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.

Figure 8: PEPP and PSPP Net Purchases Relative to Expected Public Deficit 2020

VI. Conclusions

Our analysis has revealed some striking developments for the rules and allocation of the Eurosystem's sovereign purchases. First, there is a clear trend of a substantive relaxation in program constraints. The de facto suspension of the issue and issuer limits under PEPP, which also renders the PSPP issue and issuer limit meaningless, is one of these very far-reaching steps. With this modification, the Eurosystem has implicitly accepted to take over the role of a strategic investor. In future, debt restructuring according to the collective action clauses agreed upon in the ESM Treaty will no longer be possible against a veto of the ECB Council.

One might argue that the PSPP's issue and issuer limits could become relevant again once the PEPP terminates. However, this will only be the case when the Eurosystem's bond holdings have declined to such an extent that they fall back below the PSPP's issuer and issuance limits. This would not only require an end to the aggregate net purchases from both programs but also a considerable reduction of holdings – a scenario, which is difficult to imagine in the foreseeable future.

Second, the empirical analysis of the national allocations shows that the Eurosystem does not only use the PEPP but also the PSPP in an increasingly asymmetric way, with over-proportionate purchases of the high-debt euro area countries. This bias towards high-debt country is not at all a phenomenon of purchases just since the Covid-19 pandemic. The trend was already strong in the first PSPP phase until the end of 2018 before the PSPP was temporarily discontinued. The practice of public sector purchases has effectively suspended the capital key orientation already for the PSPP prior to 2020. Hence, a discontinuation of the PEPP as such is unlikely to guarantee a closer capital key orientation.

A third result is that the importance of the programs has become substantial also in relation to GDP, total government debt stocks and deficits. Because of the high and increasing speed of accumulation, the Eurosystem already held one third of total euro area national debt in early 2021. The indirect financial support that is currently provided by the national central banks and the ECB in the crisis is of remarkable magnitude as, for several countries, it reaches a level equal to the full annual government deficit in 2020, although this deficit has reached record highs for numerous euro area countries. 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 and strengthens the concern that the ECB could be fiscally dominated in future.

It is an open debate to which extent all these trends have already brought the Eurosystem's involvement in government bond markets close to an Art. 123 infringement. It goes without saying that Europe and the euro area have been facing an economic emergency, with the dramatic consequences that the Covid-19 pandemic has had 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 that is also explicitly referred to in the ECB Council PEPP Decision will also be acknowledged once the PEPP is contested at national constitutional courts or the European Court of Justice. However, the analysis has clarified that the public purchasing programs were already sliding down a slippery slope into dangerous territory well before the crisis. Many of the safeguards that have been emphasized in the ECJ's 2018 ruling that PSPP is no Art. 123 infringement do no longer exist today.

We conclude that central bank interventions in government bond markets of the current magnitudes and in non-compliance with all its initial well-justified limits will hardly be justifiable once the current economic crisis subsides.

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