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Does politics drive conflict in central banks' committees?

Lifting the veil on the ECB consensus

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Abstract

This study investigates whether and to what extent political factors drive disagreement within the allegedly consensual monetary committee of the European Central Bank. Absent voting data, the article assesses disagreement based on the *semantic* distance between the policy positions publicly articulated by the ECB President and the central banks of Eurozone member states. The empirical analysis shows that the disagreement articulated by national central bankers is affected by the ideological inclinations of the governments of the countries they represent. Our findings thus suggest that central bankers' position-taking is shaped not only by economic conditions but also by domestic political considerations. This result challenges the ECB's projected image of itself as an institution whose members are impermeable to domestic political pressures as a way to defend the independence of the institution to which they belong.

Keywords

Central banking, committee decision-making, conflict, European Central Bank, text analysis.

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Introduction

The delegation of monetary policy responsibilities to independent central banks has been a defining feature of the organization of several domestic political systems over the past three decades. A parallel development has been the widespread adoption of committee decision-making systems to make monetary policy decisions. According to the International Monetary Fund (IMF) for instance, more than 75% of the central banks in 126 countries currently make monetary policy decisions in a committee (IMF, 2016). As in any other political institution, members of monetary committees often disagree in their deliberations. This disagreement reflects the different knowledge bases, different heuristics for interpreting the world and different modalities for processing information that individual members possess (Blinder, 2007). However, a significant outstanding question in the literature is whether and to what extent political factors drive disagreement. Although a number of studies have shown that government appointments (Chappell et al., 2008; Hix et al., 2006) and interest group pressures (Jacobs and King, 2016) contribute to shaping central bankers' heterogeneous preferences, the empirical literature on the role of domestic politics in shaping dimensionality within central banks is sparse. Instead, studies have focused on other drivers, such as the importance of regional or national economic conditions for monetary decisions (Chappel et al., 2008; Hayo and Meon, 2013; Heinemann and Huefner, 2004; Meade, 2005), the institutional rules governing deliberations (Schonardt-Bailey, 2013), bureaucratic incentives (Moschella and Pinto, 2019), and socialization (Ban and Patenaude,

2019; Johnson, 2016; McNamara, 1998), with the view to map central bankers' preferences generally on a hawk-dove scale (Baerg and Lowi, 2018).

The contribution of this study is a systematic analysis of whether political factors structure conflict among central bankers in the European Union (EU). The European Central Bank (ECB) is indeed a particularly interesting institution to study conflict and ascertain its political origins because its members are required to make decisions that are extremely consequential for the economic prospects of 19 different countries; these decisions are supposed to be based only on a Eurozone economic perspective and made independently of political pressures. However, we argue that governments' ideological positioning, public opinion and national economic interests might well shape the disagreement among ECB members. We test these propositions on an original dataset comprising the policy positions articulated in public speeches by European monetary authorities between 2001 and 2017.

Based on the analysis of the *semantic* distance between the policy positions articulated by the ECB President and the governors of the 19 national central banks (NCBs) whose currency is the euro, we find that the disagreement articulated by national central bankers is affected by the ideological inclinations of the governments of the countries they represent. In particular, disagreement between a NCB and the ECB increases as the position of the national government becomes more left-wing and more anti-EU.

These findings suggest that central bankers' position-taking is also shaped by domestic political considerations, challenging the ECB's projected image of itself as an institution whose members are driven only by Euro-area economic consideration and are impermeable to domestic political pressures (Issing et al., 2001: Chapter 9; see also Howarth

and Loedel, 2003). Our analysis thus contributes to the understanding of the extent of politicization of central banks, especially at a time when political pressures on central banks have increased around the world (McPhilemy and Moschella, 2019), and it provides building blocks for research investigating the consequences of disagreement on the implementation of monetary policy choices. Our empirical investigation also contributes to the study of the dimensionality of EU political institutions. Indeed, while extensive literature has explored the determinants of conflict in other European institutions, such as the European Parliament (EP) (Hix et al., 2006; Kreppel and Tsebelis, 1999; Noury, 2002) and the EU Council (Bailey et al., 2015; Hagemann et al., 2017; Mattila and Lane, 2001; Mattila, 2004), no parallel attention has been devoted to the decision-making that takes place in the ECB. This neglect, which is partly due to the lack of data on internal deliberations, as discussed below, is nonetheless odd given the central role the ECB plays in sustaining the European monetary integration process (Hodson, 2011). Furthermore, our analysis may also have broader significance for the study of decision-making in secluded policy settings by suggesting an innovative method to study policymakers' positioning and their relative distance even in the absence of roll-call and voting data.

Studying disagreement in the ECB Governing Council

With the introduction of the euro on 1 January 1999, member states not only adopted a common currency but also created a supranational institution, the ECB, whose primary objective is to achieve price stability for the entire currency area. This responsibility falls to

the Governing Council, which is the ECB committee responsible for the preparation, conduct, and implementation of monetary policy.

The Governing Council consists of 25 members: the six members of the Executive Board and the 19 governors of the NCBs of the countries that have adopted the euro. The Executive Board prepares the meetings of the Governing Council and instructs the NCBs on the implementation of agreed-upon monetary policy decisions. This body consists of the ECB President, the Vice President and four other members, all of whom are appointed for a nonrenewable eight-year term by the European Council, acting by a qualified majority, based on a recommendation from the Council of the European Union and after having consulted the EP and the Governing Council.

Among the members of the Executive Board, the President occupies a special position. The President chairs the Governing Council meetings and has a casting vote in the event of a tie. The President is also responsible for presenting the ECB Annual Report to the EP and serves as the official 'voice' of the ECB by communicating monetary policy decisions in the regular press conferences that take place after Governing Council meetings. In other words, the policy stance of the ECB President serves as the reference point for outside observers, and the ECB advises that market participants watch for the President's communication to gain insight into the ECB monetary stance, especially in the event of divergence among committee members.[1]

As for the NCBs, each central bank's governor is appointed according to national procedures characterized by different degrees of political influence in the appointment process (Quaglia, 2008). This means that the Executive Board need not be consulted

regarding these appointments and has no veto power over them. Like the members of the Executive Board, NCB governors are expected to make decisions with a Euro-area perspective only. Hence, when they sit in the Governing Council, the heads of the NCBs are required not to act as national representatives or to take instruction from any member state but to act in a fully independent, personal capacity (Article 130 of the Treaty on the Functioning of the European Union).

Decisions in the Governing Council are made based on the simple majority of the votes cast; each member of the Executive Board has one vote, and each national governor has one vote.[2] However, the ECB's committee decision-making is also distinctive because of the modalities through which decisions are adopted and subsequently communicated to the public. Indeed, in spite of the simple majority requirement, the Governing Council makes decisions by consensus and has traditionally attempted to minimize the public display of disagreement among its members in its external communication (Blinder, 2007). That is, Governing Council members are discouraged from acting as individuals by making their votes and dissent public.

The practice of minimizing the display of different views among monetary policymakers is a corollary of the supranational nature of the Governing Council. 'The ECB monetary decision-making was designed to disguise real, and to counter imagined, disunity within the bank itself' because the legitimacy and independence of the ECB were designed to stem from the perception that its inflation target was set for the entire Euro area, without any national bias (Howarth, 2012: 131). This peculiar design lies at the heart of the caution with which the ECB provides information on its internal deliberations, arguing implicitly

that too much information would expose individual policymakers to national pressure and thus weaken their independence. As a result, unlike other domestic and EU institutions, roll-call data are not available for ECB policy decisions.

The emphasis on agreement in individual Governing Council members' communication is also meant to improve the transmission of monetary policy by shaping markets and public expectations. When monetary decisions are made and subsequently explained by a committee rather than by a single individual, there is the risk that too many different voices might translate into cacophony, thus confusing markets and societal actors about the central banks' intended goals (Blinder, 2007). This risk is particularly elevated if the committee is a consensus-based committee, as in the case of the Governing Council, therefore, the diversity of views among members, if made public, might undermine clarity and a common understanding, impairing the transmission and ultimately the effectiveness of monetary policy (Blinder et al., 2008: 923). Empirical research has found support for the relationship between the type of committee decision-making and committee members' communication. In particular, the ECB presents a much higher degree of consistency among the statements of individual committee members than is the case for the less collegial monetary committees in the United States (US) and the United Kingdom (Ehrmann and Fratzscher, 2007).

The characteristics of the ECB's decision-making and its subsequent communication thus offer an invaluable opportunity to examine the extent to which committee members agree – absent voting data. Indeed, if the individual statements of Governing Council members are meant to minimize the display of disagreement among its members by

fostering consistent messages in their external communication, it is plausible to expect that differences in language reveal dissenting views. Based on this insight, we thus present a novel approach to shed light on those conflicts that the ECB has traditionally attempted to hide behind the veil of its consensus decision-making system. To do this, we focus on the *semantic* distance among individual statements of Governing Council members. This data approach, described in greater length below, has three main advantages. First, studying disagreement by relying on publicly available communication documents allows circumventing the data availability problems concerning the voting behavior of Governing Council members. Second, the study of disagreement as the difference in the expressed preferences on specific policy issues and in the salience attributed to them allows us to detect great variation in central bankers' positions. For instance, it has been found that central bankers express much larger variation in policy positions in speech than they do in votes (Baerg and Lowi, 2018), similar to what happens in other political institutions such as legislatures, political parties and other EU institutions (Hobolt and Wratil, 2018; Proksch and Slapin 2012; Schwarz et al., 2017). Our semantic distance measure therefore allows us to get closer to the actual disagreement expressed behind closed doors during policy meetings. Finally, semantic differences in expression regarding different issues can be used to assess the substantive magnitude of disagreement among Governing Council members across different issues.

Political determinants of disagreement

Why do NCBs disagree with the policy position articulated in Frankfurt? Extending and adapting the insights applied to other EU institutions, we suggest three explanations for disagreement within the ECB: government ideology, public opinion, and economic interests.

Ideology

Much literature suggests that a left/right dimension and a pro-/anti-EU dimension account for the bulk of political conflict among members of the EP (Kreppel and Tsebelis, 1999; Noury, 2002) and EU Council (Mattila, 2004; Mattila and Lane, 2001). While significant scholarly consensus exists on the dominance of the left-right dimension in the EP (Hix and Noury, 2009; Hix et al., 2006; but see Otjes and Veer, 2016), the relative influence of the left/right dimension on the political conflicts that play out in the EU Council is less clear cut (e.g. Aspinwall, 2006, Mattila, 2004).

The dimensions that structure political conflict in the EP and the EU Council might also influence political conflict in the Eurosystem via the channels that link domestic governments and parties to central banks (see Dyson and Marcussen, 2009). Indeed, the NCBs that make up the Eurosystem are bureaucratic agents, even if they are independent from the executive branch of government. This means that the governor and other top senior officials of domestic central banks are usually appointed (and dismissed) through a governmental process and are ultimately accountable to governments or national legislatures. It is thus plausible to expect that NCBs' stance on monetary policy may be

affected by the ideological stance of the governments that appoint them, similar to what happens in the US Federal Reserve System (e.g. Chappell et al., 1993) and in the Bank of England's Monetary Policy Committee (Hix et al., 2010). Based on the rational partisanship theory, left-wing parties and governments are more likely to give pride of place to expansionary policies aimed at keeping unemployment low at the expense of higher deficits and inflation (Hibbs, 1977). This suggests that left-wing governments are more likely to contest ECB policy in light of the price stability mandate assigned to the ECB and its German-inspired hawkish approach to monetary policy (Howarth and Loedel, 2003: 52). Similar contestation is to be expected when national governments have a strong anti-EU inclination: national governments with an anti-EU inclination may be more likely to contest the sovereignty losses associated with the activities of EU institutions, such as the ECB.

H1: NCBs' tendency to disagree with the ECB's policy stance increases the higher the left-wing inclination of the domestic governments that appoint them.

H2: NCBs' tendency to disagree with the ECB's policy stance increases the higher the anti-EU inclination of the domestic governments that appoint them.

In addition to the direct impact of partisanship and support for the EU, it is plausible to hypothesize that NCBs' preferences might be influenced by the interaction of these two dimensions. Building on Mattila's findings (2004) on national representatives' voting behavior in the European Council, we could expect that domestic governments' support for

the EU weakens the impact of partisanship on the positions articulated by the NCB governors. That is,

H3: The higher the level of government support for the EU is, the weaker the effect of more left-wing partisanship on the magnitude of disagreement between the NCBs and the ECB.

Public opinion

In addition to the well-established left/right and pro-/anti-EU cleavages, recent studies have established another factor that contributes to shaping political conflict in EU supranational decision-making, namely, public opinion. Hagemann et al. (2017), for instance, show that government opposition in the Council is a response to popular opposition to European integration (see also Wratil, 2018). Baerg and Hallerberg (2016) also find that public support for the EU helps explain member states' contestation in EU politics and specifically in decisions that inform macroeconomic policy coordination under the Stability and Growth Pact.

Although the ECB is largely insulated from domestic electorates' pressures because of its statutory independence, it still 'cannot ignore the possibility of an unfavourable political reaction'. (Jones 2009: 1093). If public opinion turns increasingly negative, democratically elected policymakers could be expected to become less likely to respect the ECB's independence. For instance, national politicians have stepped up political pressures on the ECB against the backdrop of increasingly negative public opinion.[3] The risk of a

political backlash thus leads us to expect that public opinion is a driver of disagreement within the Governing Council. Indeed, as argued above, the NCBs are ultimately accountable to national governments and legislatures despite their participation in the Eurosystem. This implies that negative public opinion about the ECB and its operations might lead NCBs to disagree as a strategic move to minimize the risk of a political backlash at home.

H4: NCBs' tendency to disagree with the ECB increases the more negative public attitudes towards the ECB are.

Economic interest

An alternative explanation for political conflicts in EU decision-making points to the importance of national economic interests. For instance, Bailer et al. (2015) show that member states' voting behavior in the European Council is shaped by the cleavage that pits net EU budget contributors against net recipients and that economically strong countries are more likely to oppose EU legislation than net beneficiaries. These results are in line with those of Mattila and Lane (2001), who show that large countries vote against the majority in the Council more often than small countries do. These findings also resonate with those in the economics literature that examines the relative impact of Euro-area and national economic conditions on ECB interest rate decisions (Bennani and Neuenkirch, 2017; Sousa, 2009). A key insight in this literature is that the preferred policy choices of Governing

Council members differ because they represent different countries with different economic problems (see the review in Hayo and Meon, 2013). These differences are also reflected in Governing Council members' communication, with members of large countries usually responsible for weakening the cohesiveness of the ECB message (Jansen and de Haan, 2004).

Based on these insights, it is plausible to hypothesize that the NCBs of economically strong, creditor countries are more likely to articulate their opposition to the ECB than are NCBs of economically weak, debtor countries. The latter may be reticent to articulate their opposition to minimize adverse market reaction or in anticipation of potential help from the ECB – either in the form of liquidity assistance for the domestic banking system or in the form of bond-buying of national debt.

H5: NCBs' tendency to disagree with the ECB increases the less dependent they are on its financial support.

Research design

To identify the sources of the disagreement within the ECB, we constructed a measure of disagreement between the policy position articulated in public speeches by the ECB President and the position articulated by the governors of the NCBs that make up the Eurosystem. To this end, we built an original dataset by retrieving all speeches publicly issued by the Presidents of the ECB and the governors of the NCBs from 2001 to 2017.[4] Specifically, we collected data on the speeches delivered by central bank heads in Austria,

Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. Our corpus consists of 1504 speeches, of which 591 speeches were delivered by the Presidents of the ECB and 913 were delivered by the governors of the NCBs. The corpus includes speeches directed at various audiences, including speeches delivered before elected policymakers, at academic and economic conferences, and before business and consumer associations. Importantly, all speeches are in English.

To estimate a reliable measure of the disagreement between the NCBs and the ECB based on public speeches, we confronted the problem of how to make the documents comparable. Indeed, the speeches delivered by central bankers are composite texts that rarely focus on just one issue, especially in light of the synergies between monetary policy and other economic policies. For instance, labor market-related issues regularly appear in central bankers' communication because unemployment impacts the inflation level according to the traditional logic of the Phillips curve. Likewise, fiscal policy arises in the discussion of monetary policymakers because government spending strategies affect the level of overall demand in the economy (see Diessner and Lisi, 2019).

To account for the characteristics of central banks' communication and identify comparable issues over which conflicts play out, we developed a two-step research design: first, we used latent Dirichlet allocation (LDA) to identify the topics in central bankers' speeches; second, we estimated the level of disagreement for the topics identified.

Topic models

We extrapolated the topics in central bankers' communication by applying the LDA algorithm (Blei et al., 2003), a widely applied unsupervised learning topic model. As a class of Bayesian, mixed-membership models, LDA models assume the existence of many topics in a document and expect each document to be characterized by a mixture of topics with a specific probability (see also van der Veer and Haverland, 2018). In particular, we applied LDA to segments of text (i.e. paragraphs) to single out internally coherent topics (Lai et al., 2016).[5]

Under the LDA framework, as under other commonly used topic model techniques, it is up to the researcher to indicate the number of topics to be estimated by the model, and standard practice is to use the interpretability criterion. That is, researchers are expected to select the model that extrapolates the most easily interpretable sets of topics after conducting several tests with other models extrapolating different numbers of topics that produce less easily interpretable results (Grimmer and Stewart, 2013; Wilkerson and Casas, 2017). Before following the standard practice in the literature, we conducted a diagnostic test aimed at minimizing the discretion granted to the researcher. Specifically, we computed Deveaud's metrics (Deveaud et al., 2014), which quantitatively estimate the optimal number of topics to extrapolate from a text corpus to maximize the goodness of fit of the model. The results suggest that this condition is satisfied when the number of topics detected is between 30 and 45 (see the Online appendix).

After identifying the optimal range of topics to be extrapolated, we qualitatively interpreted and validated the results following the standard interpretability criterion (all results of the following research steps are reported in the Online appendix). In line with this

practice, we assigned a label to each of the 30 topics by examining the most representative words associated with it and the connections among the topics. We further validated the results based on two strategies. First, we examined the salience of each of the 30 topics over time with the expectation that it should also reflect major economic and financial events. Second, we repeatedly applied LDA extracting different numbers of topics for different models to generate multiple outputs (i.e. we performed extrapolations with 10, 15, 20, 25, and 30 topics) (see Grimmer and King, 2011). Then, we computed the similarity among the topics extrapolated in different models to estimate the consistency of each topic over different extrapolations.

The topics identified based on the interpretation of the model estimation, which are reported in the Online appendix, capture issues that are associated with the following aspects of the ECB activity: the ECB monetary and financial policy (namely topics that pertain to the mandate, tools and operational framework of monetary policy; to liquidity assistance; and to micro and macroprudential regulation); the ECB role in the construction of the Economic and Monetary Union (EMU) (including topics that address issues connected with the adoption of the single currency such as exchange rate convergence); the ECB relationship with member countries' economic policies (including topics that pertain to government finances and structural reforms); and officials' reflections on central banking issues (including issues related to global economic conditions and academic debates on aspects of central banking practices). Each of this topic is associated with a set of representative words. For instance, the most representative words for each of the topics classified as capturing talk on 'Monetary Policy' include terms such as 'monetari, stabil,

price, object, maintain' (for the topic classified as 'Mandate'); 'rate, inflat, interest, level, target' (for the topic classified as 'Policy Tools'); and 'price, growth, area, euro, medium, outlook' (for the topic classified as 'Operational Framework') (the full list of the most representative words is provided in the Online appendix). These terms collectively reflect the ECB's formal responsibility to achieve price stability over the medium term by changing the level of interest rates for the Euro area as a whole.

Cosine similarity

Building on the results of the LDA analysis, we estimated the level of disagreement between the ECB and the NCBs as follows:

$$\frac{1}{I}\sum_{i}^{I}[1 + (w_{i\,NCB} - w_{i\,ECB})]|P_{i\,ECB} - P_{i\,NCB}| \qquad (1)$$

where $|P_{i\,ECB} - P_{i\,NCB}|$ represents the distance between position $P_{i\,ECB}$ of the ECB on a specific issue i and position $P_{i\,NCB}$ of a NCB on the same issue i, while $w_{i\,ECB}$ and $w_{i\,NCB}$ stand for the salience attributed by the ECB and each NCB to a specific topic, respectively, operationalized by the proportion of segments of speech dedicated to the specific topic by each central bank. Based on Equation 1, we assume that the disagreement between the two

institutions increases either as a function of the difference in the policy stance of the two institutions (that is, when $|P_{i\,ECB} - P_{i\,NCB}|$ increases) and as a function of the salience assigned to each issue by the NCB with respect to the ECB – e.g. when the NCB assigns more salience to a certain topic i with respect to the salience attributed to the same topic by the ECB.

To measure the degree of disagreement between the NCBs and the ECB, we relied on cosine similarity, an intuitive measure of semantic distance that has been increasingly used in a number of fields of social sciences.[6] By representing the texts as vectors in a Cartesian space, cosine similarity estimates the differences between two texts based on vectors of word occurrences. The possible divergence between two texts ranges between 0 and 1, where 0 is reached when two texts are completely different and 1 is reached when two texts have identical feature proportions.

In addition to considering its intuitiveness, we relied on cosine similarity considering the purposes of the analysis. Indeed, a measure of similarity based on vectors of word occurrences is the most appropriate technique when the purpose of analysis is to gauge differences in the content and attention that actors devote to specific issues rather than differences in the position of actors on a latent dimension (Benoit, 2019), such as the hawk/dove dimension that is widely used to ascertain central bankers' preferences (see Baerg and Lowe, 2018). Another practical advantage of cosine similarity is that this measure is not affected by differences in document length.

According to cosine similarity, 1 stands for maximum similarity and 0 represents the maximum disagreement; thus, we operationalized the difference between the position of the ECB and the NCBs $|P_{i\,ECB} - P_{i\,NCB}|$ as follows:

$$1 - cos.sim(P_{i\,ECB}; P_{i\,NCB})$$

where $cos.sim(P_{i\,ECB}; P_{i\,NCB})$ represents the cosine similarity between the position of the ECB and that of a NCB on topic i. More specifically, disagreement is estimated based on the cosine similarity between the speeches delivered by the ECB Presidents and the governors of the NCBs by topic, year, and country, where higher values of cosine similarity correspond to higher levels of disagreement. In particular, we aggregated the segments of speeches (that is, paragraphs) delivered by each NCB Governor during the same year on the same topic. Furthermore, a NCB's position on a given topic was considered only when at least three segments of text were devoted to such a topic by the governor of the NCB. This procedure increases the reliability of cosine similarity estimates, which, in the presence of multiple topics between the documents to be compared, would have estimated the differences in the mix of topics between the two texts (or aggregated segments of speeches) instead of their textual differences (see Menini et al., 2017). In short, by estimating cosine similarity between two documents, each of which aggregates parts of speeches on the same topic in the same year, we practically capture the (semantic) differences on a specific topic between the two

documents. Since ECB policymakers usually are very careful to ensure consistent and homogenous language in their external communication, as extensively discussed before, the presence of semantic differences can be safely assumed to indicate disagreement in the way central bankers interpret a specific policy issue and allocate attention to it.

Since the results of the LDA models provide a highly diversified set of topics, it is plausible to hypothesize that the level of disagreement varies according to the topics taken into consideration, with the highest level of disagreement associated with the discussion of topics that entail distributional implications along national lines. We therefore applied Equation 1 to compute not only the level of overall disagreement but also the level of disagreement on a number of selected, divisive issues.[7]

In short, we calculated two indices of disagreement. The first one refers to the disagreement between the NCBs and the ECB on all topics identified in central bankers' communication in the period under investigation. The second index gauges disagreement related to a subset of topics that were chosen because of the distributive conflicts they elicited among member states following the sovereign debt crisis of 2010. To identify the issues to be included in the subset, we relied on scholarly works on the politics of the Eurozone crisis. In particular, we built on academic studies in different theoretical traditions that have identified the major points of contention in interstate negotiations regarding how to manage the crisis and reform the EMU architecture (namely Copelovitch et al., 2016; Howarth and Quaglia, 2015; Matthijs and Blyth, 2015 and the references therein).

Based on the reading of the relevant literature, we selected the following topics: *mandate, policy tools and operational framework of monetary policy; standard and non-standard*

liquidity assistance; microprudential regulation; government finances, and structural reforms. All of these issues have been at the center of fierce distributional battles among Eurozone governments. For instance, issues related to the monetary policy stance have pitted creditor against debtor countries, with the former blaming the excessively loose monetary policy for hurting domestic savers, sowing the seeds of a future financial crisis or even stoking the rise of populist parties.[8] Financial regulation has also elicited significant conflict among member states, as attested by the debate surrounding the creation of the Banking Union and the attendant adjustment costs for diverse national financial systems (Howarth and Quaglia, 2016). Liquidity and credit assistance have also elicited heated debates among member states about whether and to what extent support should be provided to struggling financial institutions exposed to default risk in some member states and whether creditor countries should shoulder some of the adjustment burden in debtor countries (see Copelovitch et al., 2016). Among the topics related to member countries' economic policies, those that refer to public finances and structural reforms have been subjects of particularly intense interstate conflicts: the negotiations surrounding the disbursement of financial assistance to crisis-hit countries provide a clear illustration of these bitter political dynamics (Moschella, 2016; Walter, 2015).

Explanatory variables

To test the hypotheses developed in the preceding sections, we use the following variables.

Ideology: To test *H1*, *H2* and *H3*, we use two variables taken from the Comparative Manifesto Project (CMP) dataset. The first variable estimates the position of the parliamentary majority supporting the government on the *left/right* continuum, while the second operationalizes the position of the parliamentary majority supporting the government on the *EU support* dimension. Left/right positions are estimated based on the Right-Left index, while the *EU support* dimension is the difference between the *per108* and *per110* variables of the CMP dataset.The position of the parliamentary majority supporting the government is computed by weighting the position of the parties in the majority by their relevance within the governing coalition in terms of parliamentary seats (data are taken from the Parliaments and Governments database (ParlGov)).

Public Opinion: To test *H4*, we operationalize positive public opinion disposition towards the ECB as the percentage of citizens per country declaring in Eurobarometer surveys that they tend to *trust the ECB* as an institution. As a further proxy of positive public opinion, we use the percentage of individuals per country who consider membership in the *EU as a benefit* for their country.

Economic interests: To test *H5*, we use four variables that capture national economic and financial vulnerabilities. The first two variables, whose values are taken from the Eurostat database, are the *deficit/GDP* ratio and the *spread* between member countries' ten-year government bond yields and the German ten-year Bund. Both variables are proxies of the unsustainability of domestic public debts, which in turn increase the need for ECB bond-buying assistance and thus decrease NCBs' inclination to disagree with the ECB. The third variable, *Target 2*, is a proxy of the vulnerabilities of domestic financial systems.[9] Target is

the settlement system for euro transactions between Eurozone banks, which are channeled through the NCBs. Target balances thus record the net creditor and debtor positions of NCBs vis-à-vis the ECB. Finally, we use the variable *bank credit* to the private sector as a percentage of the GDP available from the World Bank database. Similar to Target 2 data, this variable captures a country's financial vulnerability because excessive credit growth is widely regarded as one of the best predictors of financial crises (Gourinchas and Obstfeld, 2012; Schularick and Taylor, 2012).

Controls: A number of economic factors might impact the level of disagreement between the NCBs and the ECB, as evidenced in the literature on the 'regional' biases of Fed governors (Chappell et al., 2008; Meade and Sheets, 2005). In line with this scholarship, we include a number of economic indicators that commonly figure in central bankers' reaction functions: the annual national percentage change in the GDP (*GDP change)*, the annual national *unemployment* rate, and the national level of *inflation* measured through the Harmonised Index of Consumer Prices (HICP). All data are taken from the Eurostat database.

We also control for the impact of the cleavage between old/new members in line with some of the findings that pertain to the pattern of conflict in the European Council (Mattila, 2004). In this respect, we create a dichotomous variable that takes the value of 0 if the member state is a founding member of the EU and 1 if it joined the EU at a later stage.

Analysis and results

To test our hypotheses, we use a time-series, cross-sectional linear regression analysis. Since the unit of analysis is the difference in the positions of the ECB and each NCB in a specific year, our variables are clustered in both space (the country of the NCB) and time (the year). Hence, a time-series cross-sectional analysis is the most suitable solution.[10]

Table 1. Political determinants of disagreement between NCBs and the ECB

	Model 1	**Model 2**	**Model 3**	**Model 4**
Controls				
GDP change	-0.026	-0.021	-0.053	-0.047
	(0.043)	(0.047)	(0.040)	(0.043)
Unemployment	-0.020	-0.018	0.000	0.002
	(0.076)	(0.077)	(0.076)	(0.074)
Inflation (HICP)	-0.556*	-0.535*	-0.448*	-0.426
	(0.247)	(0.259)	(0.226)	(0.237)
EU founder country	0.557	0.440	0.778	0.643
	(0.358)	(0.378)	(0.434)	(0.443)
Ideology				
Government left-wing position	0.659**	0.476	0.540**	0.338
	(0.218)	(0.393)	(0.173)	(0.319)

Government EU support	-6.740***	-7.104***	-5.604***	-6.017***
	(1.690)	(1.883)	(1.379)	(1.551)
Government left-wing position | EU support		0.576		0.639
		(0.915)		(0.773)
Public Opinion				
Pub. Op. EU benefit	-0.052	-0.051	-0.046	-0.045
	(0.036)	(0.035)	(0.032)	(0.032)
Pub. Op. ECB trust	-0.033	-0.032	-0.035	-0.035
	(0.034)	(0.034)	(0.028)	(0.028)
Economic Interests				
Deficit/GDP	-0.050	-0.048	-0.051	-0.048
	(0.055)	(0.055)	(0.047)	(0.046)
Target 2	0.133	0.131	0.139	0.135
	(0.118)	(0.122)	(0.089)	(0.092)
Bank credit to private sector	0.041*	0.039*	0.037*	0.035*
	(0.017)	(0.018)	(0.015)	(0.016)
Spread	0.045	0.025	0.073	0.051
	(0.242)	(0.266)	(0.209)	(0.231)
Intercept	16.331***	16.569***	13.615***	13.901***
	(4.876)	(4.834)	(4.299)	(4.254)
Num. obs.	132	132	134	134
R^2 (overall)	0.228	0.229	0.223	0.225

Standard errors in parentheses; *** p<0.001; **p<0.01; * p<0.05.

HICP: Harmonised Index of Consumer Prices

Table 2 shows the results of the statistical analysis. Models 1 and 2 investigate whether government ideology, public opinion and economic interests have an impact on NCBs' disagreement with the ECB, based on the overall index of disagreement. Models 3 and 4 test the same hypotheses on the subset of issues that have been at the heart of intense distributional conflicts among member states since the start of the crisis.

First, we find that governments' partisanship and inclinations towards the EU are highly statistically significant predictors of disagreement between the NCBs and the ECB. When we estimate the direct effects of the ideological variables, governments' left-wing

positioning impacts the level of disagreement between the NCBs and the ECB in all models. Moreover, governments' partisanship affects disagreement in line with hypothesis 1: a more left-wing position of the government increases the level of disagreement between the NCBs and the ECB ($p < 0.001$). We also find empirical support for hypothesis 2: governments' pro-EU stance strongly lowers levels of disagreement ($p < 0.001$).

Although Model 1 and Model 3 reveal an effect of governments' ideological preferences on the level of national disagreement with the ECB, we obtain a more precise picture of this effect by testing the conditional effect of the left-right positioning across the values of governments' support for the EU. In particular, we introduce an interaction term between two variables to test whether the impact of left-wing control of the cabinet is weakened by higher levels of government support for the EU, as postulated by hypothesis 3. After controlling for the linearity of the interaction effect and computing marginal effects (Hainmueller et al., 2019; see Online appendix), we did not find support for hypothesis 3. This finding, which is contrast to what has been found for other EU institutions and most notably for the EU Council where support for the EU moderates disagreement among members (Mattila 2004), might have to do with the type of decision-makers that sit in the ECB. In the EU Council, the political actors who voice disagreement are elected policymakers that want to signal their opposition to decisions that are not aligned with the preferences of their voters (see also Hagemann et al 2017). In the ECB, instead, the relevant policymakers are unelected technocrats, who are nominated by domestic governments with distinct ideological preferences that operate independently on central bankers' behavior.

Moving from the impact of government ideology to the one exerted by public opinion, we do not find empirical support for the impact of public attitudes on the level of disagreement articulated by ECB policymakers. Indeed, public opinion does not represent a significant explanatory variable for the variation of disagreement between the NCBs and the ECB. This finding suggests that the responsiveness of the ECB to the European public is more tenuous than is the case for other EU institutions (see Hagemmann et al., 2017), lending some support to the argument that European central bankers are largely insulated from societal pressures at the detriment of democratic control (Transparency International EU, 2017).

Finally, we do not find supporting evidence that national economic and financial vulnerabilities affect the level of disagreement of NCBs by muting disagreement (hypothesis 5). The coefficients for the variables *deficit/GDP*, *target 2*, and *spread* are not statistically significant irrespective of the disagreement index used in the analysis. Furthermore, the positive coefficient of the variable *bank credit to the private sector* contradicts hypothesis 5 and suggests that the vulnerabilities of the domestic financial sector do not prevent the NCBs from articulating their opposition to the ECB policy stance. The findings, while not in line with our expectations, are nonetheless striking and important, suggesting that NCB governors are not afraid of voicing their concerns even if they represent countries with economic and financial fundamentals that are not particularly strong. This probably signals that NCBs perceive ECB decision-making as largely fair and not hostage to national economic considerations.

Conclusions

The ECB is an EU institution whose role has become increasingly key to the functioning of the single currency, and it is one of the major central banks in advanced economies whose committee decision-making system raises the question of how to reconcile potential disagreement among monetary policymakers. Although the ECB carefully minimizes the display of disagreement among its members and asserts that only Euro-area economic conditions are considered in policy deliberations, we argue that domestic political factors significantly contribute to shaping disagreement. Specifically, we find that disagreement among European central bankers is significantly shaped by domestic governments' partisanship as well as by governments' attitudes towards the EU integration process.

Our findings have several implications for the study of the ECB and the dimensionality of politics in the EU. First, our analysis reveals significant levels of disagreement among the NCBs that make up the Eurosystem, a finding that challenges several descriptions of the ECB and other central banks as cohesive epistemic communities where internal disagreement is tempered by a shared economic culture and a common professional background (Ban and Patenaude, 2019; Dyson and Marcussen, 2009: 27; McNamara, 1998). Of course, disagreement in public speeches is not inconsistent with the view that decisions are ultimately made in a collegial manner: NCBs might moderate their opposition or not voice it even when they sit in formal deliberations. However, NCBs may well use public posturing before and after policy meetings to influence future decisions.

Furthermore, too much variation in European central bankers' speeches may send mixed signals to market participants, thereby weakening the effectiveness of monetary policy.

Second, the findings of the article contribute to the debate on the dimensionality of politics in EU institutions by shedding light on the understudied case of the ECB. In particular, our findings indicate that the expectations developed to account for the policy space in other EU institutions also apply to the ECB. In other words, our findings suggest that the ECB can be studied like other EU institutions where policymakers are exposed to domestic electoral opinions and governmental preferences. Although our analysis provides a systematic account of the dimensionality within the ECB, it also has some limitations. In particular, we investigated the level of disagreement among national bankers and the ECB but did not provide information on the content of the policy preferences of individual monetary policymakers, for instance, with regard to preferences for a more restrictive or accommodative monetary policy or the factors that shape these preferences. Individual-level preferences, in terms of hawkishness or dovishness, might be relevant to explaining disagreement among committee members.

Finally, the article offers an empirical contribution to the study of political space beyond the case study analyzed here. Specifically, we develop a method that allows gauging the difference between individual policymakers' preferences by estimating the semantic distance between their position-taking articulated in their public speeches. Our empirical approach represents an important advance in the application of text analyses in research on political phenomena and offers a promising tool for measuring conflict in other political settings. In particular, our empirical approach allows circumventing the problems

associated with studying position-taking in secluded policy settings, namely, settings where decisions are made behind closed doors and access to information on individual preferences and position-taking is thus limited. The methodology proposed here can thus have broader significance for studying conflicts beyond the central banks' monetary committees by allowing the assessment of conflicts in other closed-door settings where limited transparency constitutes one serious hurdle to empirical research.

Notes

[1] ECB press conference on August 11, 2001; see http://www.ecb.europa.eu/press/pressconf/2001/html/is011108.en.html (accessed on 22 October 2019).

[2] According to the European System of Central Banks Statute, the number of NCBs with the right to vote in the Governing Council cannot exceed 15. Hence, a system of rotation was established once the upper limit was reached in 2008, and it came into effect in 2015.

[3] Anecdotal evidence of this trend is provided by Wolfgang Schäuble's complaint that the ECB's loose monetary policy contributed to the rise of the right-wing Alternative for Germany party and by Matteo Salvini's accusations against the Bank of Italy for inflicting losses on Italian savers during the banking crisis.

[4] Speeches were retrieved from the Bank for International Settlements database using Python's BeautifulSoup library. Although we started collecting speeches from the creation of the ECB in 1998, the analysis starts on 1st January 2001 because of data availability problems regarding some of our independent variables.

[5] Following standard practices, we pre-processed each text by discarding numbers, punctuation, capitalization, and 'stop words'. We also kept only the 'stem' of each word, and to reduce sparsity, we kept only words that appeared at least five times across all documents.
[6] Cosine similarity has been used, for example, to compare similarity among legislations (Garrett and Jansa, 2015), parliamentary speeches (Martocchia et al., 2018), international financial regulation (Lechner, 2018; Pagliari and Wilf, 2018), and parties' manifestos (Menini et al., 2017).
[7] To make the two indices comparable, we proportioned disagreement based on the number of issues included in the estimation of disagreement.
[8] For instance, German political leaders have regularly blamed the ECB monetary policy for its negative impact on German savers.
[9] Data are taken from the ECB database. Following the indication reported on the ECB website, we use monthly averaged data. Since our unit of analysis is the country in the year, we then average the monthly data at the annual level.
[10] We also test the presence of heteroskedasticity and autocorrelation in the data via the likelihood-ratio (LR) test and the Wooldrige test (Drukker, 2003). The results of the LR test show the presence of heteroskedasticity across panels ($p < 0.001$), while autocorrelation is not an issue for the analysis ($p > 0.001$); thus, standard errors are corrected at the panel level.

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