

Massoc, Elsa Clara

Working Paper

How do Members of the European Parliament (MEPs) hold the European Central Bank (ECB) accountable? A descriptive quantitative analysis of three accountability forums (2014-2021)

LawFin Working Paper, No. 40

Provided in Cooperation with:

Center for Advanced Studies on the Foundations of Law and Finance (LawFin), Goethe University

Suggested Citation: Massoc, Elsa Clara (2022) : How do Members of the European Parliament (MEPs) hold the European Central Bank (ECB) accountable? A descriptive quantitative analysis of three accountability forums (2014-2021), LawFin Working Paper, No. 40, Goethe University, Center for Advanced Studies on the Foundations of Law and Finance (LawFin), Frankfurt a. M.

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LawFin Working Paper No. 40

How do Members of the European Parliament (MEPs) hold the European Central Bank (ECB) Accountable?

A descriptive quantitative analysis of three accountability forums (2014-2021)

Elsa C. Massoc

Elsa Clara Massoc
massoc@lawfin-uni-frankfurt.de

**How do Members of the European Parliament (MEPs) hold the
European Central Bank (ECB) Accountable?
A descriptive quantitative analysis of three accountability forums
(2014-2021)**

Abstract: The ECB is independent, but it is also accountable to the European parliament (EP). Yet, how the EP has held the ECB accountable has largely been overlooked. This paper starts addressing this gap by providing descriptive statistics of three accountability modalities. The paper highlights three findings. First, topics of accountability have changed. Climate-related accountability has increased quickly and dramatically since 2017. Second, if the relationship between price stability and climate change remains an object of conflict among MEPs, a majority within the EP has emerged to put pressure for the ECB to take a more active stance against climate change, precisely on behalf of its price stability mandate. Third, MEPs engage with the climate topic in very specific ways. There is a gender divide between the climate and the price stability topics. Women engage more actively with climate-related topics. While the Greens heavily dominate the climate topic, parties from the Right dominate the topic of Price stability. Finally, MEPs adopt a more united strategy and a particularly low confrontational tone in their climate-related interventions.

Key words: accountability; European Central Bank; European Parliament; climate; price stability

This project was funded by Positive Money Europe, a not-for-profit research and advocacy organisation focusing on banking and monetary policy and by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) – project FOR 2774.

INTRODUCTION

Ever since its inception in the late-1990s, the ECB has been considered the most independent central bank in the developed world (Goodhart 1998). The highly politically salient issue of the relationship between ECB's primary mandate and its other potential roles (including fighting climate change) is thus often examined from the perspective of central bankers themselves in the academic literature. A trend in the literature explores what central banks do on the issue of sustainable finance and whether this is covered by their mandates (Dikau & Volz, 2021; Steffen, 2021). A second trend underlines organizational factors within central banks to account for how central bankers manage tensions between different or antagonistic objectives (Siderius, forthcoming). A last trend proposes a legal and ethical critique of the foundations of ECB's independence and its focus on price stability in the context of the threat to humanity that climate change is (Schoenmaker, 2021; van 't Klooster & Fontan, 2020).

There are however only few attempts to keep track of how politicians have held the ECB accountable. When there are, accountability is often mainly perceived as enabling elected representatives to form a judgement on the central bank's justifications for its policy actions (Braun 2017). Accordingly, most studies have been focusing on central bankers' communications, with a specific focus on their level of transparency and specification (see for example Waller 2011; Masciandro and Quintyn 2008; Moschella et al 2020). However, politicians' holding the ECB accountable can also be seen as a more active, politically charged practice, where MEPs direct their questions and interventions strategically in order to shape the engagement of the ECB regarding different topics accordingly to their own political preferences and priorities. Yet, the politicians' side of the accountability relationship between the ECB and the EP has been largely overlooked in the literature (but see Collignon and Diessner 2016; Ferrara et al. 2021).

In this paper, I contribute to this endeavor in two ways. First, I have constructed datasets compiling data of the communications between the European Parliament and the ECB between 2014 and 2021 across three different accountability forums: the monetary dialogues, the written questions, and the EP resolutions on ECB's annual reports (which include the resolution debates, the resolution amendments and the resolutions themselves). Most existing studies have focused on the monetary dialogues (Ferrara et al. 2021; Chang and Hodson 2019; Fraccaroli et al. 2022) and the other accountability forums have been overlooked. Access to data from

different accountability forums will allow scholars to base their analysis on more exhaustive data as well as to compare how EP-ECB communications work across different settings.

Second, building on a quantitative and qualitative text analysis of these datasets, this paper seeks to answer three questions:

- 1) On which topics have MEPs held the ECB accountable, with a focus on price stability and climate change, and how does that vary over time?
- 2) What are the characteristics of the MEPs engaging with the ECB in terms of their gender, party group and country of origin – and does that vary across topics?

The paper highlights several findings. First, most topics of accountability have remained relatively stable over the period of time 2014-2021, but the climate-related accountability has increased quickly and dramatically since 2017, across all the accountability forums. Concern over price stability, after remaining stable or even decreasing at the beginning of the period, increased again in 2020 and 2021.

Second, MEPs engage in the climate topics in very specific ways across the accountability forums. There is a clear gender and party divide in how MEPs engage with the topics of climate and price stability. In a highly male-dominated context, women engage more actively with climate-related topics. Majority parties from the Right and the Left (the European People Party (PPE) and the Socio-Democratic Party (S&D)) are mostly consistent across all topics of accountability, while the Greens heavily dominate the climate topic and the parties from the Right dominate the topic of Price stability. Finally, MEPs engage in a more united and less confrontational tone with the ECB when it comes to their climate-related interventions. In the accountability forums where that is possible (like the written questions or the proposal of amendments), MEPs team up with colleagues from different parties and different countries more often. MEPs also adopt a surprisingly non-confrontational tone in their climate-related interventions compared to the other topics of accountability.

The paper is organized as follows. First, it provides some background information about the three accountability forums under study as well as the descriptive statistics of the corresponding datasets. Second, the paper provides descriptive statistics about the characteristics of MEPs engaging with the ECB across different accountability forums. Third, it examines the evolution of seven topics on which the MEPs hold the ECB accountable between 2014 and 2021, with a focus on the topic of climate and price stability. Fourth, it

examines how MEPs engage with these topics depending on their gender, party group, country and tone. The last section synthesizes the findings and discusses further paths of research.

PART 1: ACCOUNTABILITY FORUMS AND ORIGINAL DATASETS

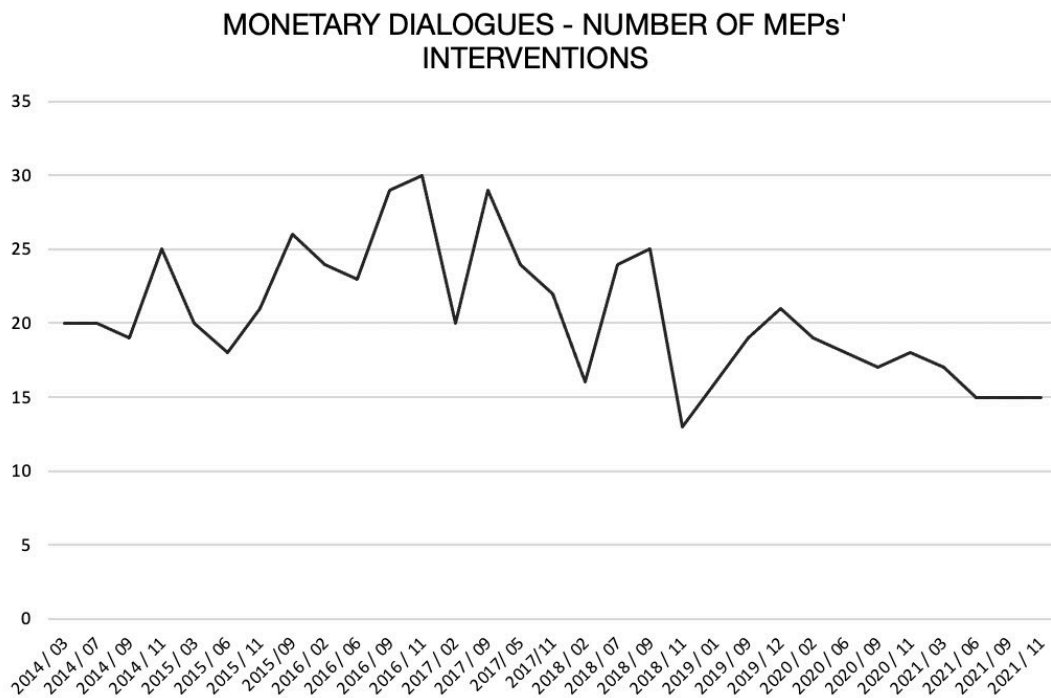
The accountability structures of the ECB have been shaped by the active initiative of MEPs and the responsiveness of the ECB to their demands rather than by formally laid out requirements (Jourdan and Diessner, 2019). This situation – along with the extended powers and responsibilities taken on by the ECB during the last decade, explains why the ECB accountability’s workings, as well as its objectives, remain subject to heated debates among academics and experts (Buitter 2006; Sibert 2010; Claeys et al 2014; Braun 2017; Diessner 2018). The most well-known accountability forum remains the monetary dialogues, but other forums are available for the MEPs to hold the ECB accountable. This section presents three different accountability forums: the monetary dialogues, the written questions and the resolutions (which include the resolution debates, the amendments and the resolutions themselves), as well as the three corresponding datasets.

The monetary dialogues

The monetary dialogue takes place every three months. The ECB president, occasionally another member of the executive board, reports on monetary policies and answer questions of the MEPs from the Economic and Monetary Committee. Monetary dialogues have been the focus of most academic and expert attention. The form of accountability exercised in the monetary dialogue – and its effectiveness, has been much debated (Jabko, 2000; Jourdan and Diessner 2019; Amttenbrink and van Duin, 2009; Braun, 2017; Claeys et al., 2014; Gros, 2004). The statements and answers of the ECB in this setting have also been scrutinized (Collignon and Diessner 2016; Fraccaroli et al. 2018; 2020; 2021; Ferrara et al. 2021). However, how the MEPs themselves have used this forum has remained largely overlooked by the literature (but see Ferrara et al. 2021).

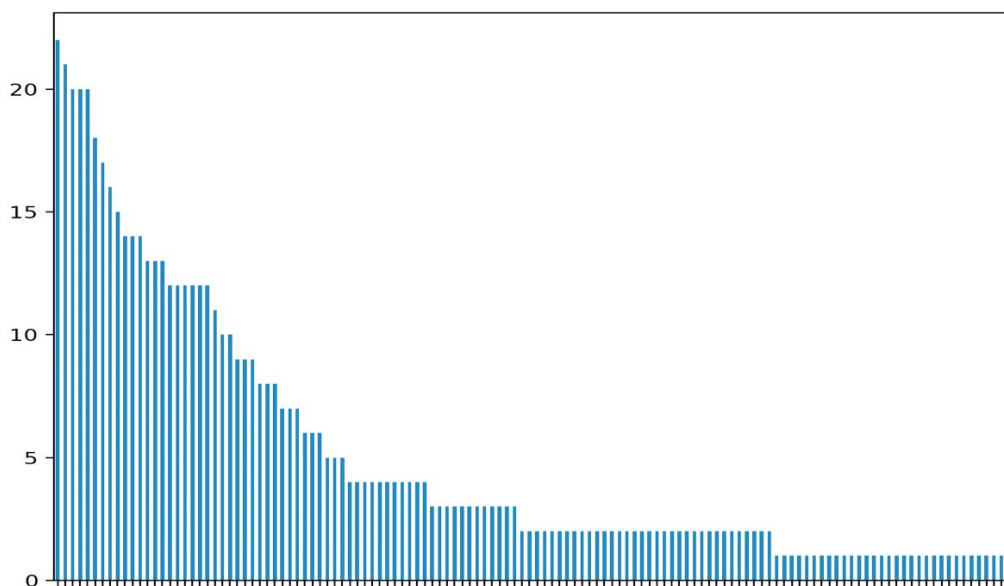
The dataset constructed for this study comprises 638 interventions by MEPs (and the corresponding answers by the ECB president) between 2014 and 2021. Figure 1 pictures the number of interventions by MEPs in each parliamentary hearing since 2014.

Figure 1: Number of MEPs’ interventions in the monetary dialogues (2014-2021)



128 different MEPs have participated in the monetary dialogues over the period under study. Five MEPs have taken the floor more than 20 times: Pervenche Berès (S&D), Notis Marias (ECR), Markus Ferber (PPE), Bernd Lucke (ECR) and Jonàs Fernández (S&D). 34 MEPs have taken the floor more than 5 times.

Figure 2: Distribution of MEPs by number of interventions in the monetary dialogues between 2014 and 2021



The written questions

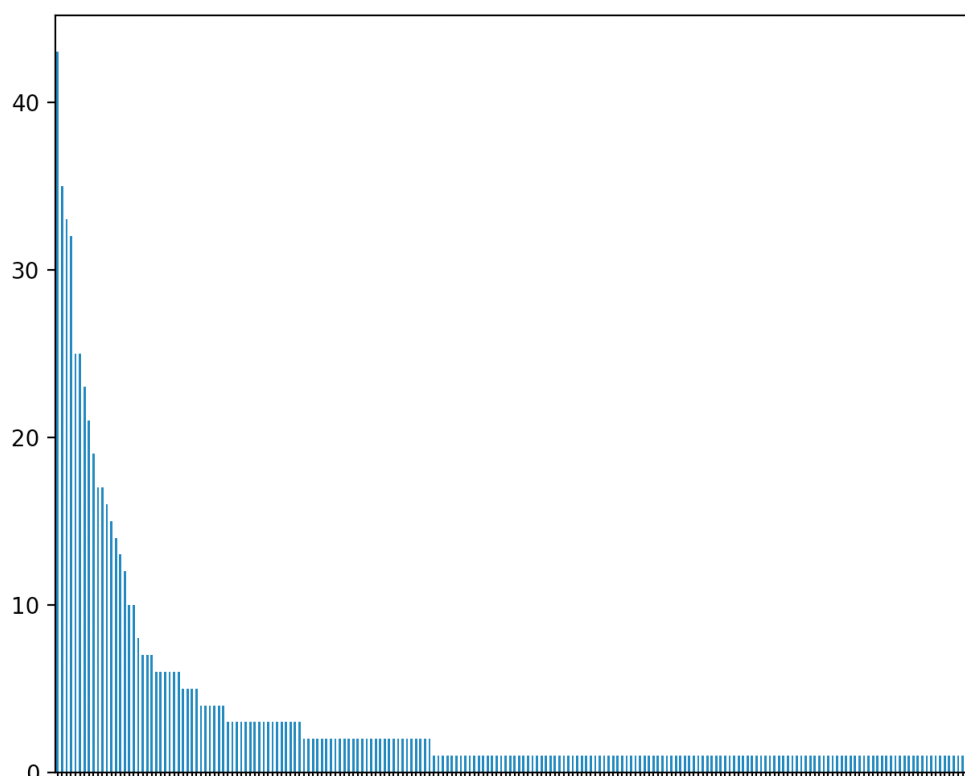
Any MEP may put a maximum of six questions per month for written answer to the ECB. If a question has not received a reply within six weeks, the MEP may, at the request of its author, be included on the agenda for the next parliamentary hearing of the ECB president. During all the period, I could find only one question that didn't receive a written answer from the ECB. The written questions have drawn much less academic attention than the monetary dialogues (but see Maricut-Akbik 2020).

Table 1: Number of written questions by year

	2014	2015	2016	2017	2018	2019	2020	2021	Total
Number of questions	61	175	121	111	80	54	76	42	720

206 different MEPs have asked at least one question between 2014 and 2021. However, as observable in Figure 3, a small number of MEPs are comparatively much more active than the others. 32 MEPs asked 5 or more questions over the whole period.

Figure 3: Distribution of MEPs by number of written questions between 2014 and 2021



Sven Giegold (43 questions), Fabio De Masi (35 questions), Luke Ming Flanagan (33 questions), Jonás Fernandez (32 questions) are the four MEPs who asked more than 30 questions over the whole period. Marco Zanni asked 19 questions individually and additional 25 questions along with Marco Valli.

Table 2: most active MEPs in the written questions to the ECB over the period 2014-2021

Name	Gender	Party Group	Country	Number of written questions
Sven Giegold	Male	Verts/ALE	Germany	43
Fabio De Masi	Male	GUE/NGL	Germany	35
Luke Ming Flanagan	Male	GUE/NGL	Ireland	33
Jonás Fernandez	Male	S&D	Spain	32
Marco Zanni	Male	ENF/ID	Italy	19 + 25 with Marco Valli

The resolutions

Every year, one of the ECB's Executive Board members present the ECB's annual report to the European Parliament at a public hearing. The EP's resolution is a feedback about this report. The resolutions result from the resolution debates and the amendments presented below. A resolution is adopted on behalf of the EP as a whole. By contrast with the other accountability forums presented here, it is thus representative of the majoritarian position within the EP institution (Chang and Hodson 2018). There is a missing year for resolution on the 2019 ECB report.

The resolution debates

In order to produce the EP resolution, the MEPs debate in plenary session, which is attended by one of the ECB's Executive Board members. To my knowledge, EP's resolutions haven't yet been studied in the literature.

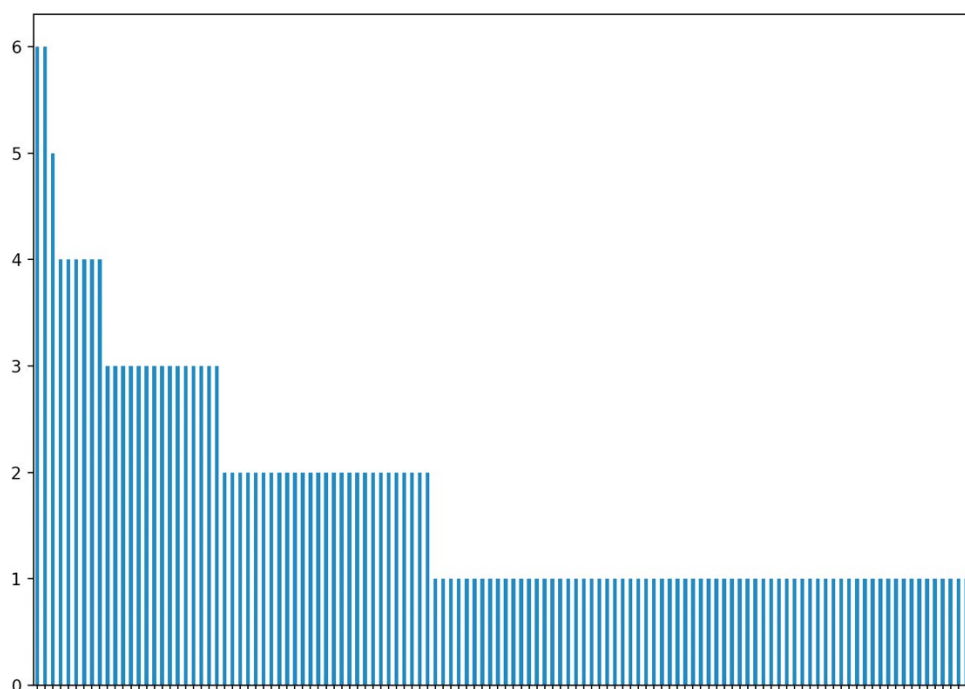
There have been 222 interventions by MEPs in the resolution debates between 2014 and 2021. The number of interventions in table 3 is reported on the year in which the ECB report was published (and not the year where the debates were held). Since there is a missing year for resolution on the 2019 ECB report, this year is also missing for the resolution debates and amendments.

Table 3: Number of interventions by year in the resolution debates

	2014	2015	2016	2017	2018	2020	Total
Number of interventions	46	48	41	26	35	26	222

121 MPs have taken part to the resolution debates during this period. By contrast with the written questions, the share of interventions is more balanced. As illustrated by Figure 4, only three MEPs have intervened more than five times. The vast majority of MEPs have spoken only once.

Figure 4: Distribution of MEPs by number of interventions in the Resolution debates between 2014 and 2021



The resolutions' amendments

Amendments are proposed by MEPs in preparation of the resolution on ECB's annual report. 106 MEPs have proposed amendments (either individually or in a team). Four MEPs proposed more than 100 amendments: Jonás Fernández, Dimitrios Papadimoulis, Jorg Meuthen, and Gunnar Beck. Nine other MEPs have proposed more than 50 amendments.

Table 4: Number of amendments by year

	2015	2016	2017	2018	2020	Total
Number of questions	245	248	475	283	321	1572

PART 2: HOW DO MEPs MAKE USE OF DIFFERENT ACCOUNTABILITY FORUMS?

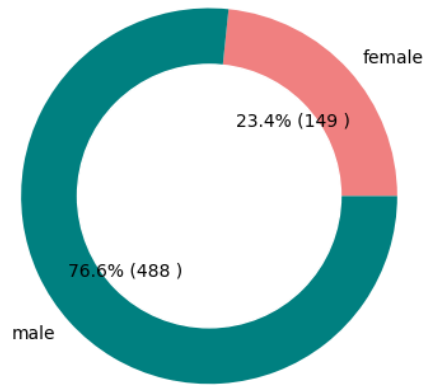
This section compares how MEPs engage with the ECB across the different accountability forums based on their gender, party group and nationality.

MEPs' engagement with the ECB by gender

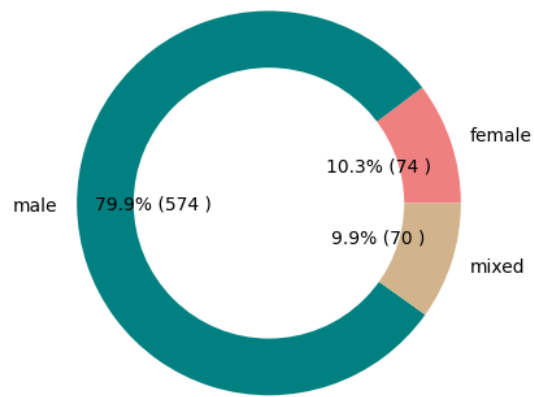
The communications between the EP and the ECB in the context of accountability settings are extremely male dominated. As pictured in Figure A, Male MEPs largely dominate the share of interventions across all the accountability forums. Female MEPs are most represented in the monetary dialogues, where they asked 23,4% of the questions between 2014 and 2021. In the two other accountability forums under study, the share of interventions by female MEPs is less than 20%. Female MEPs represented 36,4% of total MEPs at the European Parliament between 2014 and 2019, and they represent 39,3% of total MEPs in the current legislature. The engagement of female MEPs in the communications with the ECB is thus lower than their general representation at the EP. It is also lower than their representation within the Committee on Economic and Monetary Affairs itself, since female MEPs make up 26,2% of this committee.

Figure 5: Share of communications by MP's gender in different accountability forums

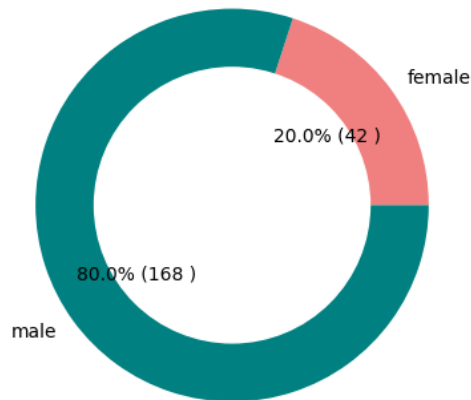
MONETARY DIALOGUES



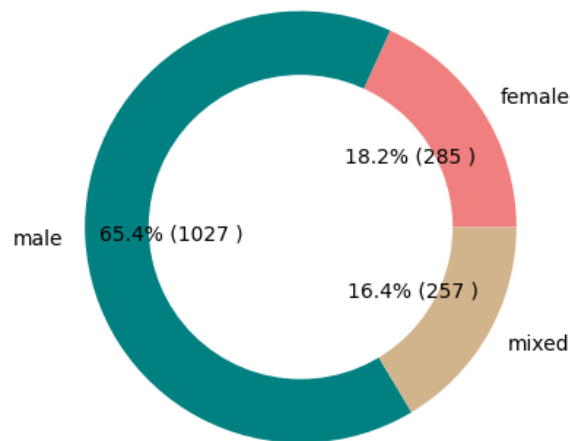
WRITTEN QUESTIONS



RESOLUTION DEBATES



AMENDMENTS

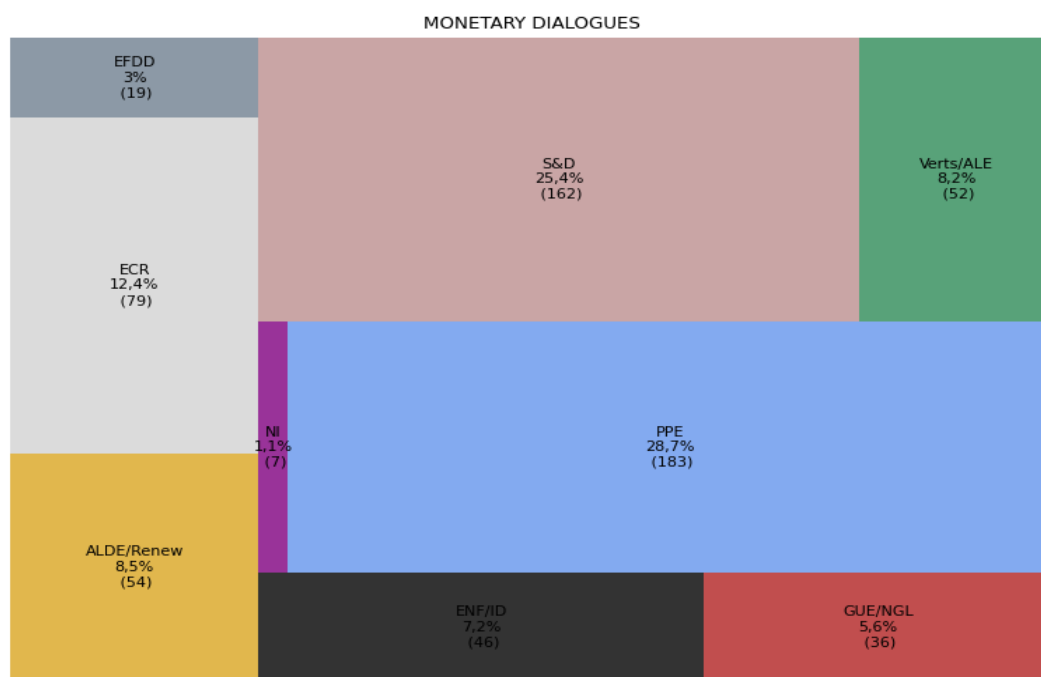


Engagement of MEPs by party group

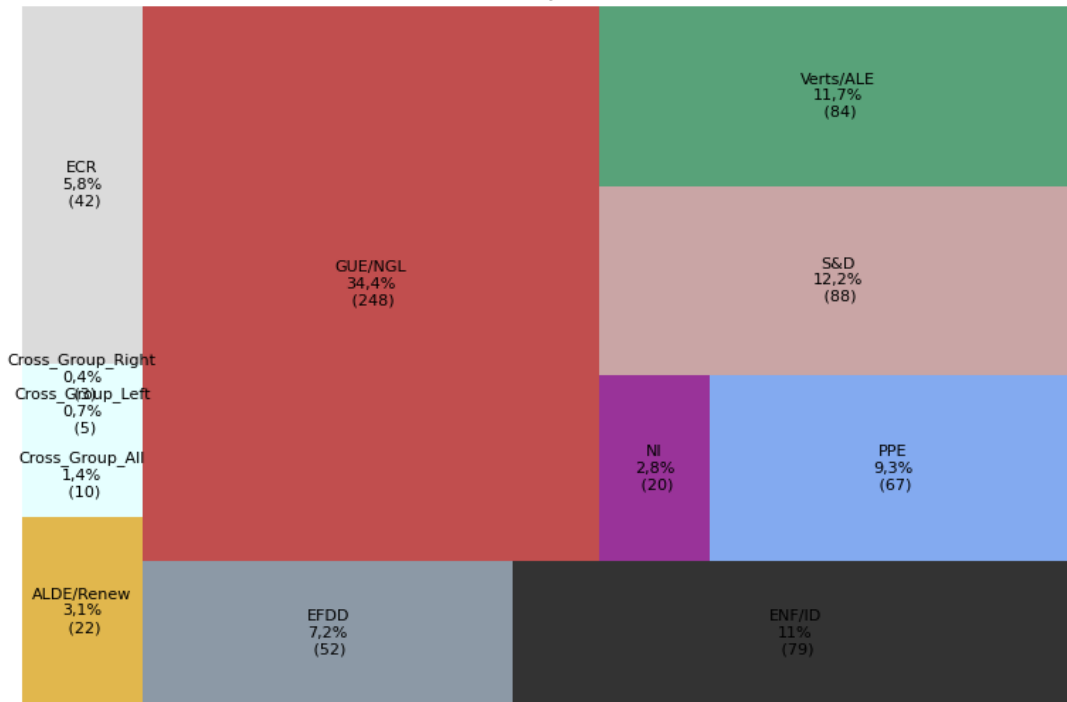
The party groups engage differently across different accountability forums. The Right is more active in the monetary dialogues and the resolution debates. There, the European People Party (PEE) dominates the number of interventions. It is not surprising given that in these forums, speaking opportunities are constrained by the number of seats of the MEP's party group. By contrast, written questions are not constrained by the number of seats of the MEP's group. They are heavily dominated by the Left, especially GUE/NGL, which asked 34,4% of the questions between 2014 and 2021, although it represents less than 7% of the share of the EP

seats over the two legislative periods. The PPE asked only 9,3% of the questions in this forum. This result suggests that Left parties are more active when they are given more leeway to hold the ECB accountable. More generally, smaller groups are proportionally more active in the written questions than in the monetary dialogues and the resolution debates. Figure B pictures the share of interventions by each party group in the monetary dialogues and the written questions.

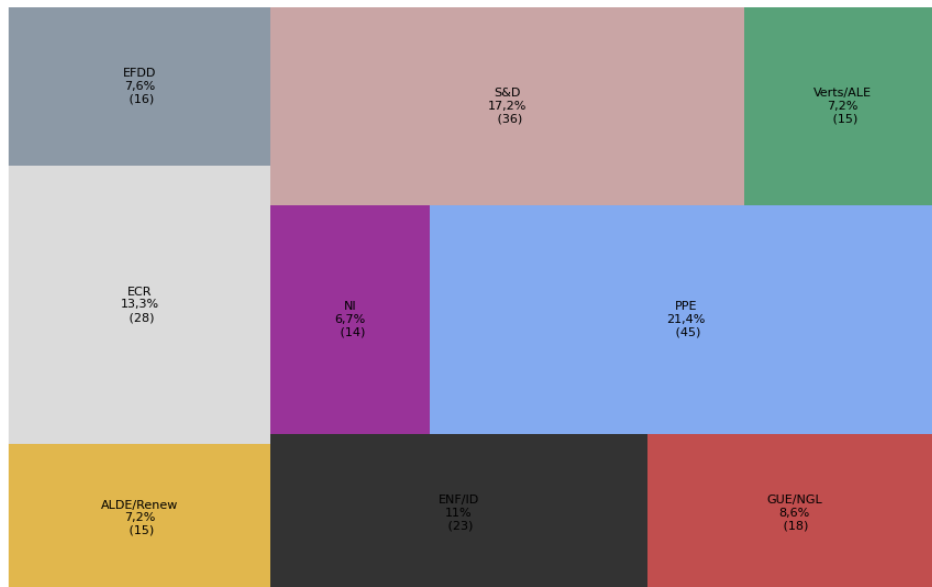
Figure 6: Interventions share by MEP’s party group across accountability forums (2014-2021)

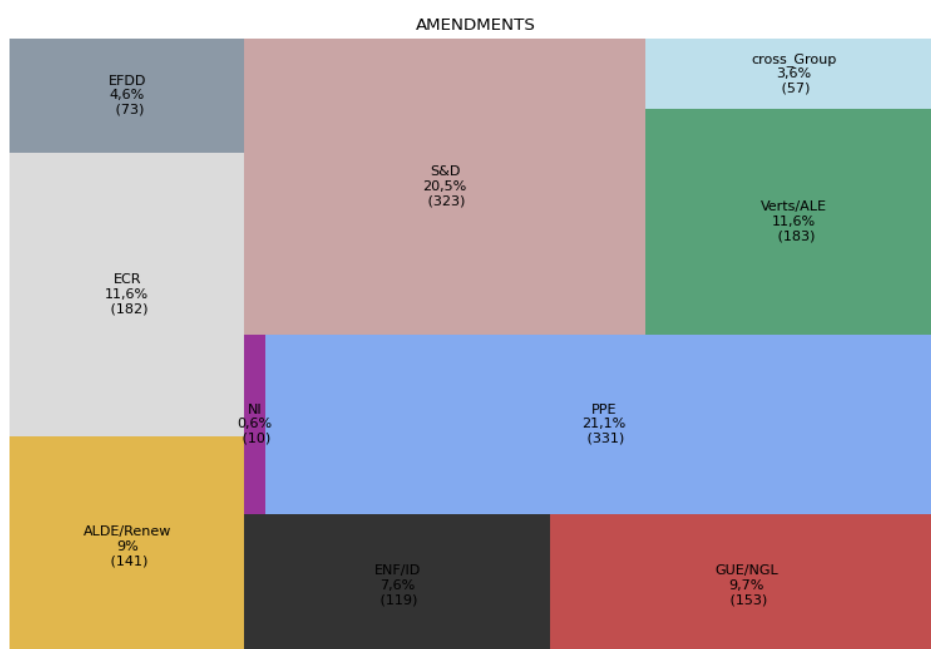


WRITTEN QUESTIONS



RESOLUTION DEBATES



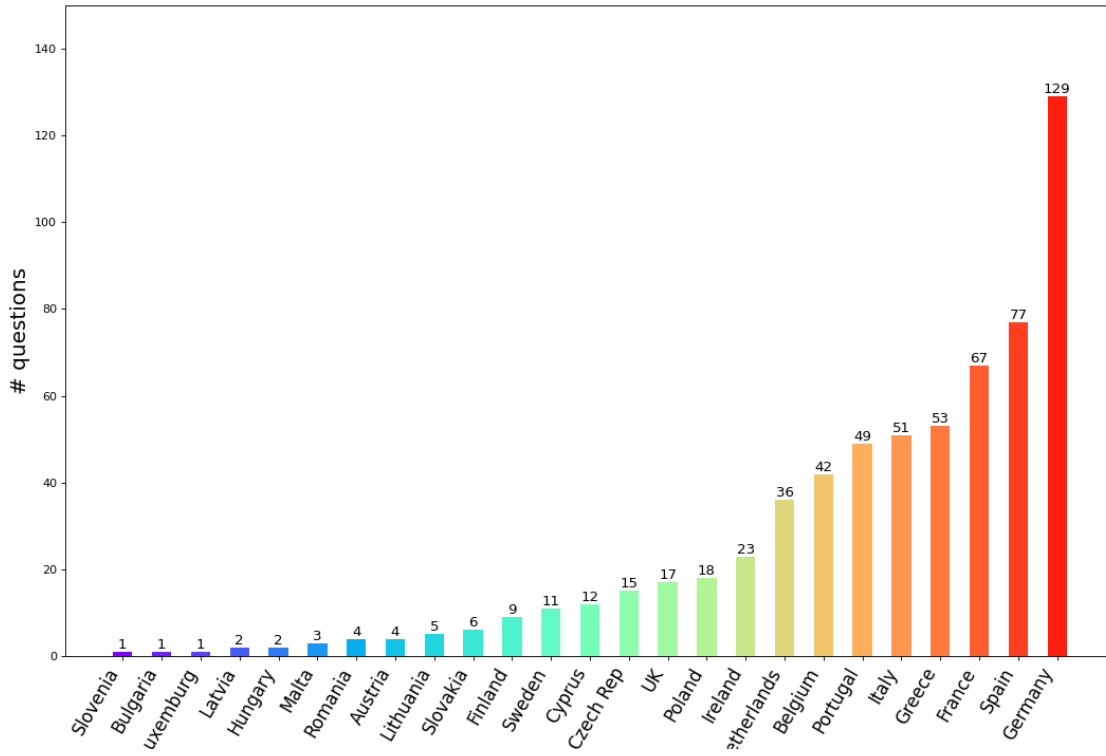


Engagement of MEPs by country

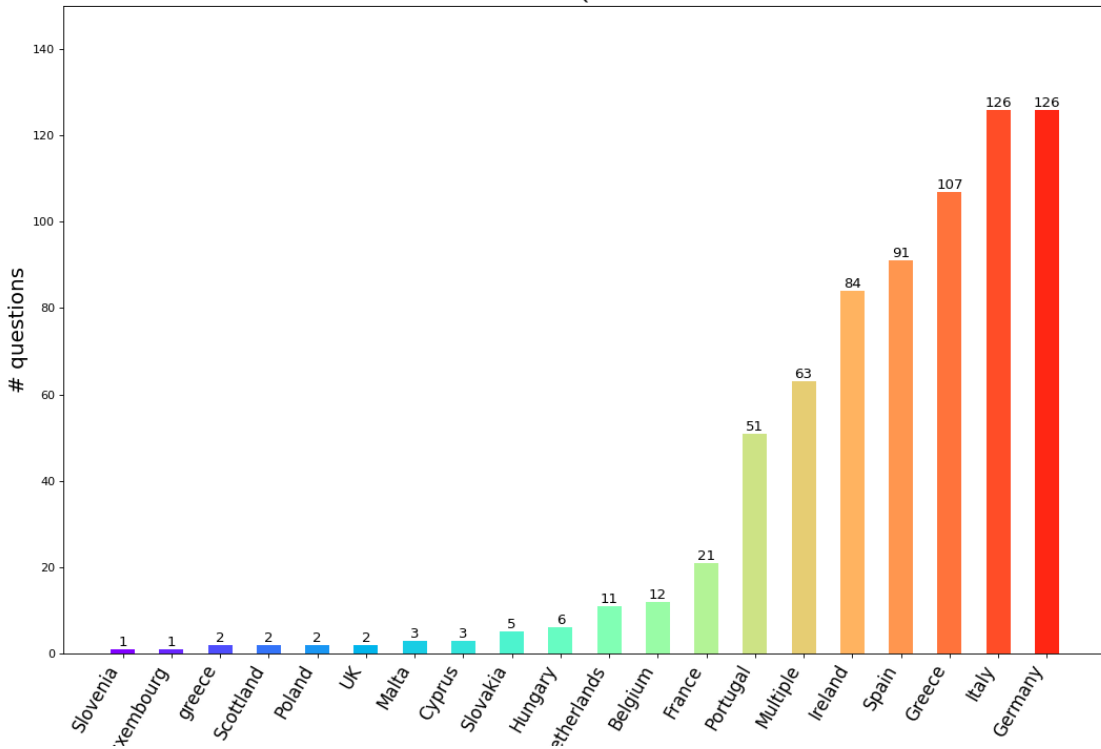
German MEPs are the ones who engage the more actively with the ECB. They dominate all the accountability forums. As illustrated in Figure C, their dominance is particularly striking in the monetary dialogues. MEPs from Spain, Greece and Italy are also quite active across all the accountability forums. This is especially true in the written questions, where the Italian MEPs asked as many questions as the German MEPs, and Greek MEPs asked only a bit less. These four nationalities are in the top five of the most represented countries in the three arenas under study. Note the surprisingly low engagement of French MEPs. French MEPs come 8th in the written questions. French MEPs are a bit more active in the monetary dialogues, when they come 3rd place after German and Spanish MEPs.

Figure 8: Share of communications by MP's country in different accountability arenas (2014-2021)

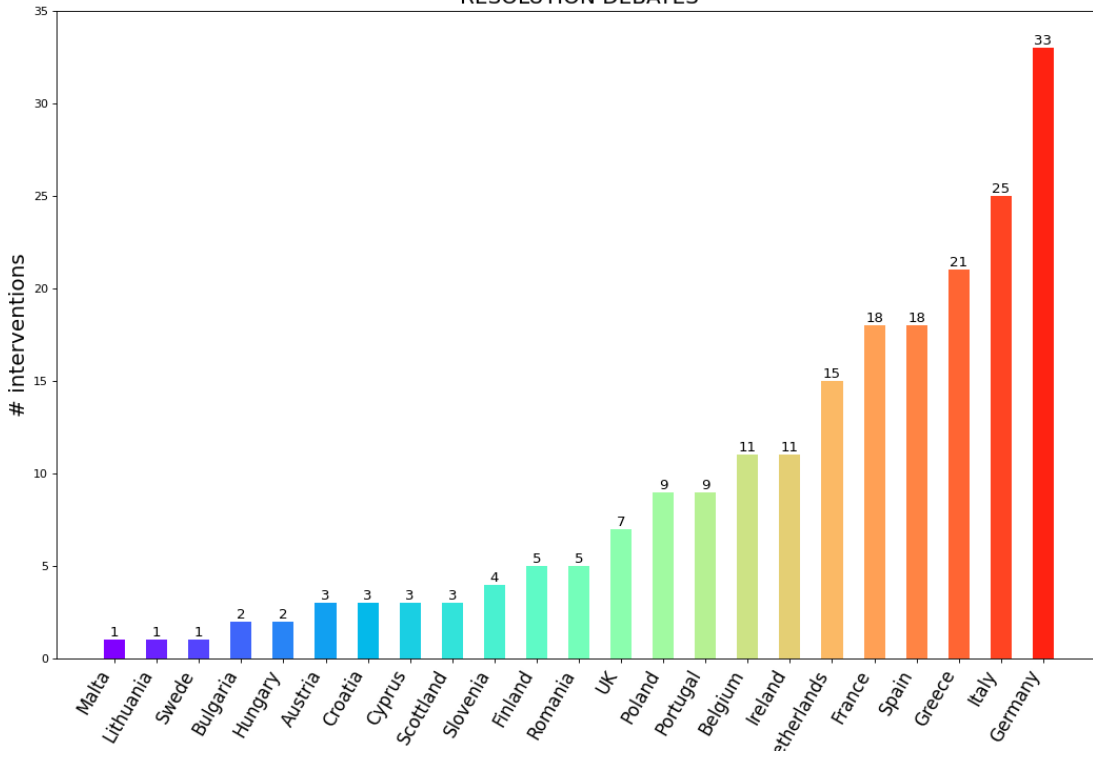
MONETARY DIALOGUES



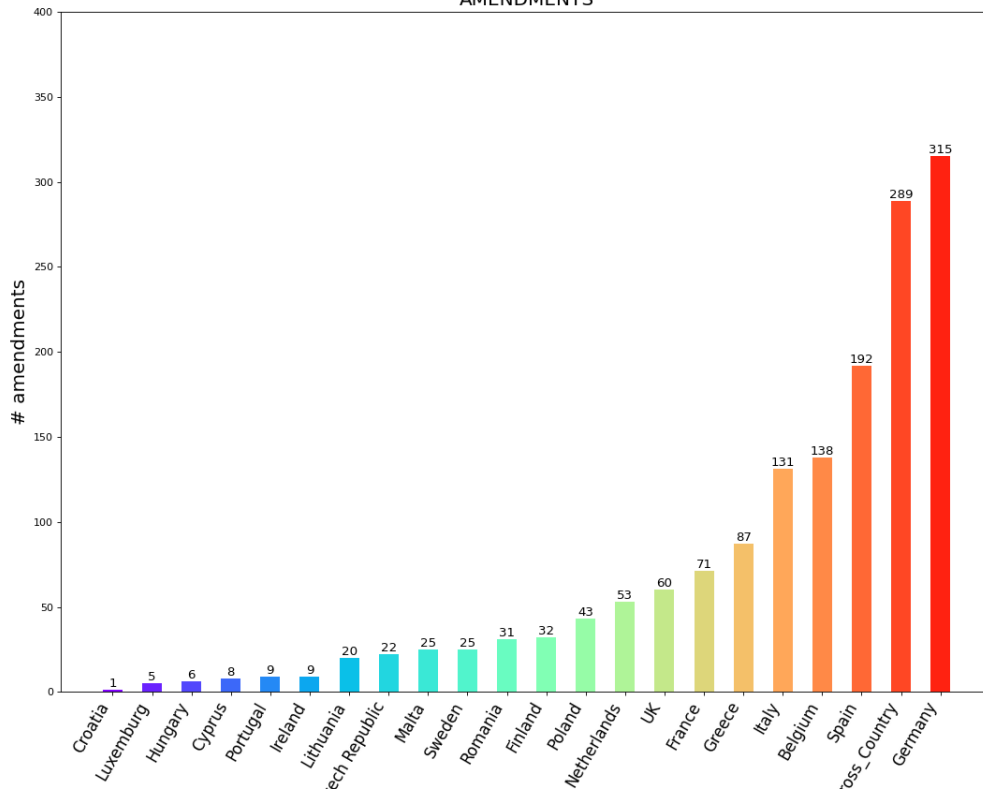
WRITTEN QUESTIONS



RESOLUTION DEBATES



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PART 3: EVOLUTION OF ACCOUNTABILITY TOPICS OVER TIME

Text analysis and dictionary techniques

In order to explore the topics on which the MEPs hold the ECB accountable, I use computer-assisted text analysis of MEPs' interventions in the monetary dialogues, the written questions and the resolution debates. Most transcripts retrieved from the ECB and EP websites are available in English across the three accountability forums. Some interventions in the resolution debates and very few statements in the monetary dialogues were in other languages. I translated the non-English text to English using Google Translate. This is motivated by De Vries et al. (2018) who, by comparing different translating methodologies on the corpus of debates in the European Parliament, find that Google Translate performs well for text analysis models based on bag-of-words. Then, I preprocessed the text in each intervention. This implied tokenising the text, i.e. splitting raw character strings into individual elements, removing English stopwords (e.g. 'the', 'for', 'and'), numbers, punctuation and white spaces. Text preprocessing is a common method in text analysis to reduce the data dimensionality, which is beneficial for both computation and interpretability (Gentzkow et al., 2019).

I used dictionary techniques to capture the focus of the ECB on specific topics. Other text analysis methods have been used in the literature to study MEPs' speeches, such as Structural Topic Model (STM), which establishes the presence of relevant word clusters to identify topics. Here, I prefer the dictionary techniques for two reasons. First, politically important topics in the communications between the EP and the ECB have already been identified in the literature. Both dictionaries and STM approaches arrive to similar lists of topics (Fraccaroli et al. 2020; Ferrerra et al. 2021). Second, it is important for this analysis to take into account the evolution of climate-related interventions. However, climate-related interventions have increased dramatically but very recently. They still represent a small number of interventions compared to the total number of interventions. For that reason, the climate topic is not identified by STM techniques (Ferrerra et al. 2021).

To identify whether the ECB discusses a topic, I relied on a list of terms related to that issue and inspect how frequently those terms feature in the interventions of the MEPs. I apply the same procedure for each topic selected. I look at seven topics that the MEPs are likely to discuss: price stability, financial stability, social affairs, EMU governance, international developments, payment issues and the climate. Appendix B provides the full list of terms

selected to capture each topic. I created the list for the climate topic and used Fraccaroli et al. (2021)'s list of keywords for the other topics.

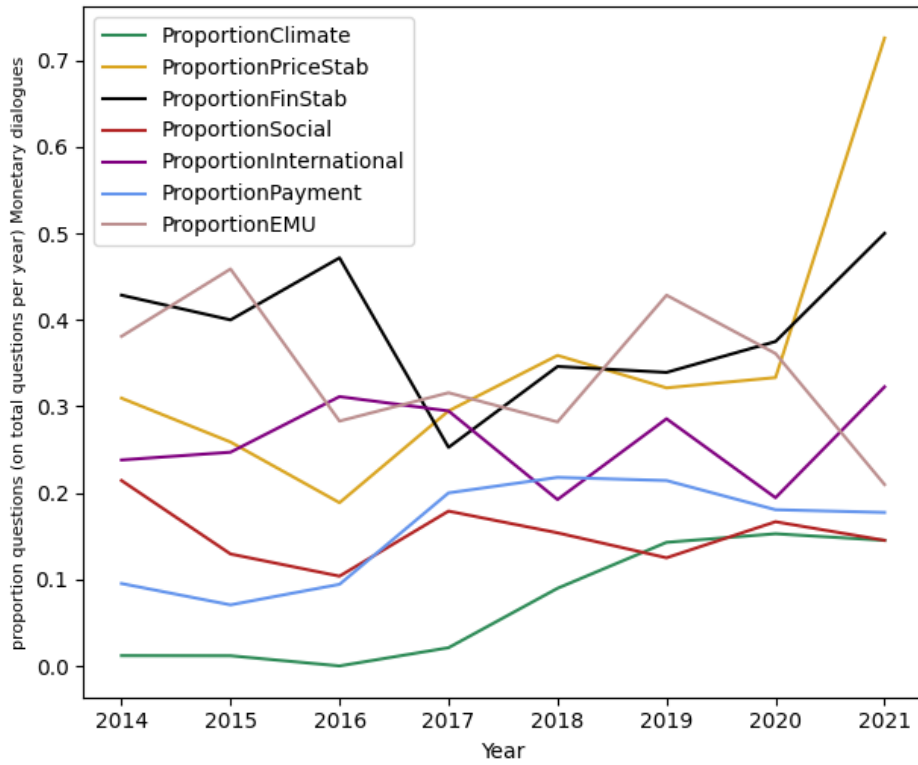
Evolution of topics between 2014 and 2021 across accountability forums

Figure 5 shows the proportion of MEPs' interventions that pertain to the topics under study with regard to the total number of interventions in a given year across the different accountability forums. For example, we can see that in 2014, a little bit over 30% of the interventions in the monetary dialogues pertained to price stability. The same year, a little bit over 25% of the written questions pertained to price stability and more than 50% of the interventions pertained to this topic in the resolution debates. In coherence with Ferrara et al 2020, Figure 5 confirms that European politicians also attempt to keep the central bank accountable for a broader set of issues that are distinct from the central bank's primary goal (Ferrara et al 2021). Note that in this analysis, one intervention can pertain to several topics.

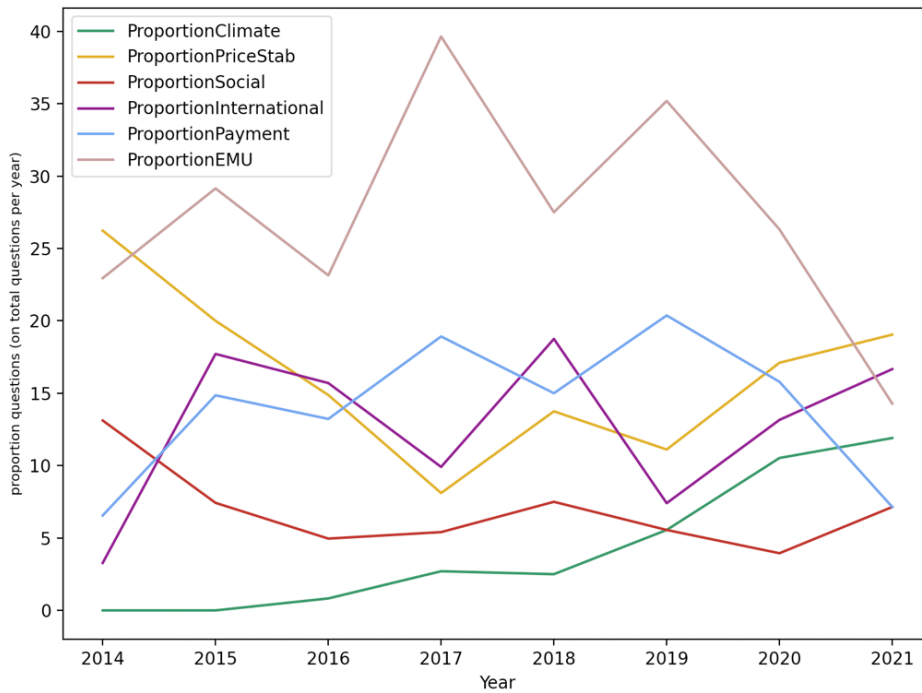
Figure 5 shows that over the period, interventions pertaining to payment, international matters and employment-related issues remained more or less stable across the three accountability forums. By contrast, climate-related interventions, which were completely inexistent at the beginning of the period, increased quickly and dramatically starting in 2017. Towards the end of the period, climate-related interventions represented more than 10% of the interventions in the monetary dialogues and the written questions, and more than 40% in the resolution debates. The more important proportion of climate-related interventions in the resolution debates is due to the contested nature of the theme among MEPs themselves – since the resolution represents the position of the EP as a whole, and not the position of specific MEPs. Accordingly, the price stability topic – a related point of political conflict - is also particularly prominent in the resolution debates. Across all the accountability forums, the price stability topic was decreasing or stable at the beginning of the period until 2018-2019. Since then, the topic has become more prominent again. Its increase is particularly dramatic in the monetary dialogues. The co-evolution of the two topics suggests that the rise of climate-related concern among MEPs is matched by a concern about price stability and about ECB's abidance to its primary mandate.

Figure 9: share of interventions by topic per year (one intervention can be classified as belonging to different topics)

MONETARY DIALOGUES

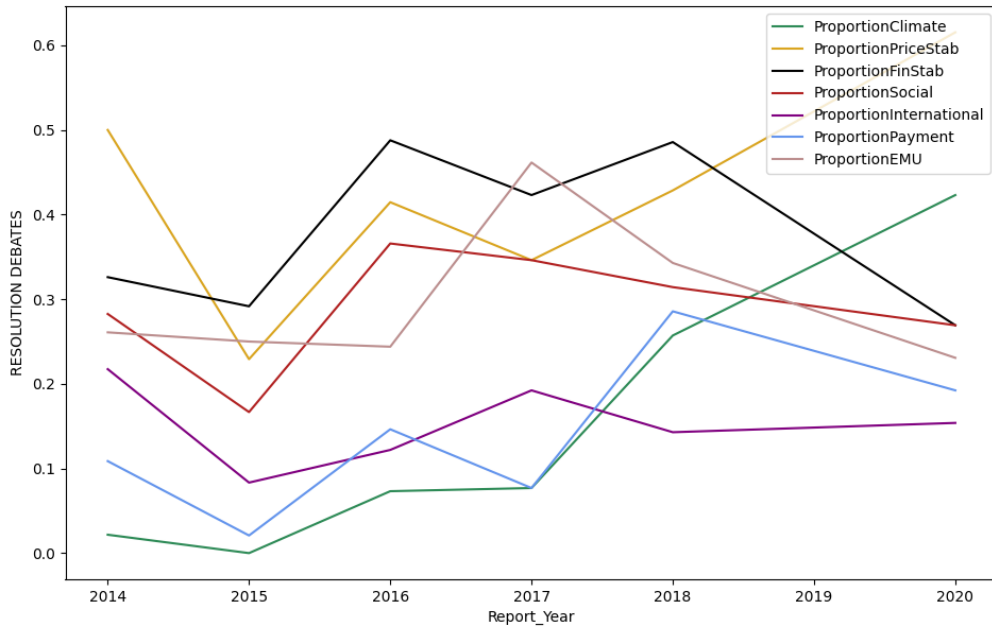


WRITTEN QUESTIONS

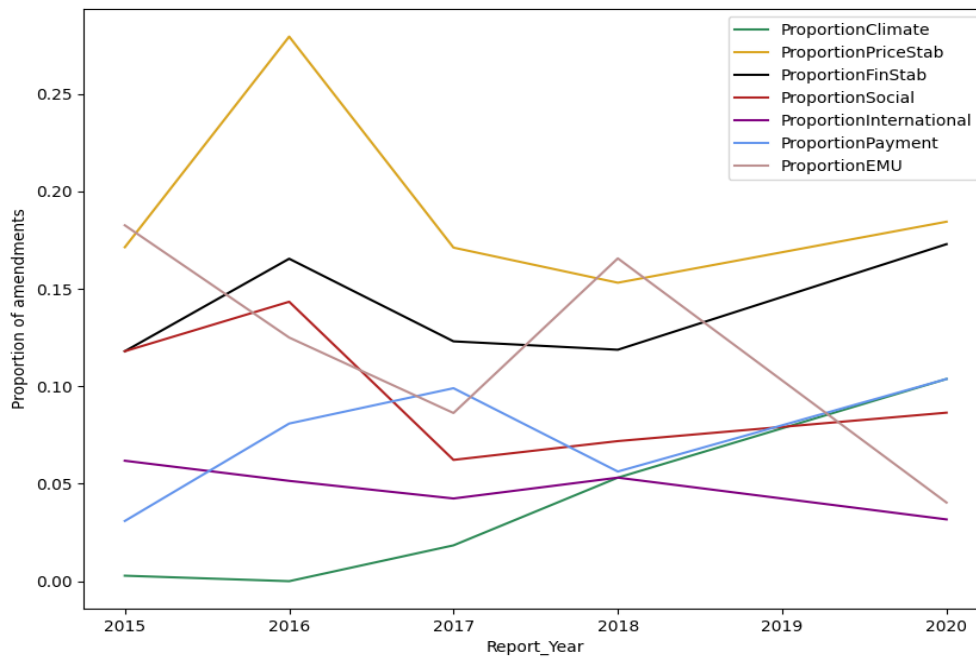


NB: the Financial Stability topic is not represented in the Written questions graph. The topic represents a very large part of the written questions and made the overall presentation less readable.

RESOLUTION DEBATES



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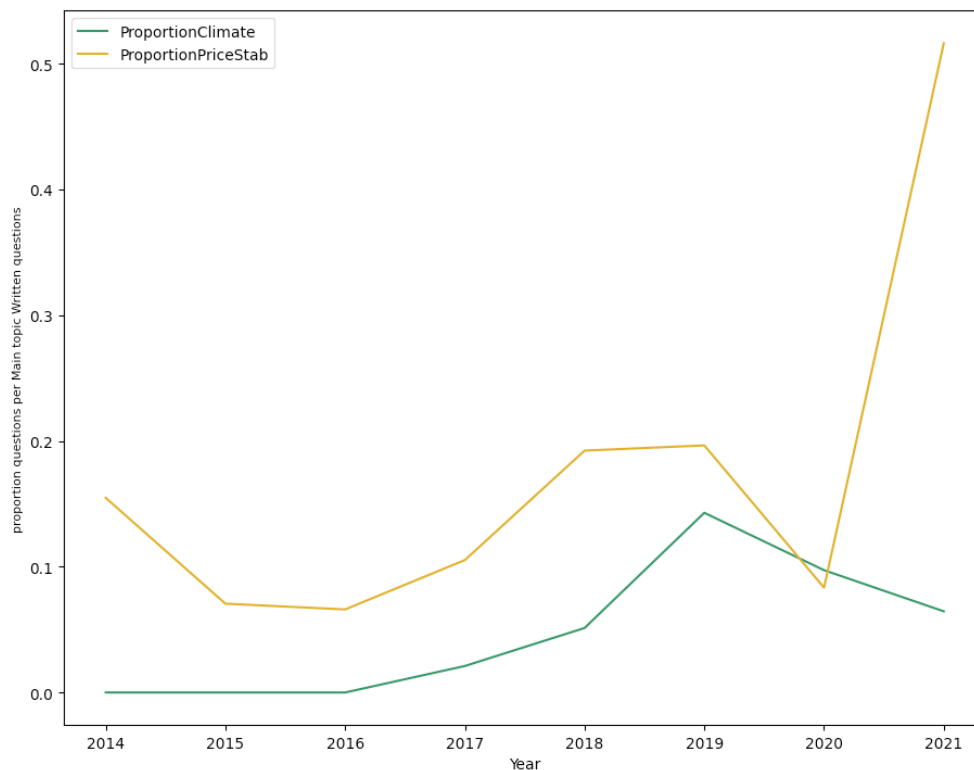


These findings can be refined if we look at the main topic represented in each MEPs' interventions. Here, MEPs' interventions are allocated to one topic only, depending on the highest occurrence of words relating to the topics in a given intervention. For example, an intervention where climate-related words appear 3 times, but price-stability words appear 5

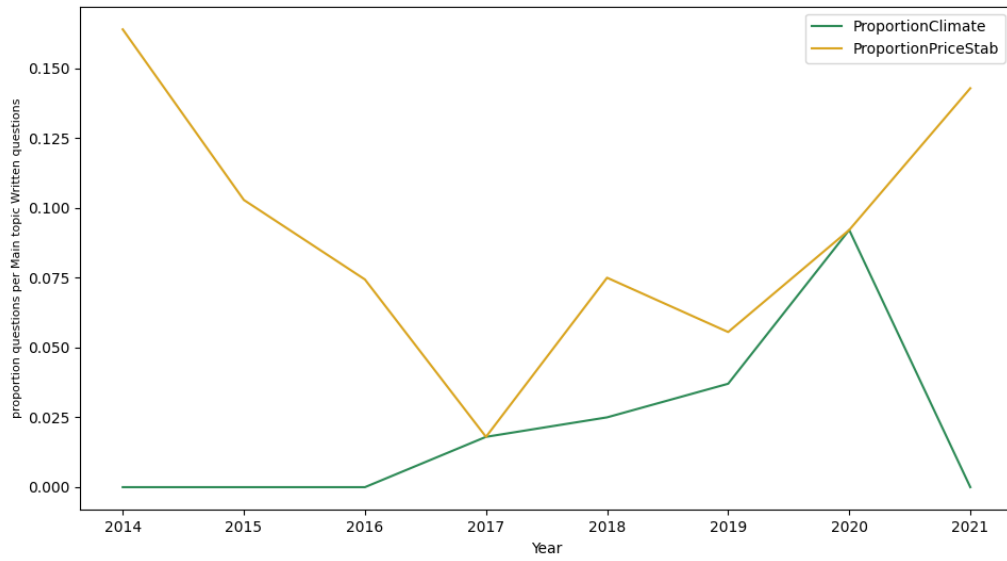
times, will be allocated to the topic “price stability” only. We assume that in such intervention, the main concern is with price stability, not climate, because the MEP uses price-stability related words more often than climate-related words in their intervention. Using this method, the evolution of topics remains coherent with the observations made above. However, we see that towards the end of the period, the increase becomes much more significant for price-stability related interventions than for climate related interventions. Figure 6 illustrates this trend. In 2017, when MEPs started making interventions concerned primarily with climate, interventions concerned primarily with price stability also started to increase. In 2018, 2019, 2020, both types of interventions increased. In 2021, the interventions mainly concerned with climate dropped, while the interventions mainly concerned with price stability continued to increase.

Figure 10: Evolutions of share of interventions that have “price stability” or “climate” as their main topic

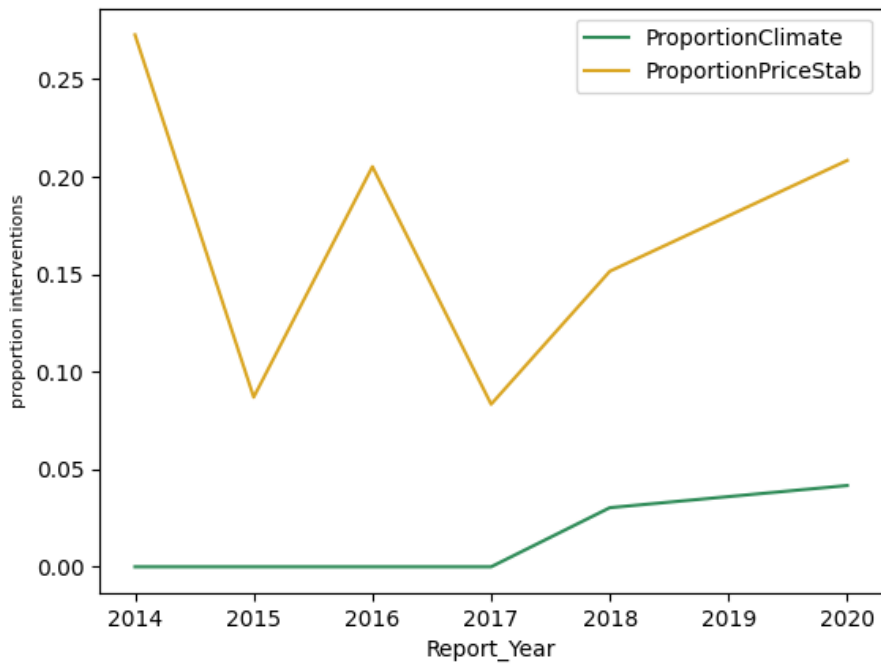
MONETARY DIALOGUES



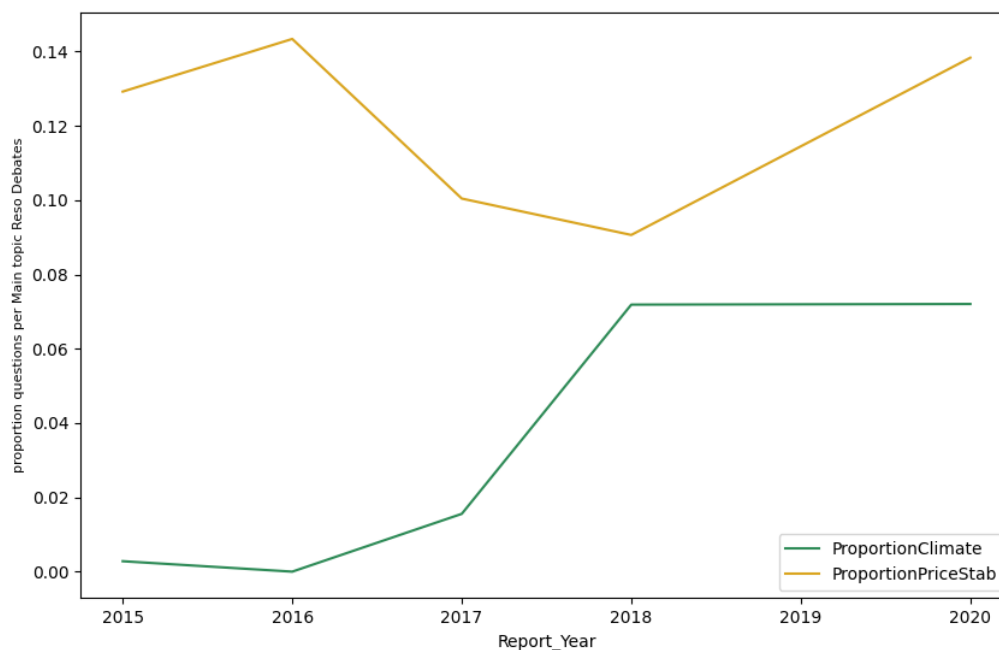
WRITTEN QUESTIONS



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The climate topic's decrease doesn't show when we look at interventions concerned with climate, but not necessarily primarily, as shown above in Figure 5. This suggests that towards the end of period, climate-related interventions became also, or even mainly, concerned with price stability.

PART 4: CLIMATE VERSUS PRICE STABILITYYY: A GENDER AND PARTY GROUP DIVIDE

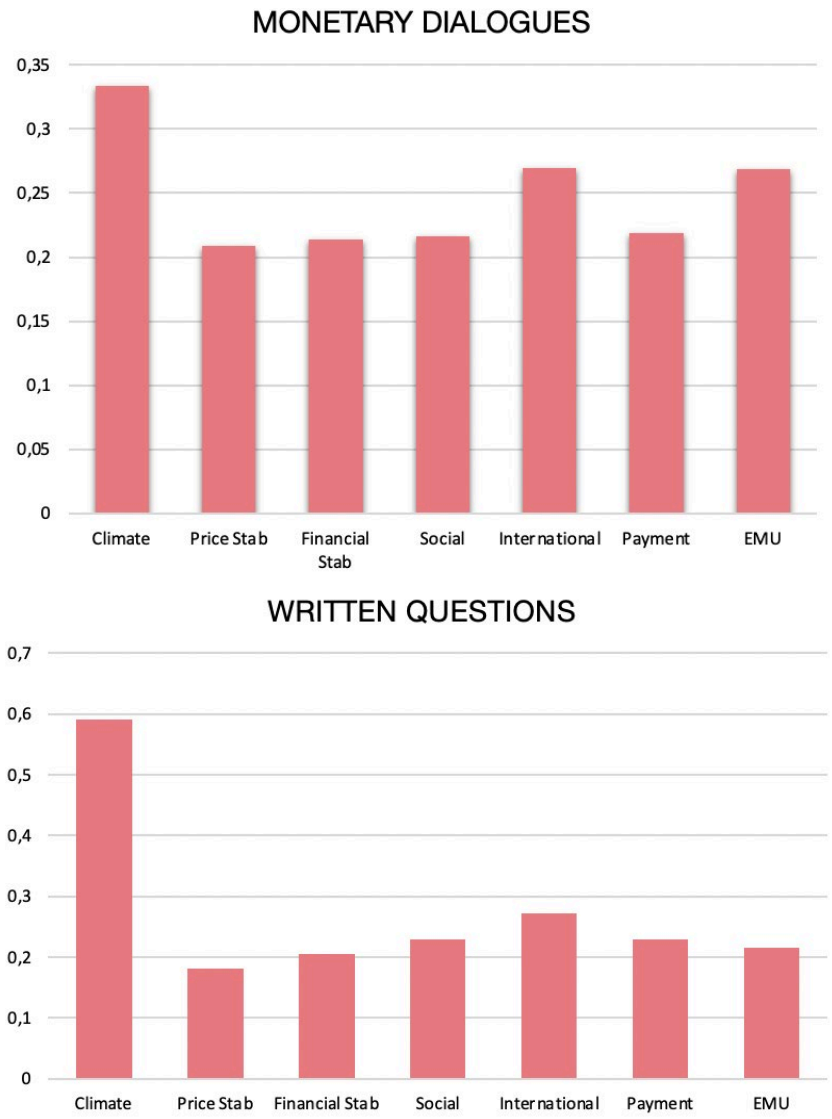
This section describes how MEPs engage with the two specific topics of climate and price stability based on their gender, group affiliation and country of origin.

MEPs engagement with different topics by gender

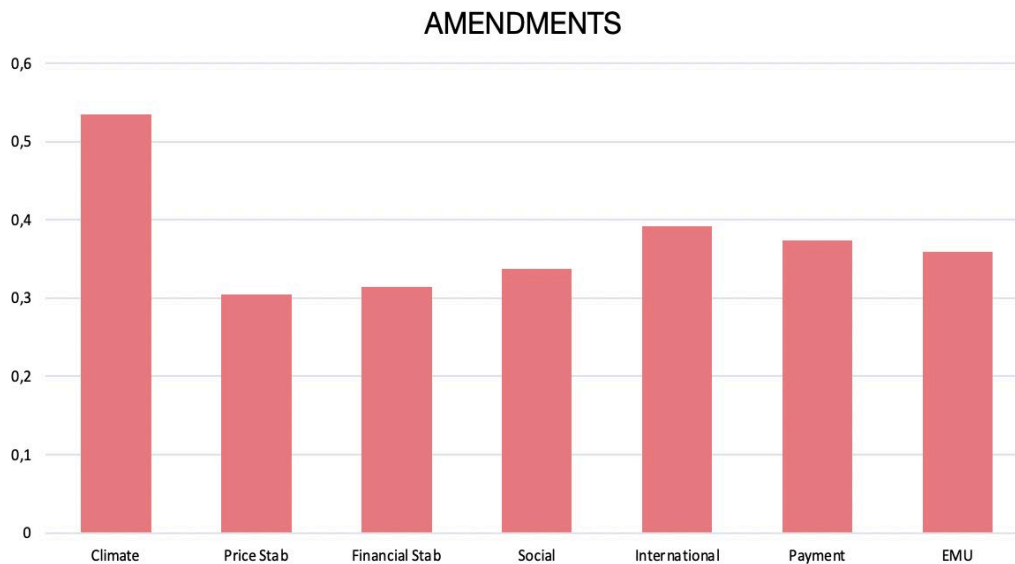
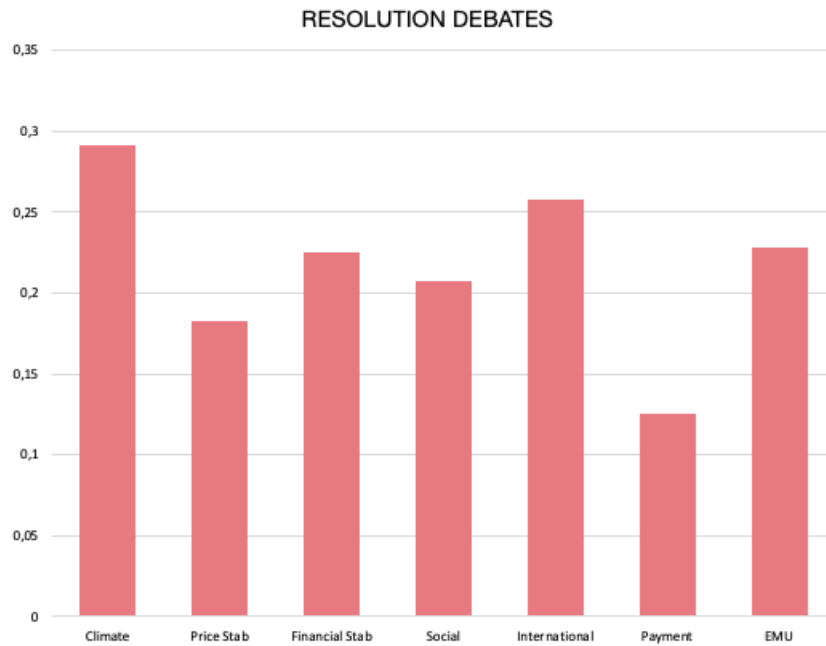
As laid out in section 2, the accountability setting forum are heavily dominated by male MEPs, who represent almost 80% of the interventions across all accountability forums. However, as figure 11 illustrates, women MEPs are significantly more active when it comes to climate-related topic as compared with the six other topics under study in this analysis. The share of women in climate-related interventions in the monetary dialogues is almost 35%, when it is systematically under 27% in the other topics, and actually closer to 20% on average. Price stability is among the most male-dominated topics. For example, less than 20% of the written

questions concerned with price stability are written by women. These observations hold across the different accountability arenas.

Figure 11: Share of women in the total interventions related to each topic



*Mixed teams of MEPs are counted as female in the written questions



*Mixed teams of MEPs are counted as female in the amendments

MEPs engagement with topics by party group

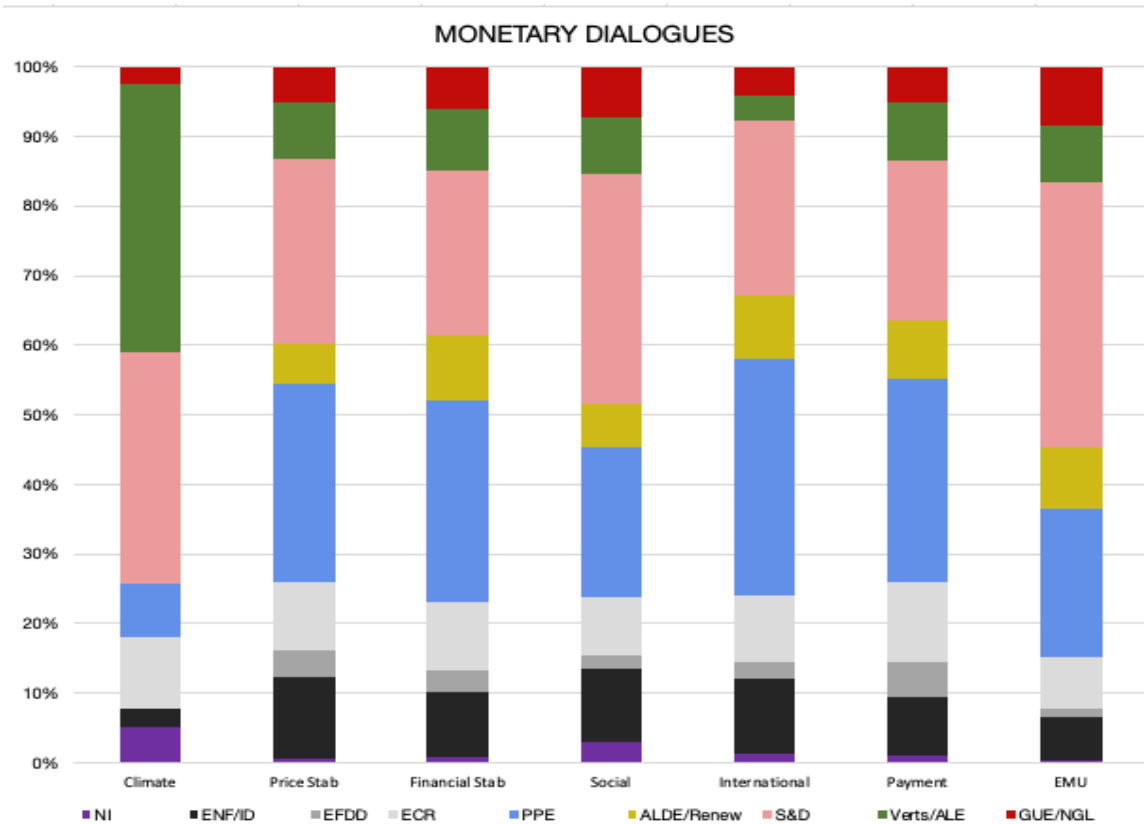
When all the Left MEPs are counted together, they represent more 70% of the climate-related interventions in the monetary dialogues and the resolutions debates. But it is the Greens who heavily dominate the climate-related interventions across all the forums. As pictured in Figure 8, in the monetary dialogues, the Greens made almost 40% of the climate related interventions. They made only 8% of price stability interventions.

Except in the written questions, where GUE/NGL dominate all the topics (except for the climate one), the EPP and the S&D dominate the price stability topic. The far right is

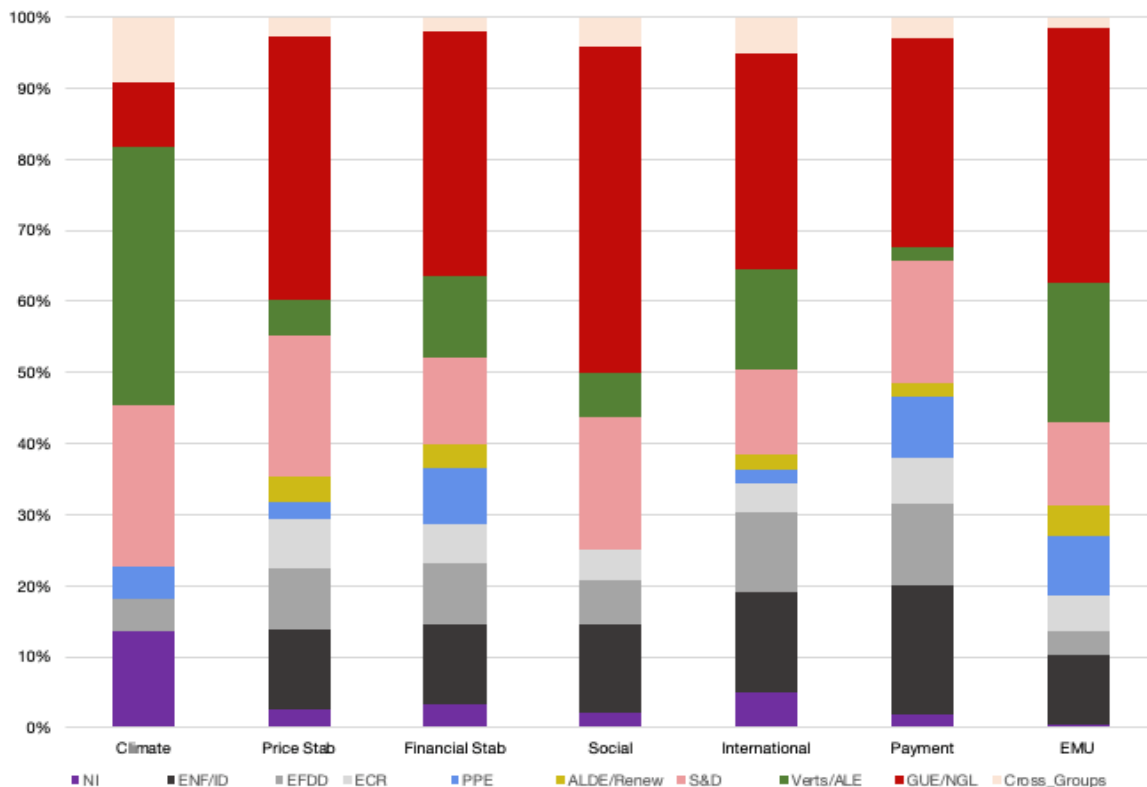
particularly well represented with nearly 12% of price stability interventions in the monetary dialogues by MEPs from the ENF/ID parties. The Right in general is less concerned with climate-related questions.

It is noticeable that, in the written questions, a significant part of climate-related questions is asked by a coalition of several parties. 5% are asked by team of Left parties and a bit less than 5% are written with parties from both the Right and the Left (these numbers are not reported in the figure for clarity reason – in the figure there is a unique category of “cross_Groups”).

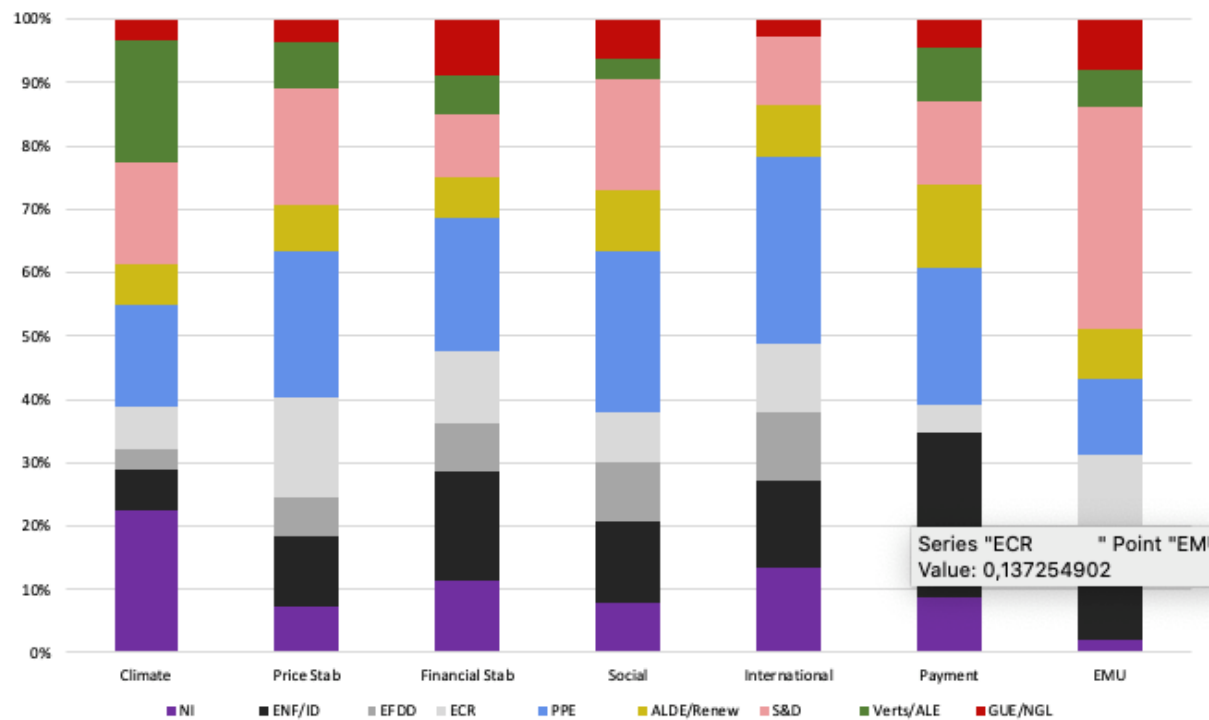
Figure 12: Share of party groups by topics

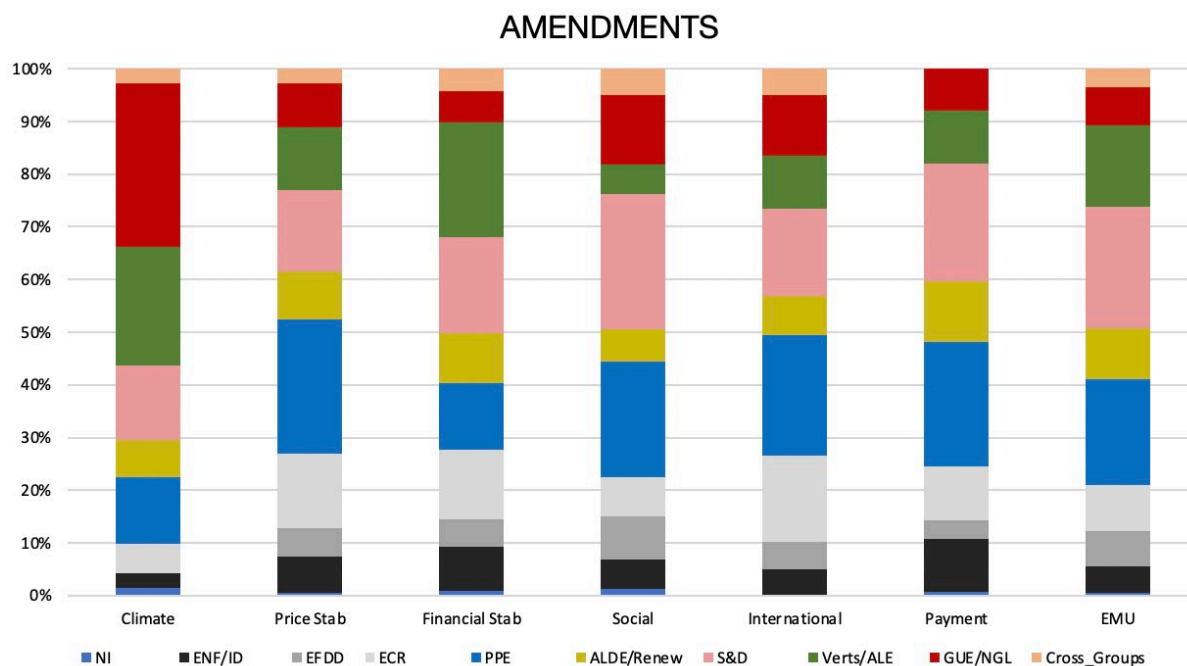


WRITTEN QUESTIONS



RESOLUTION DEBATES

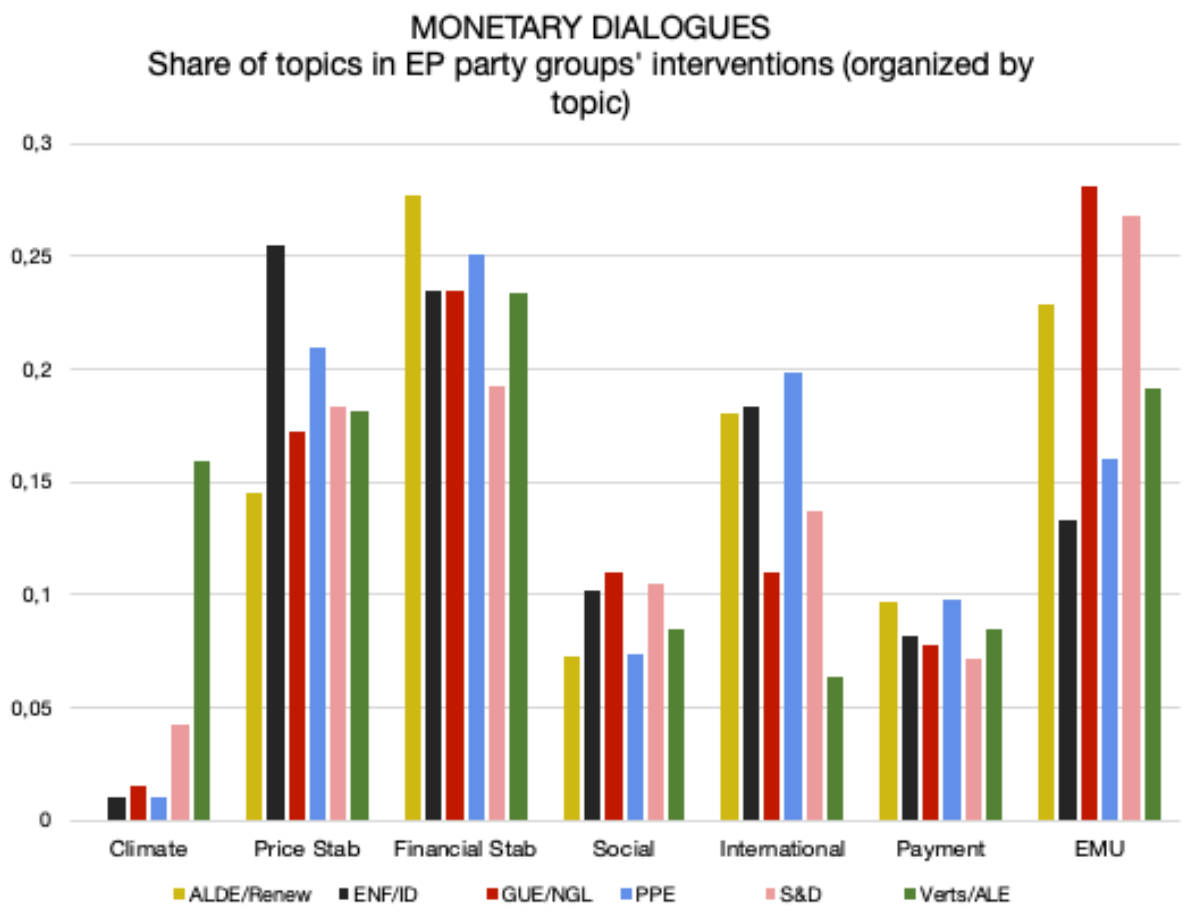




Let's look at the same data from another perspective and look at the proportion that each topic represents in the interventions of the MEPs by party groups. Figure 9 conveys this information. It shows that party groups allocate their speaking time differently. In the monetary dialogues, the Greens allocate more than 16% of their interventions to climate-related issues. This topic represents less than 5% of the interventions of the other party groups. Only 1,6% and 4,2% of the interventions by the other Left parties (GUE/NGL and S&D) are concerned with climate-related topics. Less than 2% of the interventions made by EPP MEPs pertained to climate-related topic. 0% of the interventions by ALDE/Renew MEPs related to climate-related topics

Price stability represents a significant part of interventions for all the parties. However, the topic represents a larger share of the interventions of Right and far Right parties (EPP and ENF) than of interventions of Left parties. For example, price stability represents more than 25% of the interventions of ENF/ID MEPs, and 22% of EPP MEPs' interventions for less than 18% of the interventions by Left MEPs.

Figure 13: Share of topics party groups' interventions (monetary dialogues)



Similar patterns are observable across the different accountability arenas. In the resolution debates, the Greens dedicate an even bigger share of their interventions (25%) to the climate-related topic than in the other accountability arenas.

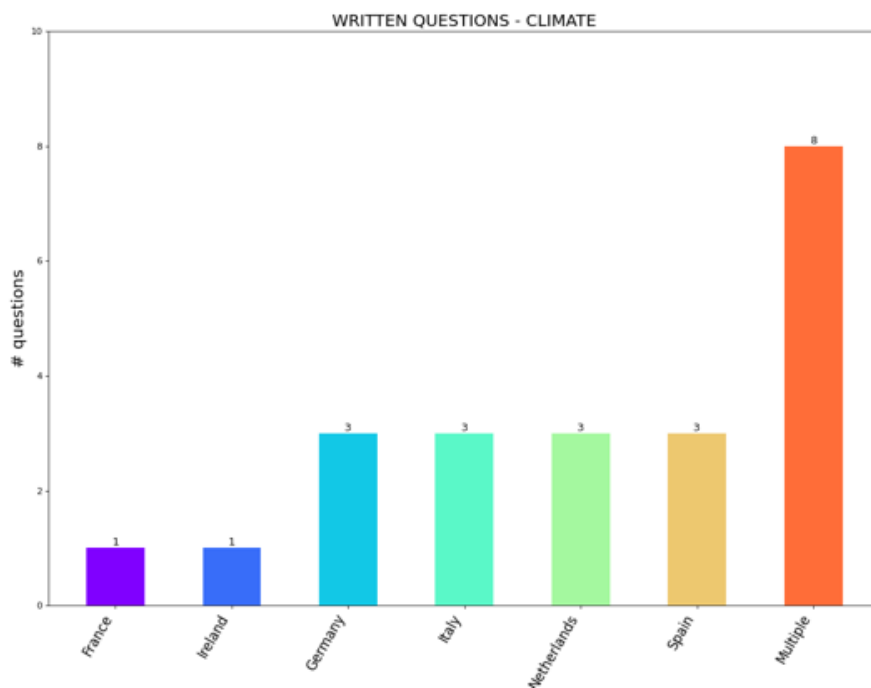
PART 5: CLIMATE ACCOUNTABILITY: A MORE UNITED AND LESS CONFRONTATIONAL STRATEGY?

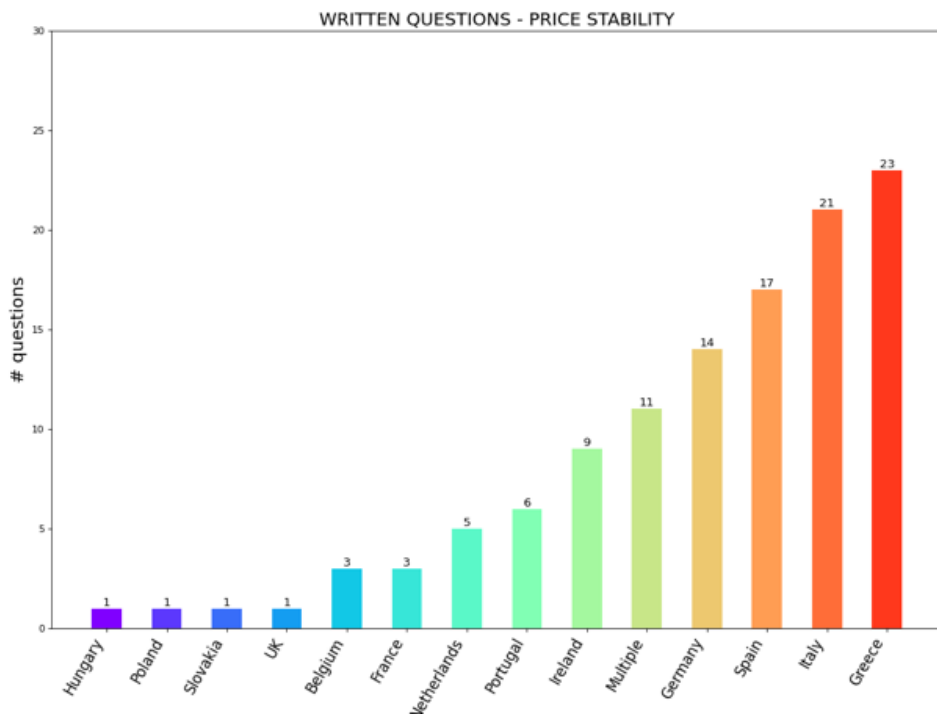
Cross-country engagement in the climate topic

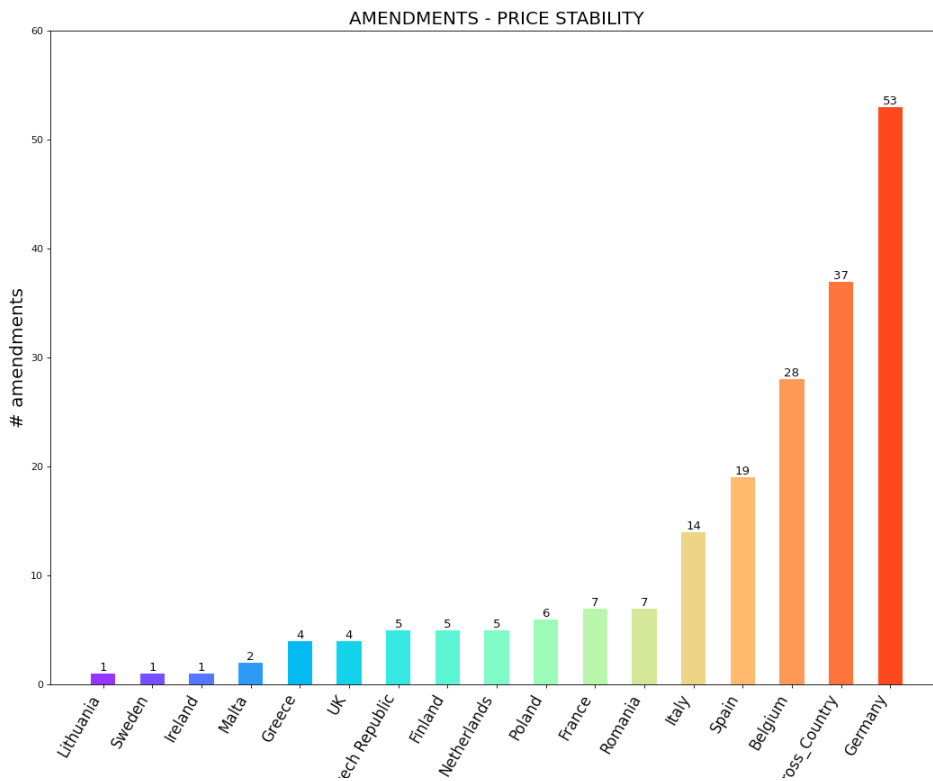
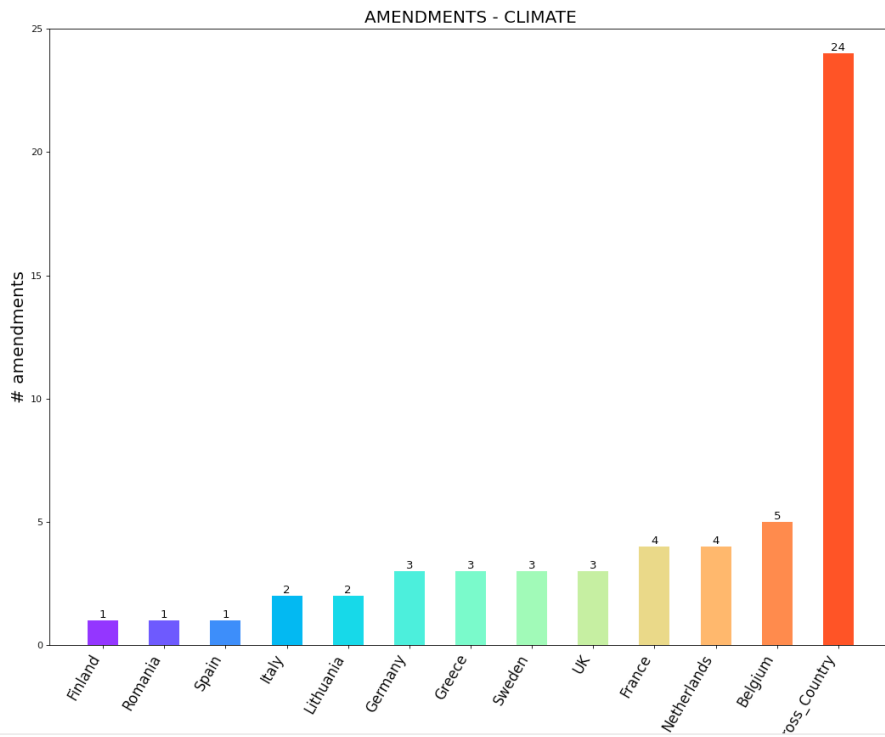
MEPs from Germany, Italy, Spain and Greece generally dominate the interventions in all the accountability forums. However, MEPs from those countries are particularly concerned with the price stability topic. The pattern is less obvious in the climate topic. The written questions allow for more collaboration among MEPs since they can write questions collectively. In the climate topic, MEPs often use of this opportunity: the questions asked about climate is primarily asked by teams of MEPs from different countries. Interestingly, this is coherent with the observation made earlier in the paper. The written questions about climate are more often

asked by teams of MEPs from different genders and party groups. This suggests that MEPs try and build broad political support with regard to climate-related topic when they hold the ECB accountable. Figure 10 conveys these data in the written questions and the amendments (the two forums where teaming of several MEPs is possible).

Figure 14: Share of intervention by MEPs' country in the climate and price stability topics (written questions and amendments)







Low confrontational tone in climate accountability

To measure sentiments, I match textual data with the sentiment lexicon provided by VADER sentiment analysis tools (Hutto and Gilbert 2014). This lexicon consists of 2,006 terms that capture positive sentiments and 4,791 terms for negative sentiments. I weight the number of matches by the total number of words contained in each intervention. I then compute an indicator of net sentiments by taking the difference between positive and negative sentiments for each intervention. The sentiment score gives an insight of the degree of discontent and antagonization in an intervention. The lower the score is, the more confrontation there is.

There is a variation in average sentiment across arenas. In general, the sentiment score of the interventions are higher (less confrontational) in the monetary dialogues and the resolution debates (average of 0,53 and 0,5), which are held in presence, than in the written questions (average of 0,15). This can be explained by the fact that MEPs are more polite where they address the president of the ECB in presence.

In two of the three arenas (the written questions and the resolution debates), the climate topic is – by far – the most positively scored topic. In the written questions, the climate-related questions stick out with a very positive score (0,5) in a universe of questions that generally receive very low sentiment score (from -0,08 to 0,12). Interestingly, the variance (i.e. the average spread between sentiment scores) is quite low in this topic, which suggests that there is a *homogeneously* positive sentiment in the interventions related to this topic. Knowing that climate-related questions are widely asked by green MEPs, this positive sentiment could be explained by the generally positive attitude of the Greens.

However, a sentiment analysis by party revealed that, although the Greens are more positive than other “rupture” parties such as GUE/NGL, they are not particularly prone to positivity compared to other groups such as the S&D or the EPP¹. Interestingly, the sentiment score of climate-related questions doesn’t change across accountability arenas, which means that climate-related receive the same score in the monetary dialogues than in the other two arenas, while the sentiment scores for the other topics is higher (more positive) in the monetary dialogues than in the other arenas. The positive sentiment in climate-related questions thus rather suggests that, in this very sensitive topic, MEPs have chosen a rather non-confrontational approach to address the ECB.

¹ A detailed sentiment analysis by party group is available in Appendix X

By contrast, the most confrontational topic is financial stability. This suggest that MEPs are adopting less confrontational strategies when it is about pushing the ECB to adopt a new domain of responsibility (climate) than when it is about debating about the mechanisms of implications of the ECB in a domain where it is consensual that the ECB should be involved (financial stability).

Figure 15: average sentiment scores by topics across three accountability arenas (shown in increasing order – in red are more confrontational, in green less confrontational scores)

MONETARY DIALOGUES

	Smt score
Price Stab	0,451
Financial Stab	0,468
Climate	0,519
EMU	0,522
International	0,530
Social	0,601
Payment	0,601
Average	0,527

WRITTEN QUESTIONS

	Smt score
International	-0,079
Financial Stab	0,070
Social	0,107
Payment	0,107
EMU	0,112
Price Stab	0,121
Climate	0,506
Average	0,135

RESOLUTION DEBATES

	Smt score
Financial Stab	0,389
Payment	0,445
Social	0,445
International	0,449
Price Stab	0,568
EMU	0,608
Climate	0,626
Average	0,504

CONCLUSION

How do MEPs hold the ECB accountable? This paper has started to answer this ambitious question by building on a quantitative description of seven topics on which MEPs hold the ECB accountable across three accountability forums between 2014 and 2021. It has focused on two substantially important topics: the climate and price stability and highlighted several findings.

Climate-related accountability has increased quickly and dramatically since 2017. In parallel concerns over price stability, after remaining stable or even decreasing at the beginning of the period, increased again in 2020 and 2021. This is because both MEPs in favor of a more active role of the ECB in fighting climate change and those who are more critical of this role started to assess climate and price stability with regard to each other. If it remains an object of political contention, the political consensus at the EP level has largely turned out to be in favor of putting

more pressure for the ECB to tackle climate change, and that its mandate of price stability is now presented as an additional reason why the ECB should be *more, not less* active.

The climate is an accountability topic that stick out in terms of which MEPs engage with it and how. In a highly male-dominated context, women engage more actively with climate-related topics, while men engage more actively with price stability. While the Greens heavily dominate the climate topic, the parties from the Right dominate the topic of Price stability. Finally, the MEPs adopt a more unites strategy and a surprisingly non-confrontational tone in climate-related interventions.

This paper opens on paths for further research. First, the construction of three datasets compiling data from different accountability forums will allows scholars to continue their research endeavor about the political side of the ECB as well as to compare how EP-ECB communications work across different settings. Then, the specific engagements of MEPs in the topic of climate change opens on the pressing question of whether MEPs make an impact on the ECB's stance on the climate and the price stability topics.

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APPENDIX A

Keywords by and examples of coded statements by topic

	Keywords	Example of coded statements
Climate	"green finance", "green transition", "paris agreement", "paris climate agreement", "green recovery", "green bonds", "greening", "gas", "emissions", "greenhouse", "climate change", "climate impact", "sustainable finance", "gas emissions", "sustainable transition", "natural disaster", "emission", "climate-related", 'natural disaster', "fossil", "emissions", "carbon dioxide", "pollution", "polluting", "low carbon", "high carbon", "carbon intensive", "environment related", "environmentally", 'co2', 'carbon dioxide'	Leading by example, the Bank of England has recently published its own climate related financial disclosures ³ including on its corporate QE portfolio. A similar exercise for the Eurosystem's balance sheet appears necessary for the ongoing debate on the future inclusion of sustainability criteria in the ECB's strategic policy framework. In this context: - Has the ECB evaluated its own environmental and climate related financial risks across its entire balance sheet? - If so, will the ECB make such analysis available to the public, for example, as part of its next annual report and report those risks to the European Parliament?
Price stability	"primary mandate", "primary objective", "prices", "price", "inflation", "inflationary", "HICP", "CPI", "PCE", "PCE index", "independence", "price stability", "deflation", "deflator", "deflationary", "deflate", "hyperinflation", "hyperinflationary", "hyperinflationary"	Written Question Z-02/2015 indicated that the economic situation was moving towards extremely low inflation. It was suggested that the ECB should undertake a large-scale acquisition of eurozone government bonds of up to EUR 2 trillion. Furthermore, an additional cut in the official interest rate was recommended, from 0.05 % to 0.025 %. The ECB instead undertook a EUR 1 trillion programme of purchases of euro area government bonds, while leaving the official interest rate unchanged. However, these measures, while appropriate, have been insufficient, since the eurozone inflation rate in September 2015 was negative. Thus, further use of the current monetary tools along the lines suggested in Written Question Z-02/2015 seems warranted. Therefore, is the ECB ready to increase the purchase of eurozone government bonds up to EUR 2 trillion, and to reduce the official interest rate to 0.025 %? Is the ECB ready to do so by 31 December 2015?
Financial stability	"financial stability", "financial instability", "financial crisis", "financial stress", "financial risk", "systemic risk", "contagion", "financial shocks", "bubble", "bubbles", "financial imbalance", "financial imbalances", "misalignment", "credit	On 4 September 2014 the ECB announced a programme for the purchase of asset-backed securities (ABS). Under this scheme banks will transfer to the ECB the risks they take when granting loans. The ECB has specified that it will purchase only 'simple and transparent' products relating to securities with senior status (senior

	<p>growth", "leverage", "banks", "insurers", "hedge funds", "investment funds", "securities markets", "derivatives", "off-balances sheet exposures", "foreign currency loans", "correlated exposures"</p>	<p>tranches). For mezzanine tranches it will do so only with the guarantee of the Member States, who will thus bear the risk of the highest-risk purchases. Could the ECB please state what criteria it will use to assess whether the securities it purchases are 'simple and transparent'? Could it give details of the types of guarantee that the Member States may be asked to give?</p>
Social affairs	<p>"employment", "unemployment", "firing", "fixed-term", "inactivity", "job", "jobs", "jobless", "labor", "labour", "labor force", "labour force", "Labor market", "Labour market", "self-employed", "vacancies", "vacancy", "worker", "workers", "wage", "wages", "inequalities", "redistributive", "redistribution"</p>	<p>According to ECB surveys on the financial vulnerability of citizens of the eurozone, poorer households face a higher risk of bankruptcy and financial pressure in servicing their loans than richer households. In particular, according to the debt service-to-income ratio, the poorest households in the eurozone spend at least 20% of their incomes on servicing debts, a ratio which is higher in countries such as Greece, where the cost of servicing loans amounts to 69.7% of the income of the poorest households. In this context of financial vulnerability, a generalised fall in income and widespread job cuts and the over-indebtedness of vulnerable households to banks, Member States and the ECB are developing policies to reduce non-performing loans, without considering their social impact. In view of the above, will the President of the ECB say: Does he admit a share of the responsibility for the aforementioned situation in the poor eurozone households, which have become over-indebted to the banks in order to meet their basic social needs - needs which the national States have ceased meet in the name of 'public sector restructuring', 'fiscal adjustment' and the exploitation of 'investment opportunities' by the private sector, such as housing, education and health?</p>
International affairs	<p>"trade", "Cross-border", "emerging markets", "emerging economies", "outside the euro area", "outside the EU", "geopolitics", "china", "chinese", "united states", "the us", "usa", "america", "american", "canada", "canadian", "japan", "japanese", "russia", "russian", "india", "indian", "turkey", "turkish", "argentina", "argentinian", "brexit", "united kingdom", "england", "norway", "norwegian", "enlargement", "developing economies", "developing countries", "world bank", "imf", "war", "middle east", "far east", "opec", "wto", "exchange rate", "sweden", "swedish", "oil", "gas", "commodity", "g7", "g20", "korea", "korean", "northern rock", "terrorism", "terrorist", "africa", "african", "asia", "asian", "australia", "oversea", "external representation", "ire", "dollar", "pound", "ruble", "yuan", "yen", "renminbi", "lcm", "external demand", "exports",</p>	<p>The President, in his opening statement, talked of strong growth in the euro area economy in clear growth, but with some uncertainties on the horizon, probably the most serious of which are the so-called geopolitical risks. In those risks we are seeing the lure of protectionism, primarily in the United States, but we are also seeing the effects of the Federal Reserve's monetary policy resulting from the largest fiscal deficits in the United States, which this summer just gone caused a major crisis in emerging economies: Brazil, Argentina, Turkey. In that light and taking advantage of the fact that I am one of the last to ask a question, meaning that the questions that I had noted down have already been asked by the MEPs who spoke before me, I would like to ask the President about those geopolitical risks, the risks that we are witnessing in Turkey, Brazil and Argentina, which may affect the euro area, and about the risks of that protectionism or an about-turn, a reversion of the expansionary monetary policy in the US faster than expected in view of the biggest fiscal deficit expected in that country.</p>

	"imports", "advanced economies", "value chain", "us treasuries", "fed", "federal reserve", "bank of england", "scotland", "scottish", "pboc", "basel", "bank of international settlements", "bis", "washington", "new york"Intern	
Payment	"payment", "payment systems", "ccp", "clearing", "market infrastructures", "digital euro", "wholesale transactions", "bitcoin", "stablecoins", "libra", "diem", "instant payments", "cbdc", "cash", "banknotes", "coins", "card", "e-money", "private money", "central bank money", "digital dollar", "target", "target2", "t2s", "real-time gross settlement", "sepa", "tips", "payment", "settlement", "dlt", "ledger", "blockchain", "token", "digital currency", "cryptocurrencies", "crypto-currencies", "crypto-assets", "cryptoassets", "big tech firms", "big techs"	ESMA just yesterday warned around the risks related to stablecoins and cryptocurrencies, and the ECB has also been quite concerned about the monetary impact of the stablecoins. We have heard and been informed that the ECB is now doing work around this digital euro. What's the situation with this project, because obviously it could be some kind of help for those people who would like to have these new types of payment and do it in a very safe manner? So, what's your impression concerning the project? At the same time do you think the ECB ought to have a stronger role, for example a veto right in the authorisation process of stablecoins?
EMU governance	"fiscal policy", "fiscal rules", "fiscal board", "bailout", "bail-in", "single supervisory mechanism", "ssm", "single resolution mechanism", "srm", "banking supervision", "microprudential", "macroprudential", "prudential policies", "macroeconomic policies", "five presidents' report", "four presidents' report", "economic and monetary union", "emu", "eu budget", "multiannual financial framework", "mff", "sure", "stability and growth pact", "sgp", "stability and growth", "banking union", "deposit insurance", "edis", "ngeu", "next generation", "recovery and resilience", "fiscal capacity", "bicc", "risk-sharing", "transfer union", "policy mix", "international role of the euro", "ire", "moral hazard", "financial assistance", "troika", "european stability mechanism", "esm", "corrective arm", "budget", "capital markets union", "cmu", "integration", "deepening", "country specific recommendations", "csrs", "euro adoption", "changeover"	I have a brief question also related to this but concerning another development, that is to say the Capital Markets Union, the aim of which is to improve corporate financing and make it more independent of banks. I should like to know what you personally consider to be the core components of the Capital Markets Union in its completed form and the specific role of the ECB in this connection.

APPENDIX B: Variations of sentiment scores across party groups

There are two very distinct categories of party groups: those whose sentiment score is on average positive, and those whose sentiment score is on average much lower. The EPP is the only party group that has a rather positive sentiment score in the two “in presence” arenas (monetary dialogues and resolution debates) and a quite low sentiment score in the written questions. The other party groups find themselves on the same side of the average sentiment score across all the accountability arenas. As figure xxx sums up, the more positive parties are the two majority parties (EPP and S&D) as well as the centrists and the greens. The less positive parties are the far right and the far-left parties. In particular, the GUE-NGL finds itself among the two less positive parties across the three accountability arenas. To a certain extent, this divide explains itself by the degree of agreement of these parties to the monetary policies performed by the ECB. The parties advocating a “rupture” with the current system of central banking will express their discontent more and more often than parties that may criticize the ECB without challenging the general framework of monetary policymaking. However, there are variations even among those “rupture” parties which suggest that the GUE-NGL has a more confrontational strategy than the far-right parties and independent MEPs. The Greens are interesting here, as they may be perceived as a “rupture” party, since they advocate explicitly for a change in the ECB’s primary mandate. However, these MEPs seem to have chosen a less confrontational approach than the GUE-NGL to address the ECB. These findings are in coherence with [REF??] that MEPs belonging to party groups that are more in favor of the European integration (but not necessarily in favor of the current framework of monetary policymaking) are more likely to use a positive language when addressing the ECB.

Figure D: average sentiment scores by group parties across three accountability arenas (shown in increasing order)

MONETARY DIALOGUES

GUE/NGL	0,184
NI	0,197
ENF/ID	0,210
ECR	0,285
EFDD	0,288
ALDE/Renew	0,486
Verts/ALE	0,506
PPE	0,531

WRITTEN QUESTIONS

GUE/NGL	-0,0520391
PPE	0,06254776
ECR	0,08580714
ENF/ID	0,08586582
NI	0,09142
EFDD	0,19372692
ALDE/Renew	0,21896364
S&D	0,34433068

RESOLUTION DEBATES

NI	-0,3223429
GUE/NGL	0,09971111
ENF/ID	0,20635217
ECR	0,20656071
EFDD	0,24530625
Verts/ALE	0,53738667
S&D	0,68207222
PPE	0,73245088

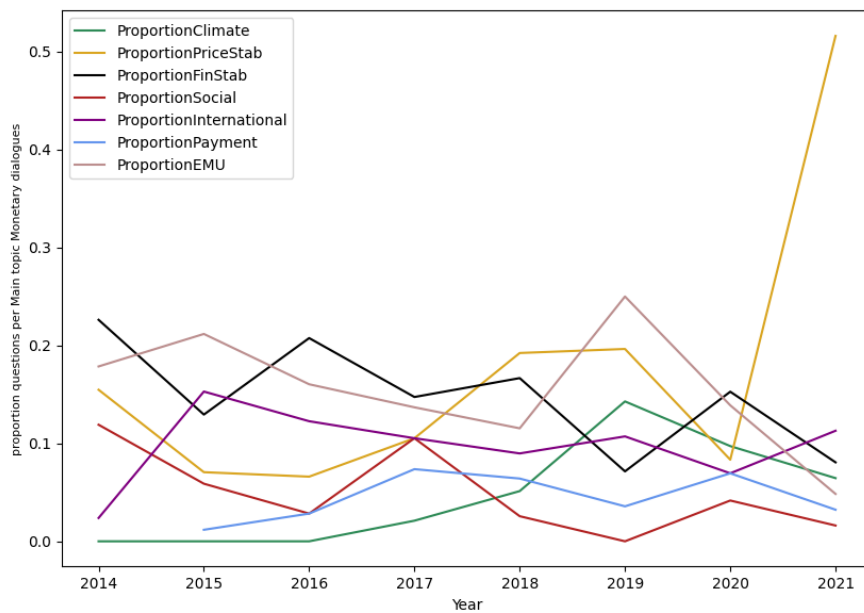
S&D	0,589
Average	0,364

Verts/ALE	0,4178381
Average	0,16094011

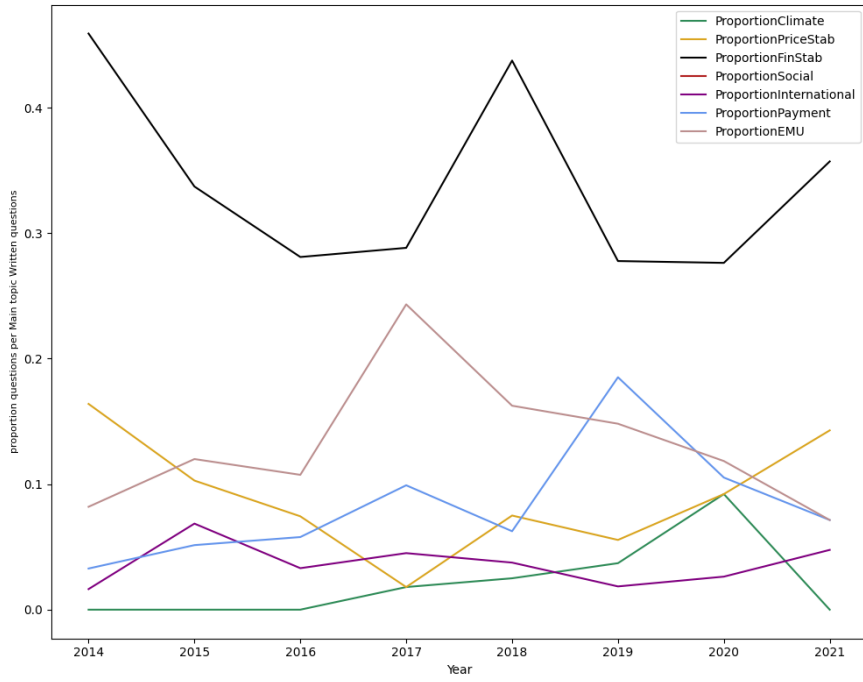
ALDE/Renew	0,76100667
Average	0,34983376

APPENDIX C: Evolution of main topics over time (with each intervention allocated to one main topic)

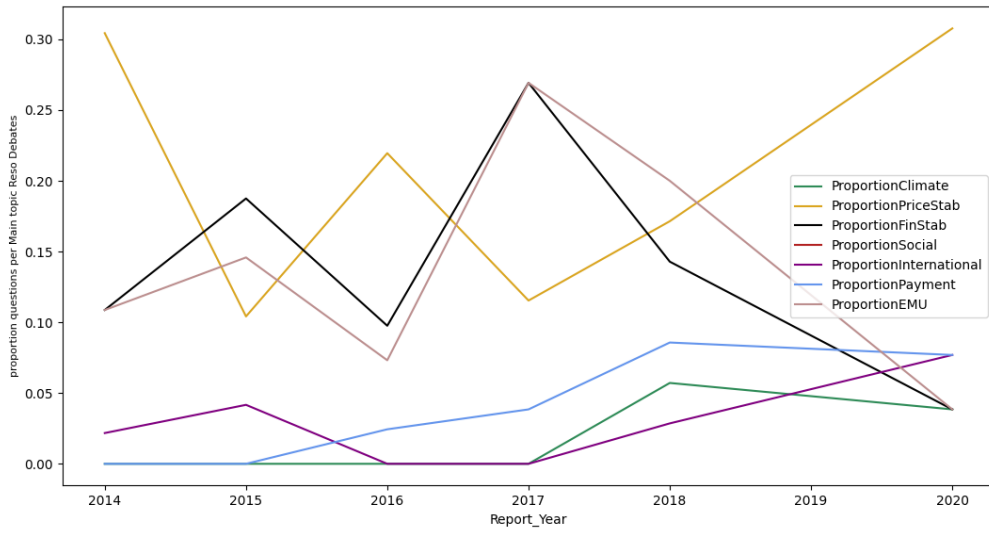
MONETARY DIALOGUES



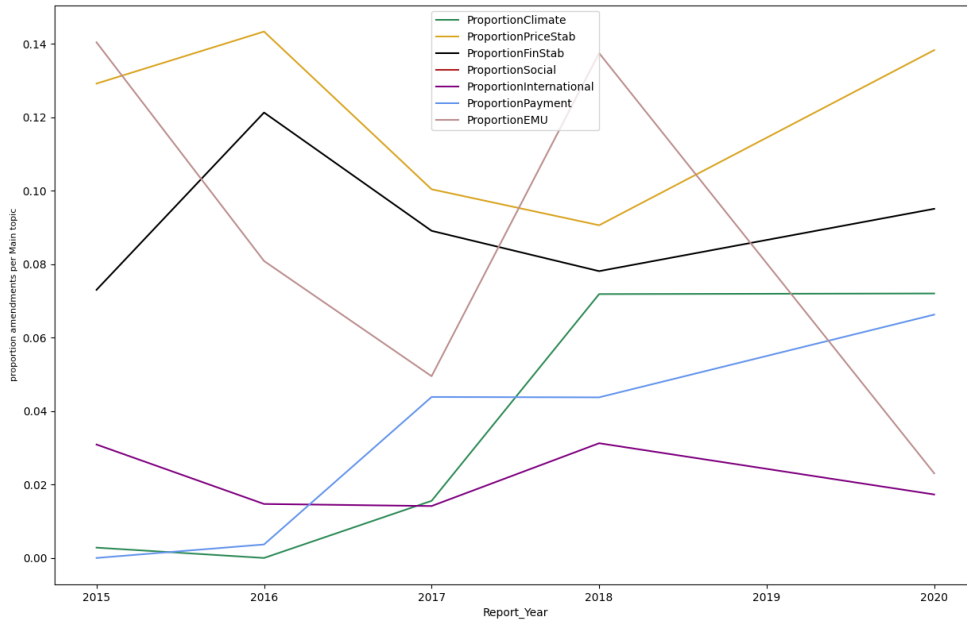
WRITTEN QUESTIONS



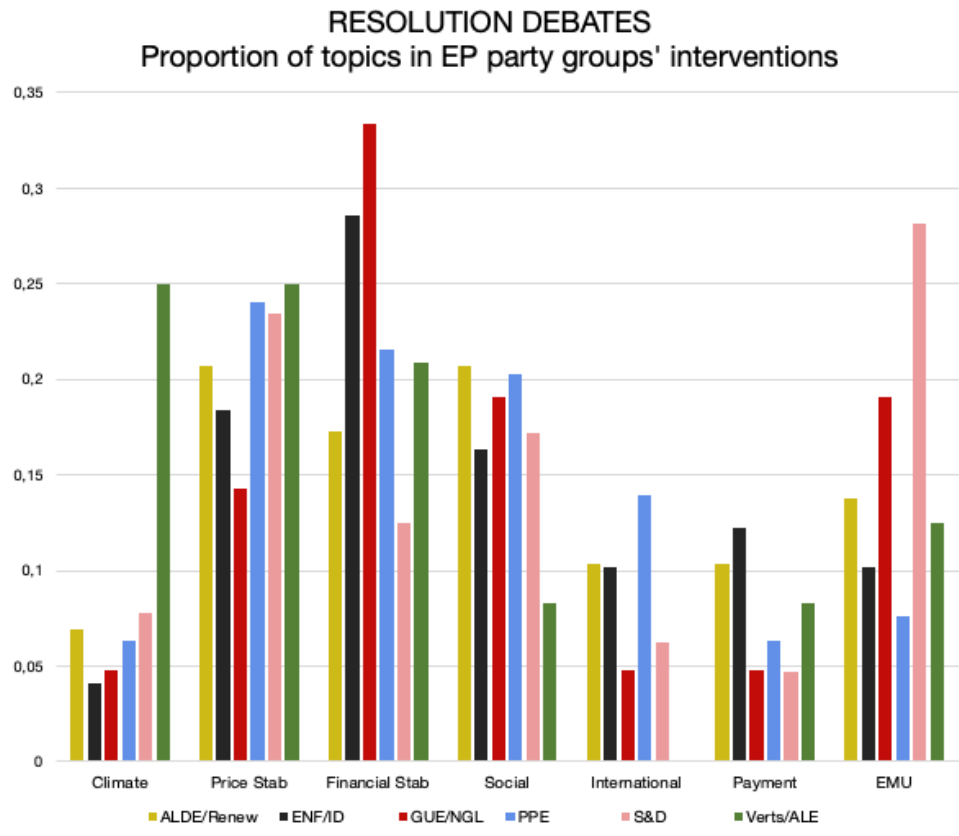
RESOLUTION DEBATES



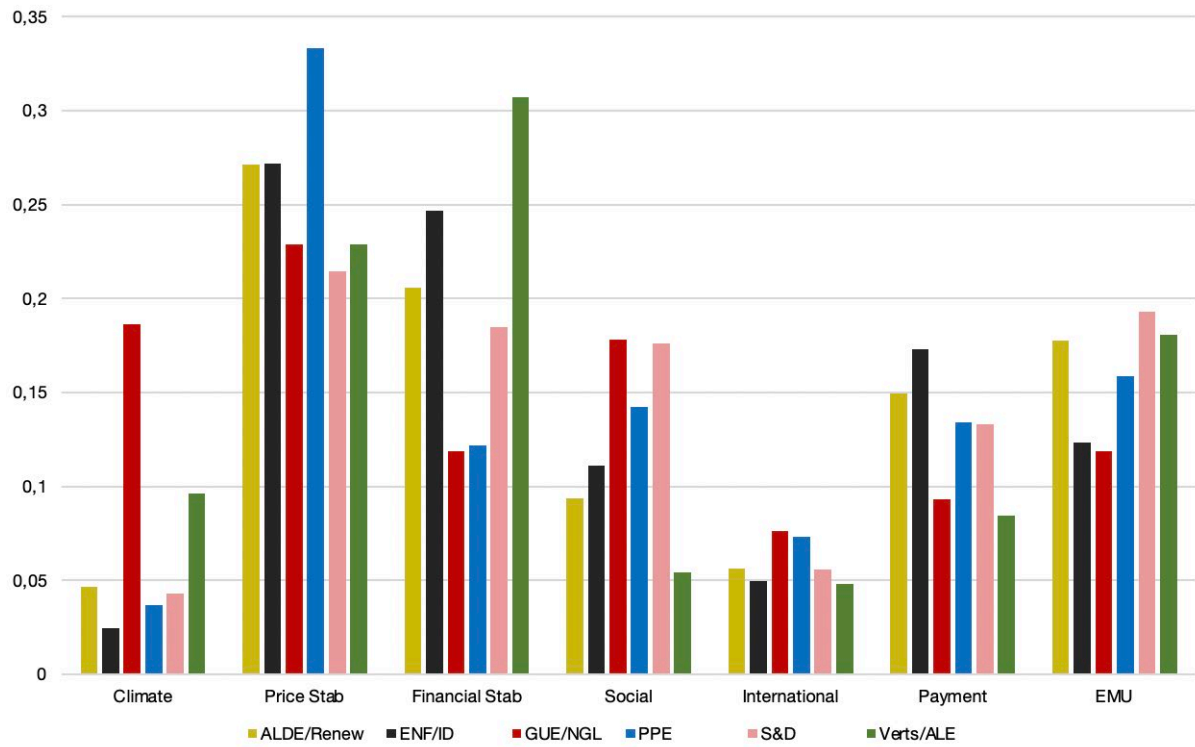
AMENDMENTS



Appendix D: Proportion of topics in EP party groups' interventions in resolution debates



AMENDMENTS



Appendix F: Climate and price stability topics by country across accountability arenas

