The ECB Under the Threat of Fiscal Dominance – The Individual Central Banker Dimension

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Abstract:

This paper examines the threat of fiscal dominance for central banks with a focus on the individual dimension. A general symptom of fiscal dominance is a feedback loop from sovereign debt developments to monetary policy decisions. Our theoretical reasoning clarifies under which assumptions the individual members in a federal central bank system should pay particular attention to their home regions' public debt situation. We present empirical evidence for the existence of such a repercussion in the context of the ECB Council. Based on public statements regarding the Pandemic Emergency Purchase Programme (PEPP), we classify the governors of the euro area national central banks (NCB) and the ECB board members as "hawks", "neutrals" and "doves". We correlate the resulting classification with their home countries' debt level. The resulting pattern is consistent with what can be expected for a regime of fiscal dominance. Whereas the doves tend to come from high-debt countries, the average debt level of the hawks' home countries is significantly lower. As expected, this pattern is even more pronounced for the NCB presidents than for board members.

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1. Introduction

"Which authority moves first, the monetary authority or the fiscal authority? In other words, who imposes discipline on whom?" (Sargent and Wallace, 1981, p. 7). With public debt levels unprecedented in peacetime, this question is more topical than ever for the central banks of industrialized countries. In their contribution, Sargent and Wallace analyze how "fiscal dominance" may threaten central banks. They develop a model that assumes that the fiscal player can determine the current as well as the future money supply and, eventually, the inflation rate through its autonomous decisions on government deficits. In a broader understanding, fiscal dominance means that the fiscal authority sets the path of public deficits, which the central bank must then accommodate - regardless of how this affects the inflation rate. In monetary history, fiscal dominance is considered as an important explanation for high inflation episodes, financial repression, and the related instability of currencies (Bordo and Levy, 2021; Fratianni and Spinelli, 2001; Reinhart and Sbrancia, 2015).

The euro area constitution as defined by the Treaty of Maastricht had tried to establish comprehensive precautions to shield the ECB from constraints caused by fiscal policies. Key institutions of the Maastricht order in this context are the prohibition on monetary financing (Art. 123 TFEU) and privileged access of governments to financial institutions (Art. 124 TFEU), the limiting of national debt through the excessive deficit procedure (Art. 126) which was further developed in the Stability and Growth Pact (Commission, 2019) and, eventually, the rules on independence of the ESCB which includes the procedures on the selection of the personnel for the ECB Council to safeguard personal independence (Art.130 and 283 TFEU). On top, the no bailout clause of Art. 125 TFEU aimed to support the effectiveness of market pressure on member states' budgetary decisions that would be impaired in the presence of bailout expectations. The aim of this Maastricht design was to enforce fiscal prudence through rules as well as market discipline to guarantee a truly independent decision-making of the ECB – and in turn, prevent fiscal crises and their potentially catastrophic consequences for financial and economic stability. In this sense, "the euro has been built on the principle of monetary dominance" (Schnabel, 2020, p.1) with the objective that fiscal policy has to adjust to the constraints set by the central bank, whose primary responsibility is to safeguard price stability.

Today it is controversial whether this initial Maastricht set-up is still materially in place and able to guarantee the ECB's strategic first mover position. The debate on a looming fiscal dominance is not at all limited to the ECB. Given the even higher levels of government debt in Japan and the U.S., there is a suspicion that major global central banks from Japan over the U.S. to the euro area are now in a position where their monetary policy space is severely constrained by the need to ensure liquidity as well as sovereign solvency (Bordo and Levy, 2021; Selgin, 2021). For the euro area, however, the sobering experience with the Maastricht set-up since the years of the financial and euro debt crisis feeds the particular impression that the ECB can no longer be shielded effectively against increasingly dominant fiscal actors:

- The constitutional ban on monetary financing has not prevented the Eurosystem from becoming the most important investor in euro area sovereign bonds. The Eurosystem has started to buy euro area sovereign bonds already with the Securities Market Programme

(SMP) between 2010 and 2012. The SMP had the intention to safeguard the liquidity of those euro countries that suffered from a run in their sovereign bond markets (Havlik and Heinemann, 2021). The ECB Council argued that the program would restore the monetary transmission mechanism, which the Council found dysfunctional in this crisis environment. The SMP was unconditional and highly selective as the purchases only included the countries most affected by the debt crisis: Italy, Spain, Greece, Portugal, and Ireland. Eurosystem holdings under the SMP reached a maximum of EUR 218 billion. While the subsequent Outright Monetary Transaction (OMT) Programme has never activated, the Public Sector Purchase Programme (PSPP) started to become operational in 2015 realizing purchase magnitudes far above the SMP. The Eurosystem has massively increased these purchases since the early phase of the Covid-19 pandemic in March 2021 through its Pandemic Emergency Purchase Programme (PEPP). Until June 2021 the PEPP and PSPP holdings of the Eurosystem had reached EUR 3,600 billion amounting to 32% of the end of 2020 total public debt level of the euro countries.[1] Havlik and Heinemann (2021) assess the trends for the rules of the ECB's sovereign bond purchase programs PSPP/PEPP and the country allocations. For the PSPP/PEPP rules, they show how the initially strict constraints (guiding role of ECB capital key for country allocations, minimum ratings, issue and issuer limits) have been continuously softened by the ECB Council or given up altogether. Moreover, their analysis demonstrates how the country allocations increasingly diverge from the ECB capital key and that this divergence was already on track and far advanced for the PSPP before the pandemic. One key insight for the fiscal dominance debate is that the Eurosystem, with the de facto full suspension of the issue and issuer limits, is becoming a strategic investor with a blocking minority as defined in the standard Collective Action Clauses of euro area bond contracts. This implies that the Eurosystem now has veto power in all potential future debt restructuring negotiations.

- The Excessive Deficit Procedure and the Stability and Growth Pact have been unable to induce member countries to build up fiscal buffers in the good time with the consequence that several countries found themselves without fiscal leeway and with severe debt sustainability concerns already before the pandemic struck and led to further substantial deterioration (European Commission, 2020; European Fiscal Board, 2020; Wyplosz, 2019).
- Moreover, governments continue to enjoy regulatory privileges in their market access since banks are allowed to apply zero risk weights to their euro area sovereign exposure (Hauser, 2020). As a consequence, banks remain heavily exposed to their home country, also as a consequence of often close political connectedness (De Marco and Macchiavelli, 2016; Ongena et al., 2016). This growing nexus between the sovereign and banking sectors implies that any sovereign debt crisis in the euro area would immediately trigger a financial and economic crisis and challenge the ECB in its dual role as monetary authority and banking supervisor.

[1] PEPP holdings end of June 2021: EUR 1,184.6 billion; PSPP holdings end of June 2021: EUR 2,415.3 billion (ECB Website); aggregate euro area debt level end of 2020: EUR 11,334.6 billion (AMECO database).

- The no bailout clause has not prevented jointly financed European loans and transfers to member countries through the European Stability Mechanism, the SURE, and the Next Generation EU funds which now has opened the path to transfers that are financed through joint borrowing (Bundesrechnungshof, 2021; Heinemann, 2020).

All these developments run counter to the view that a regime of fiscal dominance is out of the question for the euro area and that "monetary dominance" remains an adequate description of the relative power of fiscal and monetary policy in the euro area.

In this debate, we are the first to focus on the individual dimension of fiscal dominance in monetary policy decisions. We exploit the federal structure of the Eurosystem and its governing council. The individual members in the council come from countries with a highly heterogeneous fiscal background. Fiscal dominance is likely to materialize earlier for those governors whose national government finances are in a particularly dire condition with serious doubts on public debt sustainability. Hence, on the individual level, we expect a high awareness to the fiscal situation especially for those governing council members that are delegated from high-debt euro countries. Therefore, our approach focuses on the correlation between the monetary policy positions of the individual members of the ECB council with the fiscal situation of their home country.

Our analysis concentrates on the monetary policy debate during the Covid-19 pandemic. Our empirical evidence strongly confirms a positive correlation. We find that national central bank (NCB) presidents from high-debt countries are significantly more dovish in the pandemic monetary policy debates and argue more forcefully in favor of long-lasting sovereign bond purchases compared to their colleagues from low-debt countries. The latter are more cautious and ready to discuss an exit from the very expansionary policies. As to be expected, the correlation is more pronounced for the governors from the NCBs with their closer ties to national debates than for the members of the executive board with their more European perspective.

While we demonstrate a firm correlation, our basic research design is unable to prove that there is a causal chain from the national debt level to the ECB board members' monetary policy preferences. The observable correlation between debt levels and dovishness could as well be driven by a common cause interdependence or by a systematically different inflation perspectives of high and low debt countries after the end of the pandemic recession. However, this striking correlation still provides one piece of evidence indicating that worries about an increasing impact of national debt levels on the conduct of the ECB's monetary policy might not be without substance.

In the next section we will briefly sketch the intensifying debate on the threat of fiscal dominance in the euro area. Section 3 describes our methodological approach followed by the results in Section 4 and the concluding Section 5.

2. The new debate on fiscal dominance in the euro area and its individual dimension

Fiscal policy has always played a particularly prominent role in ECB communication with a peak in the years of the euro area debt crisis (Diessner and Lisi, 2020). Due to the above-described developments and the further increasing role of the Eurosystem for the (indirect) financing of national governments, it is not a coincidence that, recently, the topic of "fiscal dominance" has started to appear more frequently in speeches of central bankers from the Eurosystem.

Reflecting on this ECB involvement for sovereign debt markets, Jens Weidmann, the Governor of Deutsche Bundesbank, warns that central banks government bond purchases "risk blurring the line between fiscal and monetary policy" even though they "can be a legitimate and effective monetary policy tool" (Weidmann, 2020). Weidmann describes the fiscal dominance risk in the aftermath of the pandemic as one where political pressure could arise to keep interest rates "lower than the rationale of price stability would call for". Similarly, Olli Rehn, Governor of the Bank of Finland, describes the fiscal dominance regime as one where the "price level would no longer be treated as a purely monetary phenomenon, and monetary policy would be geared towards securing a favorable market value of government debt, instead of 'merely' safeguarding price stability" (Rehn, 2020).

But not only NCB governors are reflecting the threat of fiscal dominance. Isabel Schnabel, ECB board member, has referred to these concerns recently with a contribution trying to refute those concerns. She puts forward several arguments and observations why such a risk scenario is not yet an issue for the ECB (Schnabel, 2020). Schnabel argues that "there is, in fact, no evidence of a feedback loop from sovereign debt developments to monetary policy decisions" (p. 5). For that claim, she, for example, considers the correlation of monthly bond issues and Eurosystem purchases between 2015 and 2019. She takes the lacking correlation as a hint against a view that the fiscal decision (bond issues) drives the non-conventional monetary policy (Eurosystem purchases). Schnabel refers to ECB Taylor rule estimation equations where government debt does not add explanatory power according to ECB research. She points to continuously low inflation expectations at the time of her analysis and, moreover, she contends that the disciplining role of capital markets is still effective as it could be seen, in her view, from the spread reaction for Italian bonds to political instability in 2018 and from empirical results that spread fluctuation in the euro area remain related to changes in fiscal fundamentals.

From these different contributions of the members of the ECB Council, a first impression emerges, which we will examine more systematically below. Especially NCB governors from low- or moderate-debt countries seem to voice concerns about the downside of unconventional monetary policy including the risk of fiscal dominance. In contrast, similar concerns are not put forward by their colleagues from high-debt countries. Board members – insofar they discuss fiscal dominance at all – rather try to deny the existence of this threat.

For empirical researchers, a key difficulty to detect fiscal dominance is that its main serious symptom – an inflationary process inconsistent with the price stability objective – can only be detected *ex post*. *Ex ante* evidence for fiscal dominance is more difficult to find. One possible strategy is to search for evidence that monetary policy decisions can be better explained if one accounts for fiscal data. As mentioned before, Schnabel (2020) has looked into the explanatory power of public debt in a Taylor rule regression to demonstrate that the fiscal situation does not influence monetary policy. We follow this general idea of searching for “a feedback loop from sovereign debt developments to monetary policy decisions,” but we do so for the level of the individual monetary policy decision maker. Instead of looking at aggregate monetary policy interest rate decisions in a Taylor rule framework, we opt for this more direct approach.

ECB monetary policy decisions are taken by individuals, namely the members of the ECB Council. Due to the federal nature of the Eurosystem, those individuals come from member countries with highly heterogeneous fiscal fundamentals. This set-up offers the chance to search for a particular but crucial “feedback loop” that goes from a specific country’s fiscal situation to the monetary policy preference of the country’s individual representative in the governing council. In particular, we ask whether ECB Council members of high-debt countries are particularly dedicated advocates for an expansionary monetary policy. We propose to take the correlation between home country fiscal fundamentals and the monetary policy position of an individual Council member as an indicator of the existence of a crucial feedback loop from fiscal policy to monetary policy decisions, and hence of fiscal dominance.

More in detail, our argument is as follows: The risk of fiscal dominance is related to the crucial role of low interest rates and central bank sovereign bond purchases for those countries that have a critical public debt burden that may sooner or later question the country’s solvency. A sovereign insolvency with a subsequent public debt restructuring is an event with high political and economic costs (Das et al., 2012). From the perspective of the country concerned, its government and its citizens, an external bailout, either through fiscal transfers from outside or monetary policy support, is clearly preferable (Heinemann, 2021). Insofar ECB Council members do not have an exclusively European perspective but also pay attention to their home country’s national interest they might use their voting power in the Council to protect their country from the high costs of a debt crisis. If this mechanism exists, it constitutes a direct feedback loop from the fiscal situation at home to voting behavior in the governing council.

This reasoning rests on two crucial assumptions: First, euro countries face public debt sustainability risks so that central bankers could be afraid of a debt crisis in their home country. Second, members of the ECB Council do pay attention to national interests of their home countries and do not have a purely European perspective. Both assumptions are well-founded.

First, already before the outbreak of the pandemic, several euro area countries were confronted with serious questions on their debt sustainability. This is by no means an alarmist judgment by euro skeptics, but the finding from the European Commission's assessment. Besides the obvious case of Greece that heavily depends on ESM loans over the next generation, the Commission has classified five further euro area countries (Belgium, Spain, France, Italy, Portugal) as “high risk” cases for a lack of public debt sustainability in its Debt Sustainability Monitor published in January 2020 (European Commission, 2020). If sustainability concerns were even well-justified before the pandemic, there is no doubt about their relevance after this massive economic and fiscal shock.

Second, there is empirical evidence that ECB Council Members are influenced by their home countries' interests and economic data when they form their monetary policy preferences. In the early years of the euro, the ECB had defended the narrative that ECB Council Members are solely applying a European perspective when they decide and vote, and that unanimity prevails. Finally, with the decision on the Outright Monetary Transactions (OMT) in September 2012, the ECB president had to admit for the first time that unanimity could not be achieved (Hayo and Méon, 2013). But even before 2012 and the polarizing effects of the euro area debt crisis, Taylor rule estimations that took account of asymmetric macroeconomic development across euro countries indicated a national perspective in the Council. Already the policy decisions in the first years of the euro can be better explained if ECB Council members are modelled to pay a particular attention to national economic data and not (only) the euro area average (Heinemann and Hüfner, 2004). This finding was confirmed since then (Hayo and Méon, 2013). The insight that governing council members – at least to some extent – defend the interests of their home regions is not specific for the Eurosystem at all but characterizes the experience of other decentralized central bank systems such as the US Federal Reserve (Meade and Sheets, 2005) and the Bundesbank in the era of the DM (Berger and De Haan, 2002).

The empirical observation that central bankers are influenced by the economic situation and interests of their home country may be seen as a contradiction to the independence of the ECB, including personal independence of its council members (Art.130 and 283 TFEU). Nevertheless, the formal and informal processes how the ECB Council is constituted leaves room for national interference. The Council consists of six executive board members and the 19 NCB governors of the euro countries. The governors are selected through national processes where European institutions have little impact on the decision (Wagener, 2001). For example, Germany's Bundesbank president is recommended by the ruling government and then appointed by the German president (Deutsche Bundesbank, 2021). Although, the presidential position at the Bundesbank is not a purely political office, as it requires specific qualifications, the political support of the German government is a necessary condition. The re-appointment process again depends on the support of the ruling government. Therefore, a potential candidate has high incentives to consider the preferences of the German government and voters. The domestic accountability of the national governors in the ECB council does not necessarily imply that they do not account of the euro area situation as a whole, but the German example illustrates that there are good reasons to expect a significant weight for domestic interests.

The election process of the executive board follows different rules (Art. 283 TFEU). Candidates are proposed by the Member States after a discussion in the Eurogroup. Then the European Parliament and the ECB Council are consulted and finally the European Council elects a board member with a qualified majority (55 % votes, 65 % population). Thus, larger countries have more weight in the election, and in practice, the decision is subject to political negotiations between Member States (Wyplosz, 2019). Hence, selection of board members is the result of a European political process. Therefore, it is less likely that candidates with a strong national agenda are successful. As a result, we do expect that the impact of national data on council members should be more pronounced for the NCB governors than for the ECB board members.

Apart from these institutional considerations on appointment rules, there are several other potential channels how the national background of ECB Council members might affect their decision-making in the council. There might be cultural reasons, personal experiences, networks or career considerations in the national financial sector, which may bias decisions towards national interests (Göhlmann and Vaubel, 2007).

Hence, there are good arguments to expect an impact of national interests, including fiscal interests, on monetary policy preferences of ECB Council members in general and the NCB governors in particular. We make use of this approach to ask to which extent the public debt situation and the monetary policy preference of individual Council members are correlated. Finding a correlation between the public debt level and the individual preference for monetary expansion would point to one crucial feedback loop from fiscal to monetary policy and, hence, fiscal dominance.

3. Methodology

Since individual voting behavior in the ECB Council is not published we have no direct measure for council members' monetary policy positions. Instead, we made use of a media analysis of central banker statements. We categorized every member of the ECB Governing Council about whom sufficient information was available into one of the following three groups: "doves" (favoring an expansionary course), "hawks" (favoring tightening), and "neutrals" (in between). With this approach, we follow the direction of Bennani and Neuenkirch (2017) who apply a textual analysis approach to show how the degree of hawkishness of NCB presidents can be identified on the basis of their speeches and how this correlates to the economic situation of their home country. While Bennani and Neuenkirch relate a NCB president's hawkishness to his country's growth and inflation rates, we are interested in the link with the public debt level.

To categorize the council members into these hawks, doves and neutrals, we analyzed the discussion on the future of the PEPP from mid-March until mid-June 2021. We decided to focus on the PEPP in our search for monetary policy statements for two reasons. First, the term PEPP is clearly defined and excludes search terms which are not related to our topic of interest. That narrows down the number of relevant statements and is very specific. Thus, it is easier and more accurate to find these statements using databases. Second, the attitudes towards the PEPP can be considered as a key to identify an impact of the home country fiscal position on monetary policy as PEPP has a massive relevance for the financing conditions of euro area countries in the crisis. We have chosen this period because the outlook for the corona-hit economies gradually started to improve as a consequence of the vaccination progress and the strong global recovery. This improvement has fed the discussion on a possible exit from the monetary-policy emergency measures. We argue that this period is particularly suitable to identify differences among Council members because now longer-term strategic interests and concerns - beyond the immediate crisis response - started to shift into the focus.

To find relevant statements of ECB council members in a systematic and reproducible way, we used the database "Dow Jones FACTIVA" which includes over 33000 news outlets, including many relevant financial market sources (e.g., Wall Street Journal, Handelsblatt, Reuters)[2]. In this database we searched for the query "name of council member and PEPP" where 'and' is a search operator which returns only articles that include both terms. For the abovementioned reasons we restricted the period to newspaper/newswire articles from the 15th of March until the 19th of June. In the next step, we went through a selection of articles and searched for direct quotes of council members. Using newspaper articles has the advantage that they often provide the context where statements were made and are often the only source available. Later on, where possible, we tracked down the primary source of a member's statement. In most cases this was no problem, but sometimes a member gave a statement on a conference or to a newspaper where the primary transcript was not available. We then analyzed the statements' content, their context and the time period in which they were given. We classified a council member as hawkish, if his/her PEPP-related quote can be associated with one of the following three statements:

- The PEPP should or might not be fully exhausted
- The PEPP increases the risks of high inflation and these risks should be considered
- Exit of the PEPP must be considered early
- Increase of long-term bond yields are no serious concern
- Recent rise in inflation is a considerable risk

On the other side, we classified a member as dovish if he/she could be associated with one of the following statements:

- The PEPP should be further extended
- The PEPP should be prolonged beyond March 2022
- There should be no discussion on an early exit or an early tapering
- Increase of long-term bond yields are a serious concern
- No serious inflation risk, inflation push is short term

We classified a member as neutral if he/she moderately discussed both sides of the argument without taking any side. Statements of the following nature are categorized as neutral:

- We have to think about PEPP reduction but not now, it would be too early
- It is still necessary to continue but continuing is accompanied by financial risks

For several countries, particularly small euro countries, there was no sufficient information available to categorize them, which is why we excluded them from the analysis (Table). We also considered the time point when a statement was given and its context. For example, Klaas Knot started already in April to discuss reducing the volume of the PEPP (Table). Considering that the pandemic was still at the peak of the 2nd/3rd wave in many euro countries, this statement weighs more heavily than if it had been given in mid-June, when infection cases had declined significantly in most euro countries.

[2] https://professional.dowjones.com/factiva/media-monitoring-corporate-communications/ (last visit 23.06.2021)

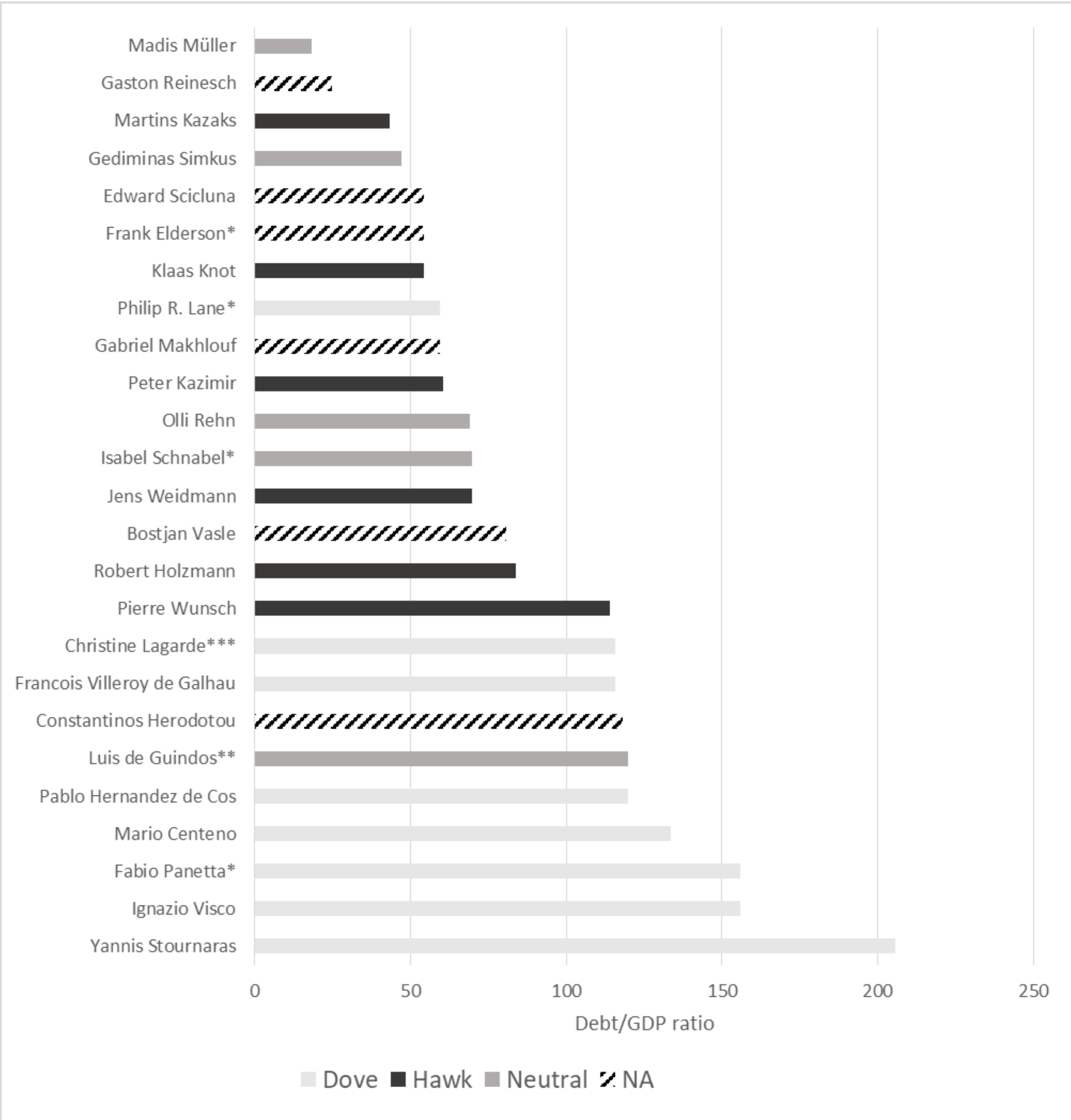
4. Results

Table A1 in the Appendix documents the results of our classification. This table also includes examples of direct quotes for all council members where data was available, a brief explanation on the reasoning of the categorization and the exact date and source. In this section, we correlate the resulting classification with the public-debt-GDP ratio end of 2020 reported by Eurostat and differentiate between NCB governors and ECB board members.

In Figure 1, the individual categorizations are plotted against the debt-to-GDP ratios. The asterisks behind the names indicate if the person is a member of the executive board. Two asterisks additionally indicate the vice-presidency and three the presidency. The observations are ordered in an ascending way based on the debt-to-GDP ratio and the colors define the category of a member. The bar plot already indicates that with an increasing debt-to-GDP ratio, the ECB Council members tend to express more dovish opinions. Among the dovish faction are the national governors from Italy (Visco), Spain (Hernandez de Cos), France (Villeroy), Greece (Stournaras) and Portugal (Centeno). On the other side, the hawkish faction consists, of the national governors from Germany (Weidmann), Austria (Holzmann), the Netherlands (Knot), Belgium (Wunsch) and Latvia (Kazaks).

The classification of the executive board members reveals a more mixed pattern. For instance, Isabel Schnabel (Germany) expressed a more moderate position than her German colleague Jens Weidmann (national governor). The reversed pattern holds for Spain with the vice president Luid de Guindos being more moderate than his more dovish counterpart, the Spanish governor Pablo Hernandez de Cos. President Christine Lagard is categorized as a dove, because of her focus on the continuation of the PEPP and her strict rejection of all kinds of early PEPP exit debates coming from the hawkish faction (Appendix Table 1). Although, for six council members insufficient data were available, our categorization suggests that there is a majority of doves in the ECB council. This might be one explanation why the president tends to support dovish positions, as this may reflect the fact that she serves as the spokesperson for the majority.

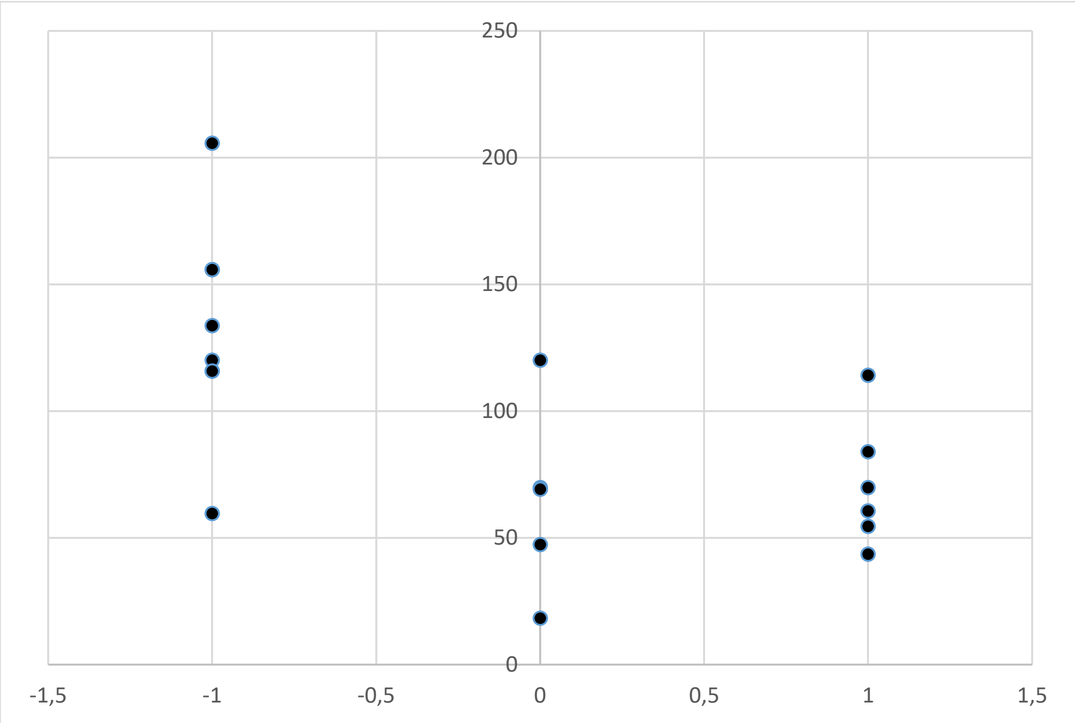
Figure 1: Debt/GDP ratio in council member's origin country by category



Note: The figure shows the 2020 debt/GDP ratio in the origin countries of the respective ECB council members. For the striped members insufficient data for a categorization was available. * indicates an executive board member, ** the vice president and *** the ECB president.

In Figure 2, our categorization into doves (-1), neutrals (0) and hawks (1) is plotted against the debt-to-GDP ratio of the origin country of a respective council member. On the left-hand side, it can be seen that council members which publicly expressed dovish opinions in the context of the pandemic emergency measures tend to come from countries with a higher debt-to-GDP ratio. The point with the highest debt-to-GDP ratio of over 200% is Yannis Stournaras from Greece who is categorized as a dove. In the center are council members who are coded as neutrals. On the right-hand side of Figure 2 are the hawks who on average have a lower debt-to-GDP ratio compared to the dovish faction.

Figure 2: Debt-to-GDP ratio by doves/hawks/neutrals – ECB Council members incl. executive board



Note: The figure shows our categorization scaled against the 2020 debt/GDP ratio (in %) of the origin country of a council member. -1 describes a dove, 0 a neutral member and 1 a hawk as classified in Table 1 in the Appendix. For Constantinos Herodotou (Cyprus), Bostjan Vasle (Slovenia), Gabriel Makhlouf (Ireland), Frank Elderson (Netherlands), Edward Scicluna (Malta) and Gaston Reinesch (Luxembourg), there were insufficient data available, therefore they are not included.

Tables 1-4 present our simple statistical tests that confirm the correlation. Tables 1 and 2 relate to all members of the governing council, Tables 3 and 4 relate only to the NCB governors' positions.

Table 1 shows the exact averages of the different groups and presents additional statistical information. Dovish council members (including the board) are on average from states with a debt-to-GDP ratio of 133% and almost double the level of the countries with hawkish council members (debt-GDP level of 71%). Neutral members and members where sufficient information were unavailable have an average debt-to-GDP ratio of approximately 65 and, hence, below that of the hawks. To test if there are significant group differences, we conducted an Anova (Table 2). With an F-statistic of 7.29 the null-hypothesis of equal means can be clearly rejected on the 99 percent level.

Table 1: Summary statistics Debt-GDP Level by Class (All ECB Council Members)

category	N	mean	sd	min	max
Dove	8	132.71	42.22	59.50	205.60
Neutral	5	64.90	37.31	18.20	120.00
Hawk	6	71.07	25.15	43.50	114.10
NA	6	65.37	31.44	24.90	118.20
Total	25	88.19	45.46	18.20	205.60

Table 2: Anova results - All ECB council members

Source	SS	df	MS	F-statistic	P-value
Between Groups	19341.70	2	9670.85	7.29	0.0056
Within Groups	21211.22	16	1325.70		
Total	40552.92	18	2252.94		

In Tables 3 and 4, the same analysis is applied only for the national governors. As expected, we find somewhat more pronounced differences between the groups. The average gap between the debt-to-GDP ratio of dovish and hawkish governors' origin countries increased to 75. The difference is mainly driven by the omittance of Phillip R. Lane, a board member from the low debt-to-GDP country Ireland, who is categorized as a dove. The average of the neutral group fell to 44.9, this drop is predominantly caused by omitting the board member Luis de Guindos from Spain (120 % debt-to-GDP ratio). We would have expected the average debt level of the neutrals in between that of the doves and the hawks. However, given the very low number of observations and and their origin from three small countries (Estonia, Lithuania, Finland) this is not an essential result. The crucial finding is that the doves have a significantly higher debt level compared to all other governors (both hawks and neutrals).

This is also confirmed by a repetition of the Anova (Table 4), where the F-statistic increased from 7 to 13 for a sample restricted only to national governors. The stronger correlation between fiscal outcomes and national governors' position in the ECB Council to executive board members confirms our theoretical expectation. As discussed in section 2, NCB governors should take a more national perspective than the board members who are chosen through a European selection process.

Table 3: Summary statistics – Debt-to-GDP ratio of governors' origin country by category

category	N	mean	sd	min	max
Dove	5	146.14	36.73	115.7	205.6
Neutral	3	44.90	25.58	18.2	69.2
Hawk	6	71.07	25.15	43.5	114.1
NA	5	67.54	34.64	24.9	118.2
Total	19	85.76	47.64	18.20	205.60

Table 4: Anova results - Only NCB Governors

Source	SS	df	MS	F-statistic	P-value
Between Groups	23939.12	2	11969.56	13.34	0.0011
Within Groups	9867.18	11	897.20		
Total	33806.31	13	2600.49		

To summarize the results, we find that there are statistically significant differences in the debt-to-GDP ratios between doves, hawks and neutrals. The correlation between these outcomes is somewhat stronger for national governors compared to executive board members

5. Conclusion

Our analysis confirms that ECB Council members from countries with higher public debt levels formulate, on average, more dovish positions in the pandemic monetary policy debates compared to their colleagues from countries with lower debt levels. In line with our theoretical expectations, this pattern is more pronounced for the NCB governors than for the whole Council including the board members. Our result is a hint to the possible existence of an important feedback loop from critical sovereign debt levels to monetary policy decisions and, hence, points to an ECB that is increasingly acting under a regime of fiscal dominance.

However, a simple correlation cannot identify a causal channel. Forensically, our result is a suspicious observation – but no smoking gun. We cannot observe how the NCB presidents actually vote in the Council and, therefore, cannot fully exclude that they send a biased preference signal to the media to please their national audiences (Bennani and Neuenkirch, 2017). The correlation between debt and dovishness could also be the result of a common cause interdependence because a third country factor (e.g. national stability culture, macroeconomic schools) is driving both the selection of NCB presidents and public debt. Finally, low debt countries might have had a more inflationary perspective in the recovery phase after the pandemic recession compared to high debt countries. Heinemann and Hüfner (2004) and Hayo and Méon (2013) have shown that ECB Board members do actually pay specific attention to their home country inflation and growth rates and do not exclusively consider the euro area average. Only a more comprehensive research design could fully exclude that our key result is driven by any of these alternative explanations.

While it is important to point out these caveats, one has to emphasize that the evidence brought forward *against* the existence of fiscal dominance is largely of a similar correlational nature (like for example the hint to a lacking correlation between monthly sovereign bond issues and ECB bond purchases, see section 2).

A second limitation of our analysis is that it cannot reveal the exact channel for a possible feedback loop. It may be the case that countries with high debt select and appoint NCB governors strategically and chose experts that have a particularly activist macro-policy preference (Fatum, 2006). Alternatively, central bankers may adapt their positions in reaction to the changing fiscal situation at home. With our data, we cannot distinguish between these explanations. More research that exploits longer time-series and individual data is needed to understand our finding better.

Despite all these caveats, our findings add another piece of evidence to the growing concerns that the massive increase in sovereign debt, further rising risks to sovereign debt sustainability and the ever-closer linkages between private banks and euro area sovereigns might increasingly limit the ECB's monetary policy room for maneuver.

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Appendix

Table A1: Categorization

Person	Country	Role in ECB council	Category	Quote	Source	Time	Explanation
Pierre Wunsch	Belgium	Governor	Hawk	"I hope that at some point we're going to discuss an exit, because it will show that our policy is effective."	Bloomberg interview[3]	6th of April	Underlined the importance of an exit very early on, while the pandemic was still far from recovery
Jens Weidmann	Germany	Gouvernor	Hawk	"The [corona measures of the ECB] have to be closely aligned with the crisis and have to be abandoned after the pandemic" (translated from German); "Then [after the crisis] there should be no lack of resolution [to exit the emergency programs], even if that leads to an increase in the interest rate and thus increased re-financing costs" (translated from German)	Reuters interview[4]	1st of April	Early focus on exit even at risk of increased refinancing costs. Emergency measures should not become permanent
Madis Müller	Estonia	Gouvernor	Neutral	"There is a lot of flexibility in the PEPP and it could be recalibrated again if the pandemic causes further shocks. At the same time, the full envelope of the PEPP does not have to be used"	Speech[5]	28th of April	Very neutral report on actual situation, apart from this speech no further articles or interviews.
Gabriel Makhlouf	Ireland	Gouvernor	-	-	-	-	No information found
Yannis Stournaras	Greece	Gouvernor	Dove	"No evidence to point to a period of high inflation in the near future"; "I don't think the time is right to do	Reuters interview[6]	25th of May	While some ECB council member were

[3] https://www.bloomberg.com/news/articles/2021-04-06/ecb-s-wunsch-predicts-healthy-rebound-but-bumpy-exit-from-crisis (last visit 23.06.2021)
[4] https://www.reuters.com/article/bundesbank-weidmann-geldpolitik-idDEKBN2BO50T (last visit 23.06.2021)
[5] https://www.eestipank.ee/en/press/road-recovery-and-role-central-banks-speech-madis-muller-governor-eesti-pank-cfa-society-finland-28042021 (last visit 23.06.2021)
[6] https://www.reuters.com/article/us-ecb-policy-idUSKCN2D60SF (last visit 21.06.2021)

				this shift yet, [..] of course, at some point in the future this will occur, there's no doubt about that. We have to think about a smooth transition from PEPP to APP"; "I don't see any reason to make any change [to the pace of PEPP] at the moment"			publicly considering the exit of the program, Stournaras saw no reason to introduce any changes or lower the pace
Pablo Hernandez de Cos	Spain	Gouvernor	Dove	"[PEPP] should be adjusted in order to counter rise in interest rates if that increase is not accompanied by return of medium-term inflation."	Reuters interview[7]	23rd of April	ECB should consider expanding its purchase program
Francois Villeroy de Galhau	France	Gouvernor	Dove	"Whatever the future decision on PEPP, we will still be able to play and enhance the full 'quartet' of our unconventional instruments: asset purchases, negative rates, liquidity provision, and forward guidance" "These unconventional instruments are here to stay, beyond COVID and its crisis tools, meaning that our monetary policy can remain as accommodative as necessary for as long as necessary," ; "We still have ample time to judge and decide, well beyond our June meeting [in respect to discussion of the PEPP program]"	Reuters article[8], speech[9]	25th of May	Hawks were pushing forward to discuss tapering and an exit strategy already in June. Considers long term employment of unconventional measures, which is a contrary position to the hawks who would like to leave as early as possible.
Ignazio Visco	Italy	Gouvernor	Dove	"Large and persistent rises in interest rates are not justified by the current economic prospects and will be countered," "[ECB was ready to make] full use of its already defined bond-buying programme"	Reuters article[10]	31st of May	
Constantinos Herodotou	Cyprus	Gouvernor	-	-	-	-	Insufficient information
Martin Kazaks	Latvia	Gouvernor	Hawk	"If financial conditions remain favorable, in June we can decide to buy less,"; "Will we react to all	Bloomberg article[11]	7th of May	At the same time other member of the council

[7] https://www.reuters.com/article/ecb-policy-decos-idUSS0N2J3015 (last visit 21.06.2021)
[8] https://www.reuters.com/article/ecb-policy-villeroy-idUSL2N2NC1AQ (last visit 21.06.2021)
[9] https://www.banque-france.fr/en/intervention/inflation-and-monetary-policy-post-covid-19-world (last visit 29.06.2021)
[10] https://www.reuters.com/article/ecb-policy-visco-idUSL5N2NI1ML (last visit 21.06.2021)
[11] https://www.bloomberg.com/news/articles/2021-05-07/ecb-s-kazaks-says-decision-to-slow-bond-buying-possible-in-june (last visit 21.06.2021)

				interest-rate increases? No, because interest rates at some point will need to rise”			expressed a very different picture (e.g. Ignazio Visco)
Gediminas Simkus	Lithuania	Gouvernor	Neutral	“I’d like to wait until the September forecast to talk about the future of the program”	Bloomberg article[12]	14th of June	Some hawkish council members underlined the increase of the inflation rate and started a discussion on a potential adaption of the program.[13].Simkus favours to wait and then decide.
Gaston Reinesch	Luxembourg	Gouvernor	-	-	-	-	Insufficient information
Edward Scicluna	Malta	Gouvernor	-	-	-	-	Insufficient information
Klaas Knot	Netherlands	Gouvernor	Hawk	“In that case, it would be equally clear to me that from the third quarter onwards we can begin to gradually phase out pandemic emergency purchases and end them as foreseen in March 2022.”	Reuters interview[14]	7th of April	The pandemic was still around peak levels in many Euro countries, but Knot is already considering tapering. Stark contrast to dovish fraction.
Robert Holzmann	Austria	Gouvernor	Hawk	“Hopefully, by that time, there will be a possibility to reduce again the purchases” “When we decided in December an extension of the PEPP program we made a change by changing from a volume that needs to be spent, to a volume which can be spent,”	CNBS interview[15], Bloomberg[16]	8th of April	Stark contrast to doves (e.g. Ignazio Visco), less keen to spend the maximum of the PEPP, one of the first member who debates an exit of the PEPP

[12] https://www.bloomberg.com/news/articles/2021-06-14/lagarde-says-ecb-needs-to-really-anchor-economic-recovery (last visit 21.06.2021)
[13] https://www.bloomberg.com/news/articles/2021-06-11/ecb-officials-warn-of-inflation-risk-despite-extending-stimulus (last visit 29.06.2021)
[14] https://www.reuters.com/article/ecb-policy-knot-idUSL4N2LZ3RI (last visit 21.06.2021)
[15] https://www.cnbc.com/2021/04/08/ecb-might-start-to-reduce-bond-buying-in-q3-austrian-governor-says.html (last visit 21.06.2021)
[16] https://www.bloomberg.com/news/articles/2021-06-11/ecb-officials-warn-of-inflation-risk-despite-extending-stimulus (last visit 29.06.2021)

				"If inflation crosses 3% -- which is were we already are in Austria and elsewhere – that would probably mean a rethink of the strategy"			program. He underlines inflation.
Mario Centeno	Portugal	Gouvernor	Dove	"All analyses in the euro area, the U.S. and other jurisdictions indicate that the phenomena associated with inflation are of a temporary nature"; "[Support measures are expected to be in place] at least until June 2022"	Reuters article[17]	21st of June	Does not perceive inflation as a significant threat, contrast to other council members like Robert Holzmann
Bostjan Vasle	Slovenia	Gouvernor	-	-	-	-	Insufficient information
Peter Kazimir	Slovakia	Gouvernor	Hawk	"Yields are rising, but they're rising from low levels", "We're watching it, and we will continue watching it closely, but I personally don't see it as anything dramatic for now"	Reuters article[18]	17th of March	Does not worry too much about increasing interest rate levels, implies that the ECB should not expand its program. Was said during a pandemic phase where many countries were hit by the 2nd/3rd wave.
Olli Rehn	Finland	Gouvernor	Neutral	"It is likely that as some point, my assumption is September, we will discuss the way forward, but as said, it's now important to be rather safe than sorry," "Now it is essential that we ensure favourable financing conditions, which implies we need to continue with the significant purchases under PEPP as we agreed last week,"	Reuters article[19]	15th of June	

[17] https://www.reuters.com/business/ecbs-centeno-says-euro-zone-inflation-rise-is-temporary-sees-no-permanent-2021-06-21/ (last visit 21.06.2021)
[18] https://www.reuters.com/article/uk-ecb-policy-kazimir-idUKKBN2B90YI (last visit 21.06.2021)
[19] https://www.reuters.com/article/ecb-policy-rehn/update-1-ecb-could-discuss-transition-away-from-emergency-bond-buys-in-september-rehn-idUSL2N2NX0KT (last visit 22.06.2021)

Christine Lagarde	France	President	Dove	"It is far too early to debate these issues [reducing PEPP] " "I am not suggesting that the pandemic emergency purchase programme (PEPP) is going to stop on 31 March,"	Politico interview[20] Reuters article[21]	14th of June	Other council members are talking for months on reducing or exiting the PEPP. Despite recovery trend, she underlines the potential continuation of the program beyond March 2022, if necessary
Luis de Guindos	Spain	Vice-President	Neutral	"It will be crucial that these measures are withdrawn gradually and with a great deal of prudence after the crisis. Otherwise we run the risk of choking the recovery," "Prolonging emergency measures for too long may run the risk of moral hazard as well as the zombification of parts of the European economy," "My personal view is that we should err on the side of prudence. It is much better to be prudent than be a little too aggressive in terms of phasing out the support measures."	Reuters article[22][23]	3rd of May, 19th of May	Hawks were discussing phasing out of the PEPP, but he warns about exiting too fast. At the same time, he mentions the risks of prolonging the emergency measures for too long.
Phillip R. Lane	Ireland	Executive board	Dove	"It's unnecessary and premature to talk about these issues [end of PEPP]"	Bloomberg interview[24]	17th of June	
Fabio Panetta	Italy	Executive board	Dove	"The conditions that we see today do not justify reducing the pace of purchases, and a discussion about phasing out the PEPP (Pandemic Emergency Purchase Programme) is still clearly premature,";	Reuters article[25]	26th of May	

[20] https://www.ecb.europa.eu/press/inter/date/2021/html/ecb.in210614~f20f86797a.en.html (last visit 29.06.2021)
[21] https://www.reuters.com/world/europe/euro-zone-economy-right-path-too-early-debate-end-ecb-help-lagarde-2021-06-14/ (last visit 22.06.2021)
[22] https://www.reuters.com/article/us-ecb-policy-deguindos-idUSKBN2CK07E (last visit 22.06.2021)
[23] https://www.reuters.com/article/us-ecb-policy-decuindos-idUSKCN2D00UA (last visit 22.06.2021)
[24] https://www.bloomberg.com/news/videos/2021-06-17/ecb-s-lane-says-it-s-premature-to-talk-about-end-of-pepp-video (last visit 22.06.2021)
[25] https://www.reuters.com/article/us-ecb-policy-panetta-idUSKCN2D70I7 (last visit 22.06.2021)

				"In fact, we are now seeing a further undesirable increase in yields after the rise we observed earlier in the year,"			
Isabel Schnabel	Germany	Executive board	Neutral	"The recovery still depends on continued policy support. A premature withdrawal of either fiscal or monetary support would be a great mistake,"; "Rising yields are a natural development at a turning point in the recovery - investors become more optimistic, inflation expectations rise and, as a result, nominal yields go up,";	Reuters article[26]	28th of May	
Frank Elderson	Netherlands	Executive board	-	-	-	-	Insufficient information

[26] https://www.reuters.com/world/europe/europe-has-passed-turning-point-still-needs-ecb-support-schnabel-2021-05-28/ (last visit 22.06.2021)