

Central Bankers' Economic Philosophies and Policies: The European Central Bank as Orthodox Outlier

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Abstract: *For all its powers, we know little about how the Governing Council of the European Central Bank (ECB) makes its decisions and why. In light of its ever-increasing importance in European governance and the criticism this has attracted, this is particularly regrettable. Often a welcome scapegoat, the ECB has been accused of doing first too little, then too late. Compared to other major central banks such as the Federal Reserve or the Bank of England, the ECB has indeed long been a laggard – regarding both conventional interest rate policies and more unconventional balance sheet operations. Why?*

I argue that central bankers' policy experiments after the financial crisis are a prime example of policymaking under conditions of Knightian uncertainty. Faced with an unprecedented situation, central bankers were unable to draw on historical experience and had to resort to their beliefs about how the economy works instead. Based on a survey among 422 central bank economists, I quantify these different ways of thinking.

My survey data suggests a) that certain economic beliefs matter for preferences and b) that both are unevenly distributed among central banks. In particular, the ECB leans more towards orthodox beliefs and hawkish inflation preferences than the US Fed and the Bank of England. It is considerably more conservative. Within the Eurosystem, different national central banks are clustered regarding both beliefs and preferences, showing a dividing line in economic philosophy between core and periphery.

This suggests that the frequently surfacing conflicts inside the ECB's Governing Council are a battle of ideas rather than a conflict of interests between creditor and debtor states. Proponents of activist monetary policy at the ECB had to overcome enormous resistance from within before they could follow the examples set by others. I argue that this is why the ECB first did too little to support the economy, and only changed its orthodox stance very late.

¹ I thank Sven Steinmo, Björn Bremer, Alessandro Giovannini, and Lukas Haffert for their comments on previous versions of this paper. I am also enormously grateful to Richard Portes, whose kind help in designing and disseminating the survey presented was crucial for my data collection. All remaining mistakes are mine.

If the tragic and seemingly endless Eurozone crisis knows one ‘winner’, it certainly is the European Central Bank (ECB). Since the crisis began, the ECB has greatly increased its powers and has eventually become the dominant actor in European economic governance. In the eyes of many, it became the only institution left with the capability to act. Compared to other European institutions, which appeared paralyzed by divergent national interests and their intergovernmental decision-making mode, the highly autonomous ECB has proven that it can make and implement policies quickly. However, the ECB did not actively pursue new powers, due to concerns about its independence. It merely accepted them, often rather reluctantly. Nevertheless, it ended up with ever more responsibilities, facing ever higher expectations.

Still, the ECB remains a poorly understood institution. For all its powers, we know remarkably little about how – and why – it makes the decisions it does. Shrouded in mystery, the world’s most independent central bank is, at the same time, the least transparent. Deciding behind closed doors and refraining from issuing detailed minutes or voting records of its meetings, the ECB often leaves observers puzzled. Analysts and the financial press are left with no other option than to engage in guesswork when trying to understand why the ECB does what it does.

This lacuna restricts our understanding of the ECB’s relatively conservative behavior during the crisis. While central banks around the world reversed the orthodoxy of the past several decades (Davies 2013) and attempted to counter the ‘Great Recession’ by increasing the money supply through a variety of mechanisms, the ECB took a much more cautious approach. Despite record-high unemployment and low inflation rates, it long remained hesitant to adopt the expansionary policies its peers pursued. Or, to state it more bluntly: while others reacted to the crisis by fighting unemployment, the ECB continued to fight inflation. Given the criticism this received, why did the ECB not do more? What kept it from pursuing the extraordinary policies of its peers until 2015? Why did it take so long to change its conservative stance?

In order to understand why a supranational central bank does what it does, it is essential to go beyond methodological nationalism. Conventional analyses of ECB policy expect it to reflect the interests and relative power of EMU member states. Such accounts, however, have problems explaining why German officials were overruled in the ECB Governing Council’s most momentous decisions (e.g. its OMT program in 2012 and the QE decision of 2015), while they apparently remained in the driving seat at other times.

Another research tradition analyses central bank policy as a function of their mandates, measured through detailed indices of central bank independence. Yet the Maastricht Treaty is “full of artful compromises and deliberate obfuscations” (Cohen 2008: 53), giving ECB officials considerable room for maneuver. If conditions change, the ECB

has the freedom to reinterpret its own mandate – and it has clearly done so during the crisis. In theoretical terms, *this lack of strict institutional constraints opens the door for agency*.

This paper therefore zeroes in on those who actually make monetary policy: central bankers. As recent ECB policies neither invariably reflect the preferences of powerful nations nor a single interpretation of its mandate, my thesis emphasizes the human factor in central banking. If we are to understand why ECB officials do what they do, I argue, we need to better understand their thinking and how it influences their policy preferences. This is particularly true for monetary policymaking in extraordinary times. I argue that central bankers' policy experiments after the financial crisis are a prime example of policymaking under conditions of *Knightian uncertainty*. Faced with an unprecedented situation, central bankers were unable to draw on historical experiences and had to resort to their beliefs about how the economy works instead. Based on a survey among 422 central bank economists, my thesis aims at quantifying these different ways of thinking.

My survey data suggests a) that economic beliefs matter for policy preferences and b) that both are unevenly distributed among central banks. In particular, ECB economists are more likely to lean towards orthodox beliefs and hawkish inflation preferences than their colleagues in the US and Britain. Within the Eurosystem, different national central banks are clustered regarding both beliefs and preferences, suggesting a dividing line in economic philosophy between an orthodox core and a more revisionist periphery – with the ECB stuck in the middle. Northern European central bankers are much more conservative and more reluctant to experiment than central bankers elsewhere.

This suggests that the frequently surfacing conflicts inside the ECB's Governing Council are battles of ideas rather than conflicts of interests between creditor and debtor states. Trying to find some middle ground between the divergent beliefs and preferences of its member institutions, the ECB remained closer to old orthodoxies in its response to the Great Recession than its American and British counterparts, which quickly tore up their rulebooks. Inside the Eurosystem, proponents of activist monetary policy had to overcome enormous resistance from within before they could follow the examples set by others. I argue that this is why the ECB first did too little to support the economy, and only changed its orthodox stance very late.

I start this paper by qualifying what monetary conservatism means in an age of unprecedented policy experimentation and show the differences between the policies of ECB, Fed and BoE after 2007 (1). Section two offers a new approach to central bank decision-making which emphasizes policymakers' economic beliefs. It introduces my survey-based measure of central bankers' beliefs and provides basic information about my sample and response rates. The following third section shows how beliefs are asso-

ciated with policy preferences according to my survey data. Section 4 discusses cross-country variation with a particular emphasis on national central banks within the Eurosystem, before section five concludes.

1. Conservative monetary policy in uncharted territory

“As I warned in 1993, when the ECB structure was first proposed, having an unaccountable central bank with no parliament above it, its independence protected by essentially inviolable international treaty, was a recipe for excessively and destructive counter-inflationary extremism. This is indeed what has happened in response to the crisis.”

Adam S. Posen, 13 November 2013

A rough comparison of key economic indicators in the United States (US), the United Kingdom (UK), and the Eurozone shows that the financial crisis initially affected economic output in similar ways. All currency areas experienced sharp increases in unemployment and a dramatic decline of growth rates. Since 2010, however, the situation has continued to worsen only in the Eurozone. Due to the European sovereign debt crisis, the ECB faced more severe output losses, with unemployment rising to unprecedented levels. During the same period, consumer prices also followed roughly similar trajectories in these regions. On average, however, inflation rates remained lower in the Eurozone (1.6%) than in the UK (2.5%) and the US (1.8%).

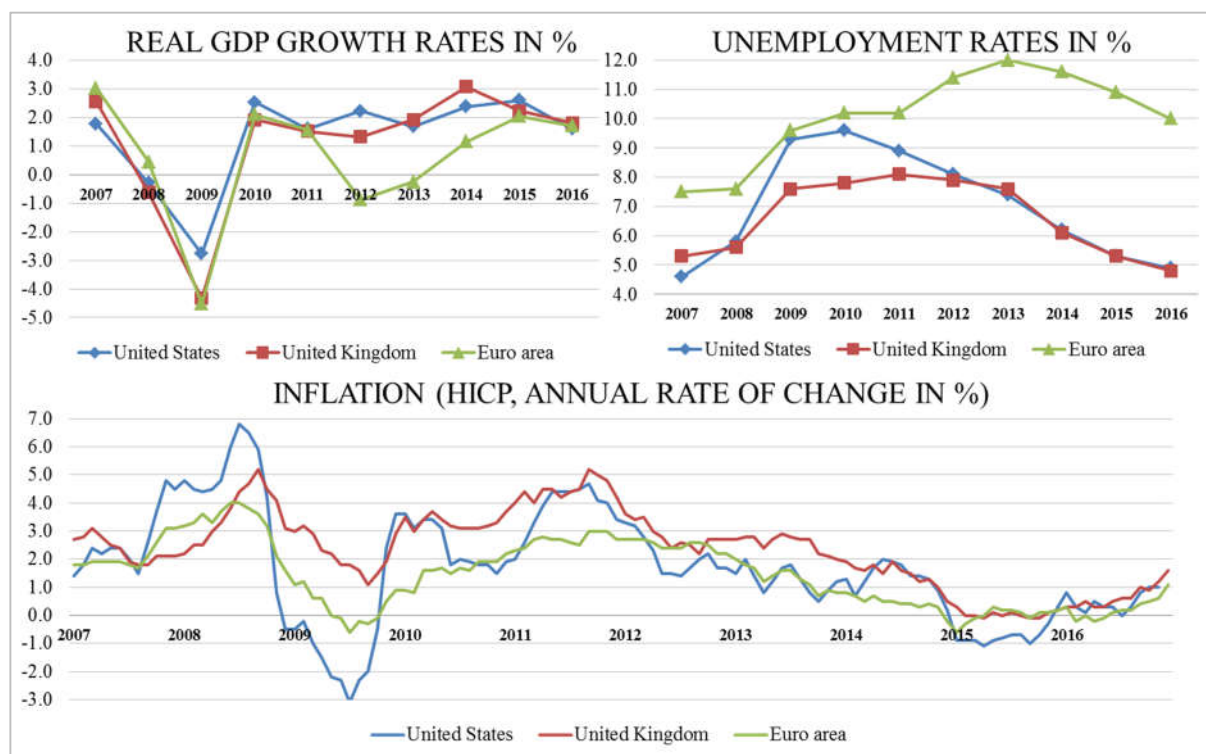


Fig 1: Growth (a), unemployment (b) and inflation rates (c), 2007-15 (Sources: OECD; Eurostat)

If all three currency areas were governed by the same institutions, one would expect the Eurozone to experience the most accommodative monetary policy. However, the reverse is true. Even though the Eurozone produced the lowest numbers for growth

and inflation and, at the same time, faced the highest unemployment rates, its central bank did less than others to stimulate the economy.

Already in the early days of the crisis, both the Fed and the BoE lowered interest rates below 1%. The Fed set it to 0.25% in October 2008 and the BoE to 0.5% in March 2009; and both left them unchanged until the end of 2015. The ECB, to the contrary, first raised rates in 2008 before joining an internationally coordinated rate reduction. Once it reached 1%, however, it hesitated to go any lower until July 2012 (see Fig. 2). The differences between the ECB and its peers became most visible when it famously hiked rates twice in April and July 2011 – suggesting to critics that “the ECB bowed to Germany's anti-inflation fetish”.² This effectively made the ECB the only major central bank to raise rates in the crisis apart from the Swedish Riksbank. And just like the Riksbank, it quickly had to reverse course. During 2012 and 2013, the ECB finally reacted to the continuously rising unemployment and falling inflation rates by gradually lowering rates again until it finally hit zero in March 2016.

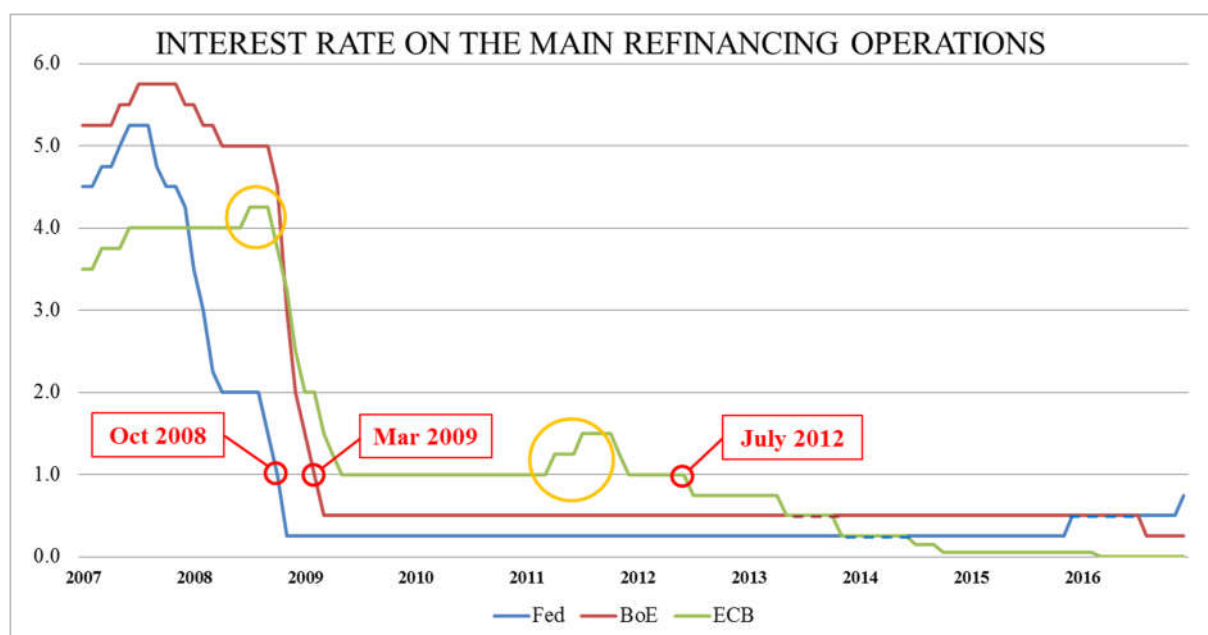


Fig. 2: Interest rates in the Eurozone, the US and the UK, 2007-2016

Timing matters for the impact of rate reductions. As Kang et al. (2015) show in their analysis of market reactions to rate decisions by the Fed and the ECB, the proactive and radical Fed moves had stimulating effects on stock markets. The ECB’s later rate cuts, on the contrary, were merely perceived as reactions to deteriorating conditions and accordingly failed to affect financial conditions in a similar way. In fact, these late decisions combined with musings about inflation risks even led to negative market reactions (see Kang et al. 2015: 6).

² Sunday Independent, “Draghi must end German ECB influence”, 11 Sep 2011.

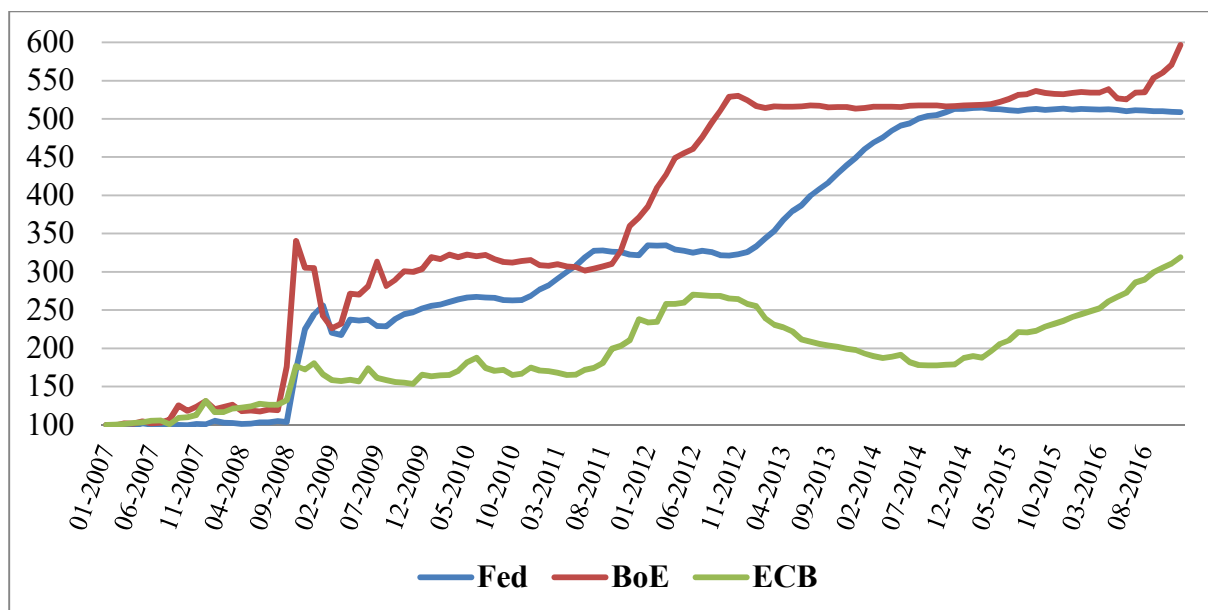


Fig. 3: *Changes in central banks' balance sheets since 2007 (2007 = 100)*

Comparing central banks' unconventional monetary policies is somewhat more difficult because their strategies and instruments differ. However, it is possible to state that the ECB refrained from using its balance sheet like the Fed or the BoE did up until 2015. Between 2012 and 2014, the ECB's balance sheet even shrunk again (as European banks repaid earlier LTRO loans), whereas both the BoE and the Fed continued to increase the supply of base money. In this period the ECB chose not to increase base money despite confronting both record-high unemployment and rising risks of deflation. It only started doing so again with the QE program of 2015. As ECB QE came almost seven years later than in the US, however, it was again judged as coming too late and being much less effective.

Despite coming late, the QE decision signaled a remarkable metamorphosis of the ECB. Under the leadership of Mario Draghi, the ECB also introduced negative rates for deposits and a host of other measures to improve financial conditions throughout 2015 and 2016. As FT commentator Gavyn Davies (2015) put it, "showing all the zeal of a late convert, the Governing Council is now playing catch up, with a vengeance." In this light it may be more appropriate to ask not why the ECB was doing so little but rather why it took so long to adopt the policies of its peers. The fact that the most important changes in ECB policy coincide with changes at the top suggests that individual policymakers have a lot of influence on central bank decisions, especially in times of existential crisis.

2. How to understand decision-making behind closed doors

"We do not disclose the details of our work. It is up to you to guess."

Mario Draghi, 6 Sep 2012

In the age of independent central banks, monetary policy is made by a committee of technocrats whose authority mainly derives from their highly specific knowledge. These specialists pool information, models and expertise in order to collectively arrive at decisions. In the case of the ECB, this happens behind closed doors. No meeting transcripts are published which allow to identify individual positions in order to shield committee members from outside influence. In fact, it would be illegal for members of the ECB Governing Council to take advice from outside parties. In other words: even if there may be no real world example of economic experts making policy entirely free of political interference, the ECB Governing Council comes fairly close.

This makes the ECB both a wonderful and a terrible case to study the role of economic ideas. On the one hand, we can assume the ECB Governing Council to be a setting where economic ideas play a particularly important role. It is designed as an expert committee where equals argue and make decisions consensually without granting politicians a seat (or a phone call). On the other hand, the very rules that were designed to keep politics out of ECB policymaking also keep researchers in the dark. They thus try to "dissect the brains of central bankers" (Bennani 2015) by analyzing speeches, or building assumptions-based models of policymakers' preferences based on their origins (Hayo & Méon 2013) education (Chwiero 2007) or career paths (Adolph 2013).

In addition, there have been ample discussions of potential differences in economic thinking in the financial press, most of them anecdotal and speculative. For instance, much has been made of the ties of both Ben Bernanke and Mario Draghi to the Massachusetts Institute of Technology (MIT), where both received their PhD in the late 1970s under the supervision of Stanley Fischer (Hilsenrath & Blackstone 2012). Even more frequently discussed is "Germany's parallel universe" of macroeconomics (Münchau 2014), assigning German economic thinking a decisive role for fiscal austerity and monetary timidity in the crisis.

Yet, while speculations about differences in economic thinking have received a lot of attention in public debates, they usually remain just that: speculations. In what follows I intend to contribute to this debate by introducing a new survey-based dataset of central bankers' economic beliefs and preferences.

Based on this data, the following chapter discusses the following questions:

- Do central bankers' economic beliefs actually differ? And, if so, which?
- What are the most important drivers of differences in economic beliefs?
- And, perhaps most importantly, how are different economic beliefs linked to individuals' policy preferences?

As I show below, central bankers do indeed hold different views about how the economy works. Crucially, these differences in beliefs are intimately linked to individuals' inflation preferences (see section 3) and I observe important distinctions between different central banks regarding both beliefs and preferences (see section 4). In particular, central bank economists working in Northern and core European monetary institutions differ from their colleagues in Southern Europe as well as Anglo-American central bankers. Northern European central bankers are both more skeptical about the contribution monetary policy can make to stabilize the economy and more concerned about inflationary risks associated with unconventional policies. They are less optimistic about what monetary policy can do and, at the same time, more concerned about trying to do too much. And as beliefs about what is possible “critically shape what is desirable” (Steinmo 2003: 209), Northern European central bankers are also much more hawkish regarding inflation than central bankers elsewhere.

By pointing out these differences, the survey data helps us to understand a) the ECB's lagged response to the Great Recession when compared to its peers, and b) the level of conflict and the dividing lines among Eurosystem central bankers. The data suggests that the ECB was caught in the middle in a battle of economic ideas between an orthodox core and a more revisionist periphery. Trying to find some middle ground between the divergent beliefs and preferences of its member institutions, the ECB's response to the Great Recession remained closer to previous orthodoxy than the Federal Reserve or the Bank of England, which quickly tore up old rulebooks.

Before turning to the survey data (3) and its implications for European monetary policy (4), however, I discuss the details of my survey-based approach below. The following sections lay out my rationale for surveying central bank economists (2.1) and offer details about the data collection process, including a discussion of response rates and potential problems associated with non-response bias (2.2).

2.1 Central bankers' economic beliefs: why and how to measure them

There is no shortage of conceptions of ‘ideas’ (such as worldviews, philosophies, norms, values, shared mental models, or paradigms). In this paper, I conceptualize ideas as ‘shared causal beliefs’. Causal beliefs establish relationships between means and ends and thus provide an account of how the economy works. Monetary theories, understood as probabilistic arguments connecting economic causes and effects, offer policymakers guidance when they face the uncertainties emerging from a crisis. They provide them with an interpretive framework, allowing for reducing uncertainty and making collective action possible (Blyth 2002: 35-39). Thus, causal beliefs help central bankers to make sense of a situation and argue for certain policy responses.

Arguably the biggest hurdle for studying policymakers' beliefs is measuring them. Gerring (1997: 966-8) raises the important question of where we try to locate beliefs – in peoples' minds, behavior, or language? Here our methodology arguably follows

from our epistemological choices: if we look for ideas in actors' minds, we probably interview or survey them. If we focus on behavior, we may opt for participant observation or experimental methods. And if we concentrate on language, we are likely to employ discourse analysis. Unfortunately, the literature on ideas does not always exploit this potential methodological variety. This is of concern for several reasons: first, one may perceive every single mode of inquiry as being inherently flawed in a specific way – and methodological variety therefore as an end in itself. Second, using different methods to study the same phenomenon may yield different results.

Most literature on economic ideas focuses on discourse, typically public speeches. However, policymakers' speech acts are likely to contain strategic elements. Bennani & Neuenkirch (2014), for instance, identify a home bias in ECB officials' speeches, showing that they speak differently to different audiences. Another study of policymakers' understandings of globalization (Hay & Smith 2010) shows a significant disparity between their private understandings and their public statements. These 'communicative discourses' with the public (and market participants) tend to frame policies in a way to increase legitimacy. Their content therefore tends to differ from the 'coordinative discourses' among policymakers (Schmidt 2008). Since financial markets are closely watching their every word, central bankers' speeches are particularly heavily edited – and thus may not reveal what they really think.

A survey-measure, on the other hand, is by definition static and does not enable us to track changes over time (as speech data does). It potentially contains different sources of bias. Some can be contained (e.g. survey nonresponse bias), while others cannot. After all, we never know whether people really say what they think. However, I assume anonymous answers to rather abstract survey questions to carry less strategic elements than public statements closely watched by financial markets. This is why I operationalize central bankers' beliefs at a rather high level of generality, focusing on fundamental causal relationships in the economy.

I thus included the following eight cause-and-effect statements in my survey, asking respondents to which degree they agreed or disagreed with the following:

1. *Inflation is primarily a monetary phenomenon.*
2. *Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation.*
3. *Actors do not err systematically in their expectations of future developments.*
4. *Human beings make mistakes because they perceive monetary values in nominal and not in real terms.*
5. *Monetary policy effects on output or employment growth are only transitory.*
6. *When interest rates are stuck at their lower bound, M1 growth is not inflationary.*
7. *Monetary policy cannot reliably target asset prices.*
8. *There can be no price stability without financial stability.*

Survey respondents saw these eight statements in randomized order and were asked to indicate their degree of agreement with each statement on a scale from –3 (disagree completely) to +3 (agree completely). This, I argue, constitutes a fairly straightforward way to quantify the economic ideas actors hold in a way that allows for comparison across institutions. The scores produced by this survey can serve as useful proxies for the relevance of a particular theory of inflation (1), the role of sticky prices (2), rational expectations (3) and money illusion (4), the effects of monetary policy on growth and employment (5) or the potency and risks of unconventional monetary policy (6). Two different statements regarding the relationship of price stability and financial stability were included as well: whether ‘leaning against the wind’ is possible (7) and how relevant it is to do so for price stability (8).

It is worth noting that all of these statements are positive rather than normative statements: instead of asking how the economy *should work*, they describe a particular theory of how it does. Furthermore, these statements are very broad and general in nature (except for statement 6). I therefore assume the way individual central bankers respond to them to be relatively stable over time. As ideas can change for various reasons – e.g. we may be confronted with new information or persuaded by other actors (Steinmo 2008: 197) – this is of particular importance to a necessarily static survey -based measure like mine. Due to the high level of generality, the beliefs covered in my survey are unlikely to change over time – unless a major economic event happens which is greatly at odds with a particular economic belief and forces those holding it to update their thinking. I thus refer to them as time-insensitive *core economic beliefs*.

The dominant economic beliefs among staff economists identified in this survey are likely to influence decision-making at the top at some times, but fail to have any impact at others (e.g. when leaders opt for a more top-down decision-making style). Certainly, the survey alone is insufficient to establish when the former applies and when it doesn’t. In order to do this, I contextualize the survey results with the help of expert interviews, official documents and media reports. Even by itself, however, the survey measure can provide powerful hints as to which degree the battle for the euro is a battle between North and South, between creditors and debtors, or – as Gerald Braumberger (2015) of the *Frankfurter Allgemeine Zeitung* phrased it – a battle of “Boston versus the Bundesbank”.

This is because the survey also includes two other sections: one asking about respondents’ individual characteristics (such as age, origin, education, work experience, workplace socialization) and another one asking about their level of agreement to reform monetary policy frameworks in the following ways:

1. *Given recent experiences with the lower bound, central banks should have **inflation targets higher than 2%**.*
2. *Central bank should have **nominal-GDP targets**.*

3. ***Financial stability concerns** should be taken into account for monetary policy decisions.*
4. *Central banks should **focus on core inflation** instead of broader measures of inflation.*

This provides hints as to (a) how beliefs emerge and (b) how they influence actors' policy preferences. My core economic beliefs can thus serve as both dependent (a) and independent variable (b). On the one hand, they can be linked to individuals' personal backgrounds in order to assess which factors are most likely to influence central bankers' thinking. Thus it allows to empirically test existing assumptions about belief formation. On the other hand, both individual characteristics and belief indicators can be related to individuals' policy preferences as captured by actors' agreement scores regarding higher inflation targets, the adoption of nominal-GDP targets, a stronger emphasis on financial stability or a focus on core inflation (see Fig 4 below).

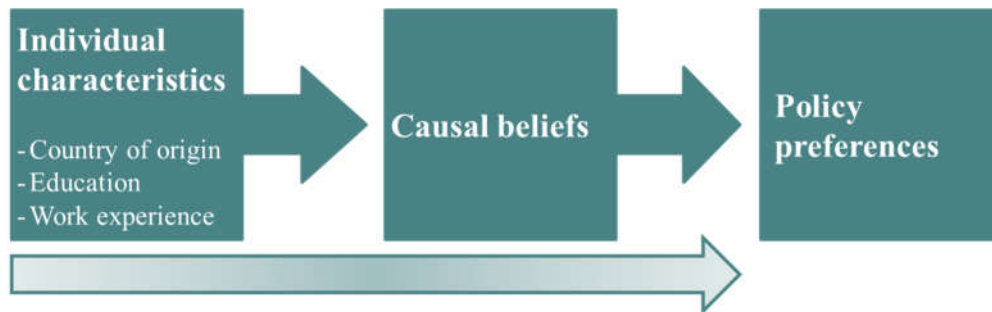


Fig 4: Survey design

2.2 Countries and response rates

As our main interest here is monetary policy in the Eurozone, I sent my questionnaire to all twenty Eurosystem member institutions. In order to make interesting comparisons, however, I also included the Federal Reserve System (Board of Governors and all twelve regional Federal Reserve banks) as well as nine other monetary institutions around the globe. These comprised four more members of the European System of Central Banks (the Bank of England, as well as the central banks of Sweden, Poland, and the Czech Republic) and central banks of three other Anglo-Saxon countries (Australia, Canada, New Zealand). Finally, I included two particularly interesting institutions which do not fall into any of the categories mentioned above: the Swiss National Bank and the National Bank of the Kyrgyz Republic.³

³ The *Swiss National Bank* has a similarly strong emphasis on price stability as the German Bundesbank and is particularly affected by the ECB's policies. The *National Bank of the Kyrgyz Republic* often features prominently in indices of central bank independence, surpassing the ECB as the (formally) most independent central bank in the world (e.g. see Dincer & Eichengreen 2014: 216-18).

I originally included two further institutions in my survey, which I unfortunately had to drop because they returned too few completed questionnaires: the *Banco Central do Brasil* as South America's biggest central bank and the *Bank of Japan*, which serves as an important reference point as the first monetary institution to confront problems related to the zero lower bound.

The results presented below are based on a total of 422 responses collected in an online survey throughout the second half of 2016.

	<i>Contacts</i>	<i>Responses</i>	<i>Response Rate</i>
1) Eurosystem	1290	270	20.9%
European Central Bank	256	46	18.0%
Core countries' NCBs*	424	76	17.9%
Peripheral / Southern countries' NCBs**	498	118	23.7%
Eastern countries' NCBs***	112	30	26.8%
2) Federal Reserve System	743	60	8.1%
3) Anglo-Saxon Central Banks[§]	360	44	12.2%
4) Other Central Banks⁺	264	48	18.2%
Total	2657	422	15.9%

Table 1: Survey response rates for different groups of central banks

- * Austria, Belgium, Germany, Finland, Netherlands, Luxemburg
- ** Cyprus, France, Greece, Ireland, Italy, Malta, Spain, Portugal
- *** Estonia, Latvia, Lithuania, Slovakia, Slovenia
- § Australia, Canada, New Zealand, United Kingdom
- + Czech Republic, Kyrgyzstan, Poland, Sweden, Switzerland

A word on response rates and potential non-response bias: the response rates per institution range from 10.1 to 30 percent, with most central banks falling somewhere in between 15 and 25 percent. Yet, the table above indicates one pattern: the further away a central bank from continental Europe, the lower the response rate. One can only speculate about the reasons underlying this pattern. Yet, three potential factors stand out. First, a dissertation project at the European University Institute, located in Italy, can be expected to be met with more attention and sympathy in Rome and Frankfurt than, say, Kansas City or Sydney.⁴ Second, Anglo-Saxon central banks' webpages feature full profiles of their economists (including contact details) while Eurosystem institutions often don't. Consequently, economists at these institutions can be expected to receive more uninvited requests like mine and thus to be less willing to respond positively. Finally, my data collection coincided with a period when both the Fed and the BoE were subject to harsh political attacks by the Brexit campaign in the UK and the Trump campaign in the US. In this climate, one might expect any organization to tread even more carefully than otherwise when it comes to their communication with the public, including external researchers.⁵

⁴ This probably goes for Prof. Richard Portes as well, who kindly helped my survey by providing a letter of support to be sent to potential respondents. This certainly opened doors everywhere, but perhaps more so in Europe than elsewhere.

⁵ Indeed, I received several emails from Federal Reserve economists declaring they would have liked to participate but their requests for permission to do so were rejected by their heads of department because the organization was currently "being extremely careful in how it communicates" (quote from personal communication).

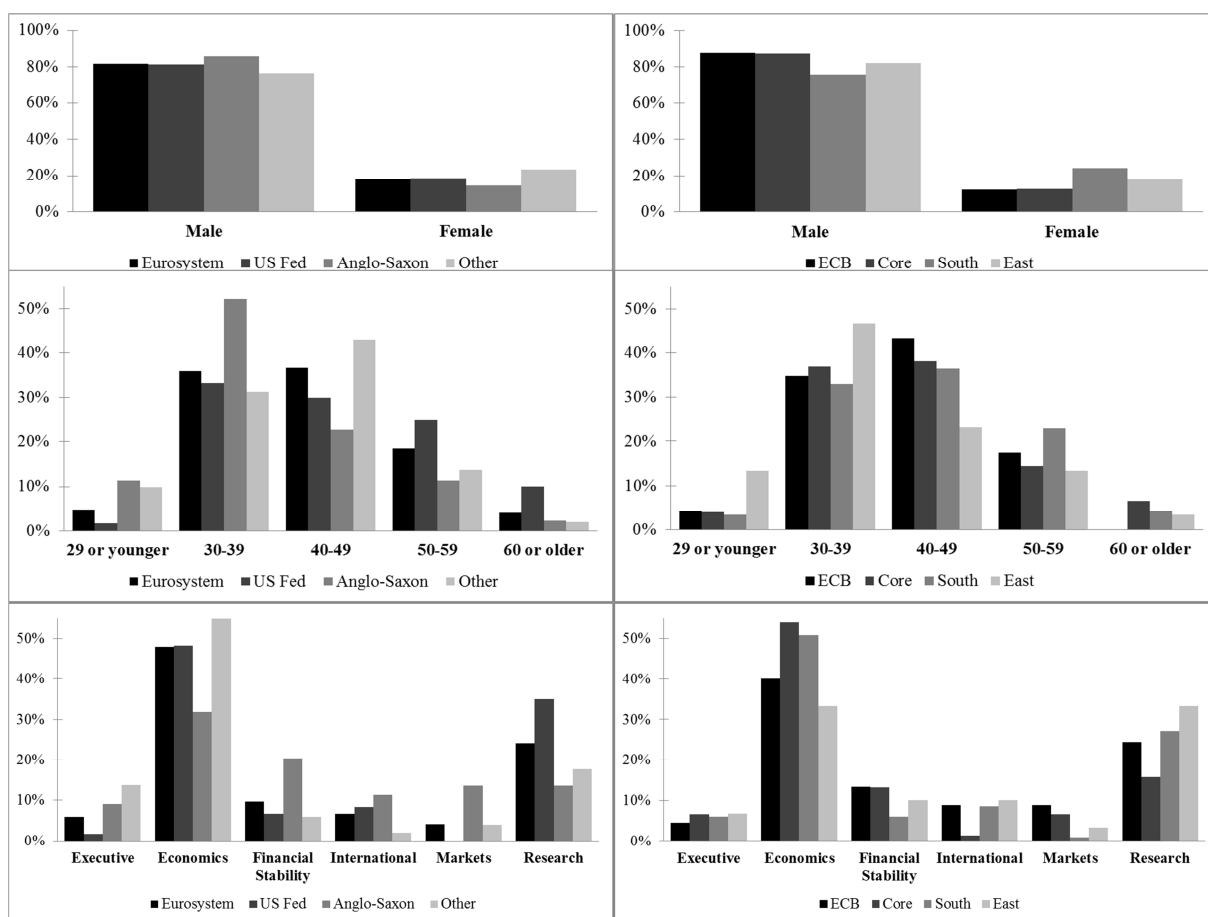


Fig 5: Gender, age, and affiliation to business areas of respondents from different groups of central banks

How do I deal with concerns related to different response rates? First, while I keep all 422 responses for the general analysis, for all institution-specific analyses I only include institutions for which more than 10 percent of all contacted individuals responded *and* where this comprised a minimum of 4 independent responses (the Federal Reserve System with 60 responses and a response rate of only 8.1 percent being the obvious exception). Second, figure 5 above shows that my surveyed populations do not differ significantly across central banks despite differences in response rates. In terms of age and gender, the composition of respondents is fairly similar across the different groups of central banks. Importantly, the biggest and, for the purposes of this study, most relevant groups of respondents (Eurosystem and Federal Reserve System economists) are most similar regarding key characteristics of respondents.

In sum, I argue that comparing the average values across different institutions is possible because these subsamples have similar structures. For the purposes of comparison, then, it does not matter that my respondents do not constitute a perfect representation of beliefs and preferences within each individual institution. What matters is that all subsamples are *equally imperfect*. In other words, I do not claim to compare *representative* subsamples of central bankers; I claim to compare *comparable* subsamples.

3. How economic beliefs matter for policy

“When [a] crisis occurs, the actions that are taken depend on the ideas that are lying around”

Friedman & Friedman (1982: viii)

Central bankers are usually seen as a prime example of a global epistemic community. Typically they are highly educated middle-aged men, who hold Economics PhDs from Anglo-American elite universities. Throughout their education and work experiences they have many opportunities to be socialized in parallel ways, which gives observers the impression that central bankers are likely “to look at and analyze the world in very similar ways” (Marcussen 2006: 191). In other words: we often assume the transnational community of central bankers to hold similar views of the (economic) world. What is the point, then, in asking them to participate in a survey that focuses on *differences* in economic worldviews?

3.1 What central bankers agree and disagree about

I depart from this wide-spread assumption of similarity, which I believe to be mostly a remnant of the ‘Great Moderation’. This does not necessarily mean that differences in thinking did not exist before the crisis challenged many a conventional wisdom and brought disagreements to the fore. Rather, it was possible to ignore existing differences in views as long as central banking was a relatively straightforward and conflict-free business. This, however, is no longer the case as the politicization of monetary policymaking and untypically harsh conflicts among leading central bankers in recent years have shown.

My survey thus documents how economic beliefs inside the central banking community differ. I begin by simply showing the distribution of all responses recorded for the eight cause-and-effect statements about the economy included in my survey. As Table 2 below shows, there is a surprisingly high degree of disagreement. Respondents’ views varied widely on all questions, with the exception of the almost universally accepted importance of price stickiness for monetary policy formation.

I record little agreement on Friedman’s famous Monetarist dictum that inflation is ‘*always and everywhere a monetary phenomenon*’. When asked for their agreement on the (somewhat more moderately phrased) statement that ‘inflation is *primarily* a monetary phenomenon,’ a noticeable majority (268 respondents) supported the view that money primarily determines inflation rates, while a sizable minority (98 respondents) was opposed. Interestingly, there is much more support for the revisionist (Keynesian) notion of price stickiness (with a mean of +2.09) than for the rather orthodox Monetarist theory of inflation (+0.83). This is important because many believe that central bankers can influence economic growth and employment because prices are sticky. Recently, this link between the empirical observation (that prices are indeed sticky) and the policy implication (that central bankers can influence economic activity) has been questioned (see Wang & Wright 2016). However, the way my survey item was

phrased – ‘Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation’ – implies both. Downward rigidities are both real *and* relevant for monetary policy, according to the vast majority of central bank economists in my sample.

Survey items	Mean	SD	N	+	0	–
<i>Causes of inflation</i>						
Inflation is primarily a monetary phenomenon.	0,83	1,62	412	268	48	96
Downward rigidities of prices and wages are relevant for the purposes of monetary policy formation.	2,09	1,08	413	386	12	15
<i>Agents: rational expectations and money illusion</i>						
Agents do not err systematically in their expectations of future developments.	-0,43	1,75	409	143	35	231
Human beings make mistakes because they perceive monetary values in nominal and not in real terms.	1,06	1,43	412	312	36	64
<i>Financial Stability</i>						
Monetary policy cannot reliably target asset prices.	0,97	1,66	413	268	47	98
There can be no price stability without financial stability.	0,98	1,74	407	275	37	95
<i>Growth effects and side-effects of unconventional policy</i>						
Monetary policy effects on output or employment growth are only transitory.	0,93	1,72	417	278	30	109
When interest rates are stuck at their lower bound, M1 growth is not inflationary.	0,52	1,73	366	195	68	103

Table 2: Descriptive statistics for Causal Belief items⁶

When it comes to theories of how economic agents make decisions, the data shows a similar pattern. Central bank economists are, by and large, supportive of money illusion (+1.06) – a revisionist concept often associated with Keynes – and much more skeptical about the orthodox concept of rational expectations expressed in the belief that economic agents do not err systematically (–0.43). This may not surprise the reader in the wake of a financial crisis which saw many of the world’s most powerful financial firms facing bankruptcy because they had erred collectively. Yet, as some ver-

⁶ Table 2 summarizes under ‘+’ all positive responses given in reaction to each statement, ranging from +1 to +3 (agree completely) and under ‘–’ all negative responses, ranging from –1 to –3 (disagree completely).

sion of rational expectations is still built into central banks' models of the economy (Taylor 2016), this widespread skepticism may come as a surprise.

Much controversy surrounds the question of what monetary policy can and should do to secure financial stability. While the period before the financial crisis of 2007/08 clearly showed that price stability alone is insufficient to safeguard the stability of the financial system, the years after the crash seemed to indicate that the reverse is true as well: the turbulent years of the Great Recession saw practically every major central bank miss its price stability target year after year. Consequently, the view that price stability is difficult to attain in the absence of financial stability prevails among the majority of survey respondents (+0.98). While this may speak to upgrading financial stability to a central bank's explicit goal *on equal footing* with price stability, however, it does not automatically imply the use of monetary policy instruments for financial stability purposes. That's why an equally large majority of central bank economists hold that '*monetary policy cannot reliably target asset prices*' (+0.97), which is a core underpinning of the pre-crisis Jackson Hole consensus.

This persistent skepticism about 'leaning against the wind' among central bankers is confirmed in another recent study. Johnson et al. (2016) analyzed central bankers' public speeches after the crisis and found evidence for an emergent, tentative post-crisis consensus among central bankers. This view holds that central banks should focus more on financial stability issues than in the past, but do so through the use of new macroprudential instruments rather than interest rate policy. Whether or not monetary policy can and should be used in the pursuit of financial stability thus remains a difficult topic on which opinions vary.

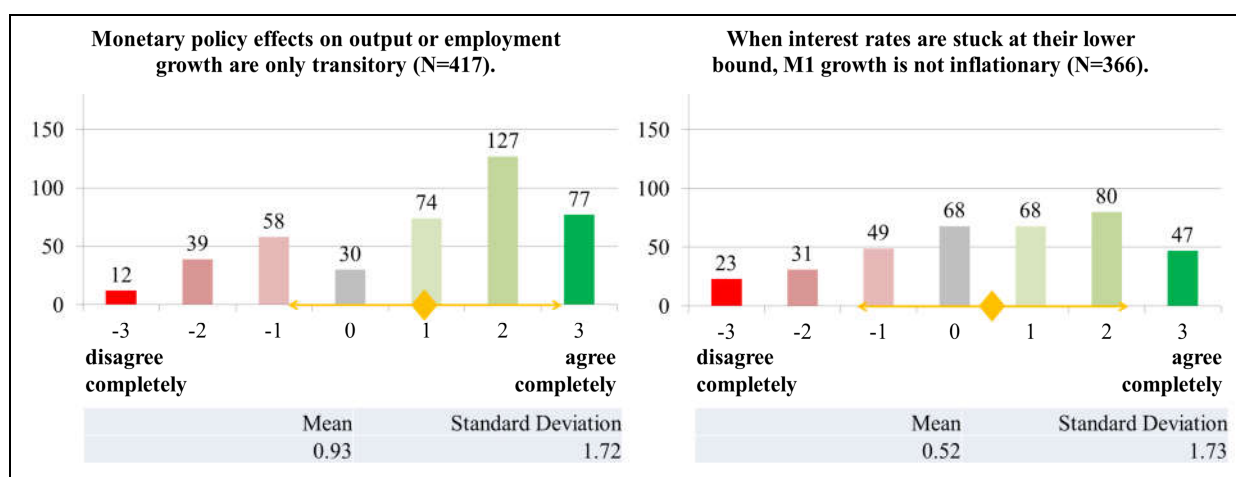


Fig. 6: Responses for items 'Neutrality of Money' and 'Money Growth at ZLB'

I now turn to the two belief items that were arguably the politically most sensitive ones included in the survey. The first concerns the 'Neutrality of Money' and asked respondents whether monetary policy could affect output and employment in a lasting way (see chapter 4.2.2). The idea that monetary policy cannot have a lasting effect on real economic variables such as employment or real GDP is supported by the majority

of respondents (+0.93). In this view, trade-offs between inflation and employment (as the traditional Phillips curve asserts) exist only in the short run. In the long run, an increase in the money supply will be offset by a proportional rise in prices and wages. This means, even if we believe that monetary policy can stabilize the economy in the short run, this effect does not last. In the long run, two out of three respondents believe money to be neutral. This may be consequential for economists' policy preferences, as we can expect those think that monetary policy can have a lasting effect on the economy to be more supportive of activist policies. Supporters of the 'Neutrality of Money' idea, on the contrary, are likely to be less supportive because they do not believe that activist policies induce GDP or employment gains.

The inflationary effects of balance sheet policies became of the most salient and politicized issues of monetary policy in the Great Recession. Proponents of such unconventional policies argued that increasing the supply of base money by purchasing bonds stabilizes the economy without creating inflationary risks, when interest rates are stuck at the zero lower bound (ZLB).⁷ This was hotly debated before the Federal Reserve started experimenting with unconventional policies, and it remains a contested issue. It is still largely unknown how such policies work and which risks and side-effects they may induce. As a consequence, as many as 56 survey respondents chose not to reveal their agreement with the statement: *'When interest rates are stuck at their lower bound, M1 growth is not inflationary'*. Of those who did respond, 195 agreed and 103 disagreed to some degree, underlining the contested nature of this issue (+0.52).

Again, what one believes to be true here should influence one's policy positions. Those who fear the inflationary risks of balance sheet policies are more likely to oppose them (and activist monetary policy in general). Those who do not expect central bank purchases to have adverse effects on inflation, on the other hand, are more likely to endorse unconventional policies designed to stabilize the economy in a recession.⁸

3.2 Economic beliefs and policy preferences

So far I have presented evidence that central bank economists' do disagree about key aspects of monetary theory. This appears to confirm the assumption of Knightian uncertainty established earlier: in the Great Recession central bankers have become more powerful and, at the same time, more uncertain about their knowledge and capacity to act than ever before. Fed chair Janet Yellen (2016) bluntly admitted that "the events of the past few years have revealed limits in economists' understanding of the economy" and sketched out four areas where a better understanding is needed. *Financial Times* journalist Martin Sandbu (2016b) comments on her much-debated speech as follows:

⁷ Or, since recent experiences indicate that rates can indeed go below zero, some undefined, slightly negative value which constitutes the lower bound for short-term interest rates.

⁸ However, an alternative interpretation is possible as well: if unconventional policies are adopted with the main purpose of creating higher rates of inflation (i.e. avoiding deflation), those who do not believe that they can achieve that goal might be expected to oppose such policies as useless.

“while Yellen surely does not mean to express despair, it only takes recognising the premise of her talk — that macroeconomists do not know very well whether demand affects supply; how an economy of non-identical people behaves; how finance matters, and what determines inflation — to ask what hope in hell central bankers have of making the right policy calls”.

While this degree of disagreement and uncertainty may be a surprising result in and of itself (and a cause of concern in the eyes of observers like Martin Sandbu), this study focuses on how beliefs matter for policy. Therefore I now turn to the critical questions of a) how different beliefs about the economy are related to policy preferences and b) how both beliefs and preferences are distributed between central banks.

Survey items	mean	SD	N	+	0	–
Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%.	–0,28	1,82	410	144	72	194
Central bank should have nominal-GDP targets.	–0,73	1,59	397	94	82	221
Financial stability concerns should be taken into account for monetary policy decisions.	1,32	1,44	419	332	27	60

Table 3: Descriptive statistics for Preference items

I start by analyzing which beliefs we may expect to play a role for central bankers’ inflation preferences. As introduced above, my questionnaire included three items concerning policy preferences: raising inflation targets, adopting targets for nominal-GDP, and allowing financial stability concerns to influence monetary policy decisions. At first glance, table 3 confirms the preconception that central bankers are mostly conservative. In light of the expectations formulated above, the mean values point to preferences for orthodox positions: a majority of central bank economists in my sample opposes both higher inflation targets and introducing nominal-GDP targets, while most support a stronger role for financial stability considerations. However, the question on higher inflation targets appeared the most divisive preference question, with 144 respondents expressing some degree of openness to the idea and 194 opposing it. On the contrary, majorities are large regarding both the nominal-GDP-item and the Financial Stability-item.

Of those three items, openness to adopt higher inflation targets clearly offers the most straightforward way to operationalize inflation preferences. Therefore, the survey item I use to construct my main dependent variable is the level of agreement respondents reported regarding the following statement: *‘Given recent experiences with the lower bound, central banks should have inflation targets higher than 2%’*. I consider this a good proxy for an individual’s inflation hawkishness because I expect inflation hawks

to strongly disagree with higher inflation targets and inflation doves to be more open to this idea. This assumption results from the following considerations:

The more a person agrees with higher inflation targets...

- ...the likelier she is to fear the risk of deflation more than the risk of inflation.
- ...the likelier she is to accept changes in monetary policy frameworks (including the adoption of novel monetary policy instruments).
- *...the likelier she is to favor activist monetary policy (especially when low inflation persists).*

This leads to the question of which economic beliefs are most strongly associated with support for higher inflation (targets). Figure 7 offers graphic representations of univariate regressions for all eight belief items (independent variable on x-axis) on support for higher inflation targets (dependent variable on y-axis). The data suggests that some beliefs matter for inflation preferences, while others don't. In particular, financial stability beliefs are not at all or only weakly correlated with an individuals' inflation hawkishness (see Fig 7g and 7h). Given the content of these survey items, this is less surprising than the insignificance of survey items related to theories of inflation. In the case of Price Stickiness (7b) this is a consequence of near-universal agreement; there is simply too little variance to explain anything. Dismissing the Monetarist theory of inflation as a primarily monetary phenomenon (7a) as insignificant for an economists' expected inflation hawkishness, however, is much more counterintuitive.

What remains are four propositions, signaling an empirical relationship between economists' inflation hawkishness and a) their beliefs about how human beings make economic decisions, b) how they form expectations about the future, c) whether money can impact growth and employment in a lasting way, and d) whether money growth is inflationary when interest rates are stuck at zero. In probabilistic terms, we may summarize the graphs given in Fig 7 as follows:

- The more a central bank economist believes in the neutrality of money, the more likely she/he is opposed to higher inflation (targets).
- The more a central bank economist believes money growth **not** to be inflationary when interest rates are at their lower bound, the more likely she/he is to support higher inflation (targets).
- The more a central bank economist believes in rational expectations, the more likely she/he is opposed to higher inflation (targets).
- The more a central bank economist believes in money illusion, the more likely she/he is to support higher inflation (targets).

In simple and generalized terms, the data suggests that those who believe in rational expectations and the neutrality of money are likely to be inflation hawks. Those who believe in money illusion and think that balance sheet policies at the ZLB are not inflationary, on the other hand, are more likely to be inflation doves.

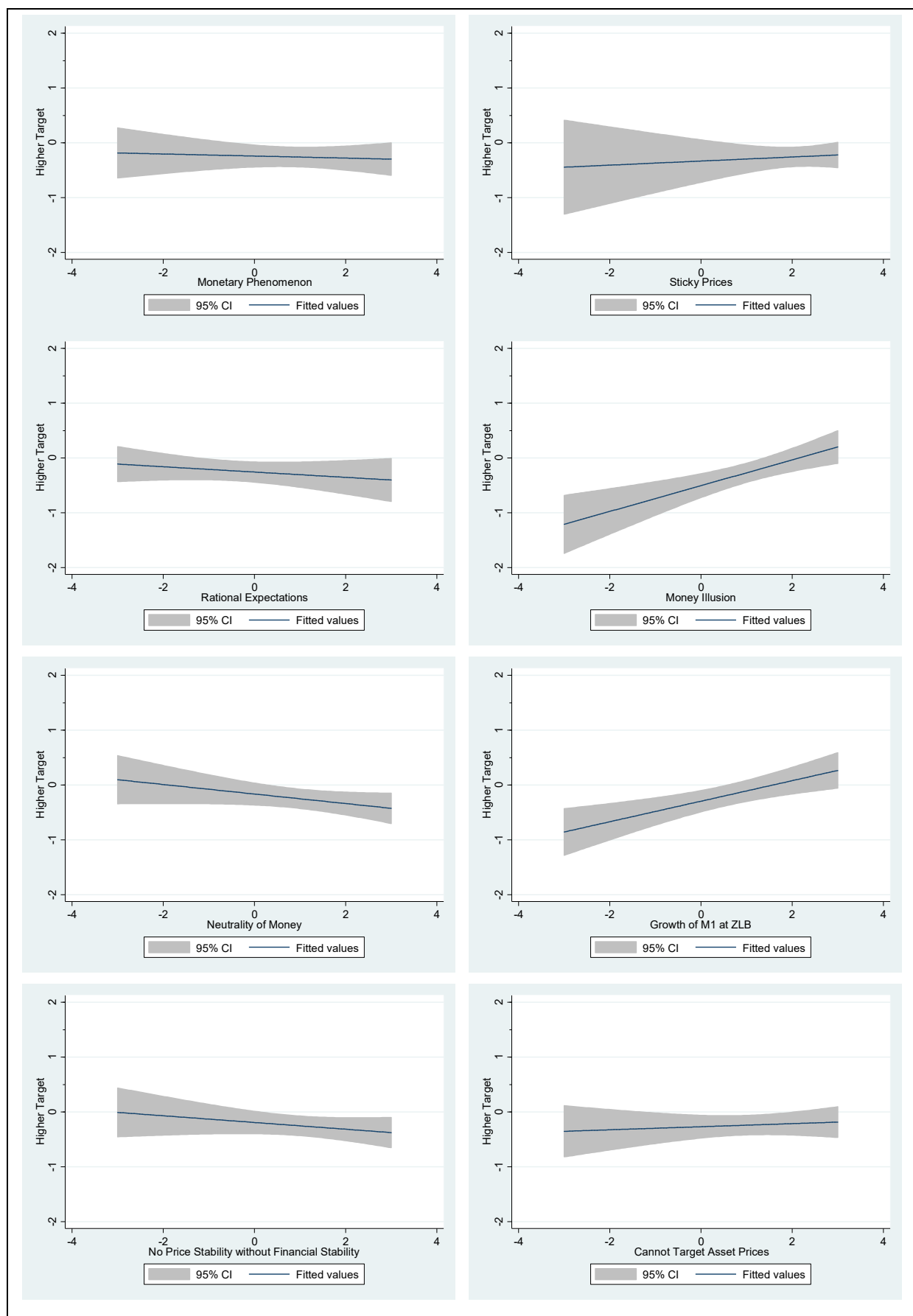


Fig. 7: Linear regression lines for preferences for higher inflation targets (Y) on eight economic beliefs (X), 95% confidence intervals

4. Beliefs and preferences across institutions: is the ECB really an outlier?

*“Macroeconomics in Germany and elsewhere are tantamount to parallel universes.
In practice, German macroeconomic exceptionalism did not really matter all that much
– until recently, when it started to matter a lot.”*

Wolfgang Münchau, Financial Times, 16 Nov 2014

Does the above help understanding central banks’ divergent policy choices during the Great Recession? To make the case that ideas mattered, I now turn to the question of how economic beliefs and policy preferences are distributed among the central bankers in my sample. For this purpose, I created dummy variables for individuals’ affiliations with a particular central bank in order to run institution-specific regressions. I only include central banks in these analyses for which four or more responses were recorded, which is why four smaller institutions – the central banks of Cyprus (2 responses), Malta (2), Slovakia (3), and Slovenia (3) – had to be excluded from the analysis.⁹

It is important to note that the relationships between variables can be expected to change through this weighting procedure. The analyses of the relationships between beliefs and variables at the *individual level* include 422 observations and were mostly driven by Eurosystem economists, which account for almost two-thirds of the overall sample (270 out of 422). The following analysis at the *institutional level* contains only 25 observations, as I consider only the one value for all institution (the mean) – regardless of whether this mean value summarizes 48 individual responses (as for the Banca d’Italia) or a mere 7 (as for the Central Bank of Ireland). While this procedure gives outsize importance to the smaller central banks in the sample (relative to their staff size and the number of responses from that institution), it is important to note that this procedure is the exact equivalent of the Eurosystem’s formal decision rule. ‘One head, one vote’ gives the *Banque Centrale du Luxembourg* the same voting power in the ECB Governing Council as the *Banque de France* enjoys. Consequently both institutions have equal weight in the calculations below, no matter how many responses I recorded from each institution. The same goes, of course, for non-Eurosystem central banks.

I focus my considerations below on the ‘Neutrality of Money’. This is because a) the theoretical implications for inflation preferences are the most obvious, and b) the correlation with inflation preferences is strongest among my analyses at the institutional level. Figure 8 shows that the relationship between the belief in Monetary Neutrality

⁹ The same goes the *National Bank of the Kyrgyz Republic* (NBKR), but for different reasons. As the NBKR has an official target of 7%, asking employees of this institution whether central bank should have inflation targets higher than 2% obviously invites confirmation bias (unsurprisingly the NBKR is an outlier regarding this question). Two other central banks do not have a target of exactly 2%: the Royal Bank of Australia (RBA) with a target of 2-3% and the National Bank of Poland (NBP) with 2.5%. Since these targets are arguably still close enough to 2%, however, I consider the responses of economists associated with these two institutions as still valid. Yet this difference should be kept in mind when interpreting figure 8.

and support for Higher Targets is stronger at the institutional than at the individual level (see Fig 7), indicating some concentration of beliefs and preferences within central banks. One possible explanation for this concentration is that economists are socialized around certain sets of beliefs at the workplace through repeated interactions with their superiors and peers. Another theory suggest a self-selection channel: economists are most likely to join those institutions they believe to be close to their own view of the economy.

Regarding the distribution of institutions, Figure 8 displays several distinct clusters. Anglo-Saxon (black) and Southern European central banks (blue) are predominantly found in the upper left corner, indicating dovishness as well as a relatively high degree of conviction that monetary policy *can* have a lasting impact on growth and employment. Diametrically opposed is the cluster of Northern / core European central banks (red) among which both the belief in the neutrality of money and inflation hawkishness are highest. A fourth group of Eastern European institutions does not form a distinct cluster: the central banks of Lithuania and Estonia are found in the dovish /revisionist corner, while their Latvian and Polish counterparts are close to the middle, and the Czech National Bank finds itself close to the orthodox and hawkish central banks of Northern Europe.

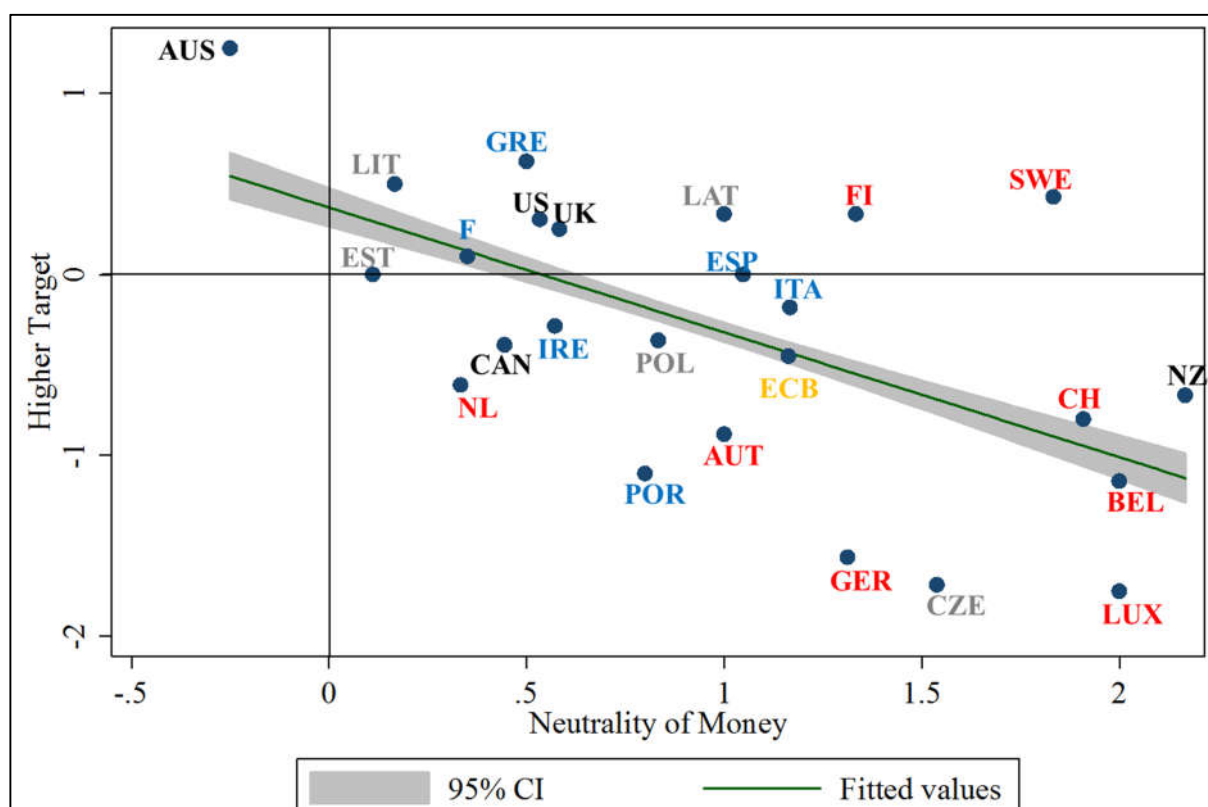


Fig. 8: Linear regression for preferences for higher inflation targets (Y) on the belief in the Neutrality of Money (X), means per institution

The ECB appears stuck in the middle between a revisionist South and an orthodox North. To phrase it positively, it seems to have found a middle road between the Eu-

rosystem's divergent member institutions. This confirms neither old images of the 'European Bundesbank' nor more recent (German) fears of an institution captured by Southern / debtor states' interests. Rather, it invites images of the ECB as an organization which represents the diverse economic philosophies and interests of its member institutions. As such, it cannot afford to disregard the views of either North or South, but has to aim for a compromise. In terms of economic beliefs, this European middle road leads the ECB closer to economic orthodoxy than the US Federal Reserve or the Bank of England. While Southern European beliefs and preferences appear closely aligned with Anglo-American views, the ECB needs to be somewhat more orthodox/hawkish in order not to alienate its members from Northern Europe.

Interestingly, this result also speaks to related studies on this topic. Markus Brunnermeier, Harold James, and Jean-Pierre Landau recently published a book entitled *"The Euro and the Battle of Ideas"*, which approaches the topic from a historical perspective. While their book is much broader in focus, parts of their historical narrative speak directly to the findings presented above:

"The euro crisis has led to the outbreak of a war of ideas in the European continent [...]. It is a struggle between northern, but above all German, and what are sometimes called southern, but above all French, theories. The debate is not limited to French and Germans: Finns, Austrians, and sometimes Slovaks and Poles behave as if they are more Germanic than the Germans, and France is often seen as a champion of a Mediterranean Europe." (Brunnermeier et al. 2016: 2)

While this neatly summarizes the distribution of Eurozone institutions shown in Fig. 8, the authors also observe how differences in economic thinking across continental Europe relate to Anglo-American views:

"Overall, Anglo-American and French philosophies have many parallels, in particular deep roots in Keynesian thinking and an emphasis on liquidity over solvency considerations. Notably, whenever US or UK politicians lectured EU officials about optimal economic policy, they almost always sided with the French liquidity interpretation—favoring big bazooka and bailout solutions" (ibid: 11).

Summing up, my survey data suggests that economic beliefs matter a great deal for policymakers' preferences and the policy choices they make. This goes in particular when conditions of Knightian uncertainty prevail, as during the Great Recession or, to an even higher degree, in the Euro crisis. In these highly unique situations, when past experience is of little help and it is impossible to arrive at a reasonable calculation of what one's own 'naked self-interest' may be, policymakers rely on their ideas about how the economy works in order to make decisions. Importantly, this does not mean that policymakers become ideologues. Rather than some grand economic theory, it is their very concrete ideas about 'what works' that influences their decisions. What policymakers believe to be possible critically shapes what they deem desirable (Steinmo 2003).

In the case of European monetary policy, a close examination of central bankers' economic beliefs thus helps us to understand why the ECB remained relatively conservative when compared to its peers. What is more, it enhances our understanding of the occasionally surfacing conflicts within the ECB's Governing Board. What was once considered a dull business dominated by 'very boring guys' (Singleton 2010) has turned into a battleground of economic ideas, which frequently makes headlines in broadsheet and tabloid newspapers alike. And as central bankers continue to struggle with the challenging economic conditions of the 'new normal', this conflictual pattern is unlikely to subside anytime soon.

5. Policymakers matter!

"So this is a period of uncertainty and so you have good people sitting in that room, smart people, trying to figure it out. And it shouldn't be surprising at all that all of these smart people have different ways of thinking about this."

Charles Plosser, 30 January 2015

Central bankers have different ideas about how the (economic) world works. This alone might have surprised many before the financial crisis hit, given that central bankers were usually thought of as a global family, or even a clan (Marcussen 2009). After gaining their Economics PhDs at elite universities and perhaps some additional experience in the financial sector, these timid technocrats would typically cultivate their highly specialized knowledge through many exchanges in tightly-knit networks. Through these interactions, they established a broad consensus about the technicalities of monetary policymaking – something ordinary mortals had no way (or wish) of comprehending – and consequently governments around the globe granted them astonishing levels of autonomy to manage their currencies.

In the challenging '*new normal*' of monetary policy after the crisis, however, central bankers regularly (and publicly) revealed that they can and do disagree. Quite fundamental differences in thinking have resurfaced. At the heart of this dissertation thus sits the hypothesis that these different ways of thinking about the economy influence the policy choices central bankers make – in particular during crises. Facing situations they had never seen before, their economic beliefs provided central bankers with guidance when they could no longer rely on past experience. And given their large degree of autonomy as well as their ever-increasing list of responsibilities after the crisis, this has far-reaching implications for economic policy.

Recognizing these differences in economic thinking helps us to understand the ECB's lagged response to the Great Recession as well as the level of conflict and the dividing lines within the Eurosystem. My survey data suggests that the ECB was caught in the middle between an orthodox core and a more revisionist periphery. More specifically, economists in Northern European central banks differ from their colleagues in South-

ern Europe (as well as Anglo-American institutions). Northern European economists are both more skeptical about what contribution monetary policy can make to stabilize the economy and more concerned about inflationary risks associated with unconventional policies. They are less optimistic about what they can do and, at the same time, more concerned about trying to do too much. And as beliefs about what is possible “critically shape what is desirable” (Steinmo 2003: 209), Northern European central bankers are much more hawkish regarding inflation and more reluctant to experiment than central bankers elsewhere.

Struggling to find some middle ground between the divergent beliefs and preferences of its member institutions, the ECB remained closer to previous orthodoxy in its response to the Great Recession than the Federal Reserve or the Bank of England, which quickly tore up their rulebooks. Inside the Eurosystem, proponents of activist monetary policy (and balance sheet policies in particular) had to overcome enormous resistance from within before they could follow the examples set by other central banks. This is why ECB monetary policy remained relatively conservative for a very long time. This is why it first did too little to support the economy, and only changed its stance very late.

While much of the public and academic debates focused on battles between the ECB and the Bundesbank – or Draghi vs. Weidmann – my survey data suggests a more nuanced picture. Since Germany does not occupy a veto position in ECB policymaking (as it arguably does in other EU policymaking institutions) German central bankers have to *convince* their fellow policymakers in the Eurosystem to make a difference. Otherwise they are simply outvoted in the Governing Council, as they repeatedly have been throughout the crisis. This is why I argue that the ECB is constrained by German-style thinking rather than by German interests. German power in the ECB, to the extent that it exists, lies primarily in Lukes’ third face of power, namely the power to shape perceptions, cognitions and preferences (Lukes 2004: 28).

Put simply, *monetary orthodoxy prevailed, not ‘Germany’*. This does not only mean that conservative economic ideas are endorsed by many German central bankers and politicians; it means that these ideas are shared by other people, too. And this includes, most importantly, central bankers beyond German borders. My survey data suggests that central bank economists from Northern European institutions both within the Eurosystem (e.g. Austria, Belgium, Finland, Luxemburg) and beyond (e.g. Sweden, Switzerland) hold similar economic beliefs as their Bundesbank colleagues. Since a single country cannot veto policies in a committee of ‘one man, one vote’, it is essential for Bundesbank officials to find like-minded policymakers in other institutions. And because they often do, they successfully kept the ECB from pursuing more expansionary policies before 2014.

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