Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Women and Governance: Central Bank Boards and Monetary Policy

Donato Masciandaro, Paola Profeta,
Davide Romelli

TEP Working Paper No. 1123

June 2023

Trinity Economics Papers
Department of Economics

Women and Governance: Central Bank Boards and Monetary Policy*

Donato Masciandaro
Bocconi University

Paola Profeta
Bocconi University

Davide Romelli†
Trinity College Dublin

Accepted at the *American Law and Economics Review*

*We thank seminar participants at Trinity College Dublin, University of Strathclyde, 2021 Conference on Diversity and Inclusion in Economics, Finance, and Central Banking organised by the Bank of Canada, Bank of England, Board of Governors of the Federal Reserve System, and European Central Bank, 4^{th} European Workshop on Political Macroeconomics Krakow University of Economics, 8^{th} International Conference of the FEBS, 22^{nd} ICMAIF Annual Conference, IMF conference on Gender and Macroeconomics, 2017 Irish Economic Association conference, 2017 European Public Choice Society and the 2016 SUERF/BAFFI CAREFIN Centre Conference for comments and useful suggestions. Angelo D'Andrea, Lorenzo de Masi and Annarita Macchioni provided excellent research assistance. Davide Romelli gratefully acknowledges financial support from Provost's PhD Project Awards 2018-2022, Trinity College Dublin. Any remaining errors are the authors' sole responsibility.

†Corresponding author: romellid@tcd.ie. Department of Economics, Arts Building, Trinity College Dublin, Dublin 2, Ireland.

Abstract

Monetary policy decisions taken by central banks affect the economy, society and politics worldwide. Does the presence of women matter in these decisions? We construct a new and unique dataset on the presence of women on central bank monetary policy committees for a large sample of countries, over the period 2001-2017 and document an increasing share of women on central bank boards. We investigate how the presence of women correlates with the conduct of monetary policy by estimating Taylor rules augmented to include the share of women on monetary policy committees. We show that central bank boards with a higher proportion of women are more responsive to inflation. This suggests that central banks whose boards are characterised by a higher presence of women are associated with a more conservative approach to monetary policy when inflation is higher. We confirm this result by analysing the voting behaviour of members of the executive board of the Swedish Central Bank during the period 2000-2017.

Keywords: Governance; Gender Diversity; Central Banks; Monetary Policy.

JEL classification: K23; J16; E52; E58; J16.

1 Introduction

Women in public policy decision-making positions matter. A large literature across different fields has analyzed women's representation and their role in several contexts, with particular attention paid to the role that women in legislative bodies and representative bureaucracies may have on the policies adopted by these institution. For example, the public law literature has shown how the presence of female judges matters for judicial decision-making (see Peresie, 2004; Boyd et al., 2010, among others).

A major role in public policies is played by the monetary policy decisions adopted by central banks, which affect the economy, society and politics worldwide. The increasing presence of women in central banks is a worldwide phenomenon. As of January 2022, 16 central banks were headed by a woman, with notable examples including Christine Lagarde as the current president of the European Central Bank and Janet Yellen as Chair of the US Federal Reserve from 2014 to 2018 while only 11 central banks were headed by a woman back in 2019 (Istrefi and Sestrieri, 2018). In the first 23 years of existence of the Eurosystem, Chrystalla Georghadji has been the only woman to lead a national central bank of the euro area (Goulard, 2021). The share of women in central banking is particularly low when it is compared to the levels achieved in national and local assemblies and governments across European Union countries (European Commission, 2021), and the same has been true for the dedicated COVID-19 national task forces (van Daalen et al., 2020). In general, the under-representation of women in leading positions in central banks confirms how relevant the career barriers associated with leadership development and organizational entry for women can be (Samuelson et al., 2019). Despite a few well-known examples, little is known about the overall presence of women on central bank boards and, most importantly, on monetary policy committees, which are at the core of the decision-making process of central banks. The lack of studies in this field is probably due to the lack of data on monetary

policy committee members and to the scarce presence of women in these contexts up until recently.

This paper provides the first comprehensive analysis of the evolution and role of women on monetary policy committees for a large set of countries. We build a new and unique dataset that collects information on the members of monetary policy committees of 90 countries, over the period 2001-2017. Using this data, we investigate whether the presence of women in central banks is correlated to the conduct of monetary policy. We show that this is the case, as a higher share of women on a monetary policy committee is significantly related to the key policy rates set by this committee.

Building a comprehensive dataset on the composition of central bank boards is a challenging task. Central bank websites do not provide the list of former members of monetary policy committees and, most of the time, they only provide the name of their current board members, without explicitly identifying their gender or terms of office. Thus, individual name searches need to be manually performed. This new dataset allows us to provide a complete picture of the gender composition of central bank boards across time. We find that, in around 20% of the countries in our sample, monetary policy committees never included a woman. There is, nonetheless, a high heterogeneity across countries: the average share of women on the board is 13%, with a share of 50% or higher reached in countries such as Bulgaria and the Republic of Serbia. We show that this heterogeneous presence of women on central bank boards is positively related to the overall gender staff ratio of the central bank in a particular country, and less so to other institutional or economic characteristics such as the gender equality index or the degree of central bank independence.

Does this increasing presence of women correlate with monetary policy-making? Our results provide a novel contribution to the view that the composition of monetary policy boards and, more specifically its heterogeneity, is related to the conduct of monetary policy.

Previous studies, focusing on the diversity of education, occupational background or tenure across board members, have argued that heterogeneity can lead to more efficient decisions, but also that this diversity can generate consistent biases, with confounding outcomes (see Section 2 for a detailed review of the literature). Regarding gender, in particular, there is no conclusive result on the link between gender and monetary policy decisions. We add to this debate by providing the first cross-country evidence of the correlation between female board members and the key policy rates adopted by central banks.

To isolate the effects of gender heterogeneity on policy decisions, we estimate a forward-looking monetary policy reaction function (Taylor rule) that relates the target policy rate to deviations of expected inflation and the output gap. We then augment this classical model to include the share of women board members, as well as its interaction with both the inflation rate and the output gap.[1] Our results show that, for the same level of inflation, a higher share of women on the central bank board is associated with a higher interest rate. This suggests that central bank boards characterised by a larger share of women tend to adopt more aggressive approaches in fighting inflation. This result is robust to controlling for a dummy that captures the presence of women, as opposed to the share of women on board, suggesting the presence of at least one woman on a central bank monetary policy committee is linked to differences in monetary policy decisions. We confirm our cross-country results in a more granular analysis, where we look at the voting behaviour of members of the executive board of the Swedish Central Bank (Sverige Riksbank) during the period 2000-2017. In particular, a detailed analysis of the voting behaviour of each member of the Riksbank's Executive Board suggests that, in each meeting, women are more likely than men to propose a change towards a higher interest rate.

Our results relate to a broader literature on the presence of women in decision-making positions. This literature is concerned with how differences in women's leadership styles,

risk attitudes and preferences impact the decision-making process and economic outcomes. Several channels highlighted in this literature can explain the robust link we find between the presence of women in central bank boards and monetary policy decisions. There are several reasons why women might push to make monetary policy committees adopt more hawkish policies. If there is discrimination against women, those with more *conservative* attitudes may survive more easily than others. Women may also feel pressure to prove that their presence in committees does not soften the policy, as some people might assume. Moreover, women might have different risk attitudes which translate into more conservative decisions. In addition, they might have different experiences or preferences, and those with a more "hawkish reputation" might end up being appointed to boards as a way of increasing central bank credibility.

So far, very few studies have addressed the link between gender composition in central bank boards and monetary policy decisions. Chappell and McGregor (2000) show that the female members of the Federal Open Market Committee (FOMC) of the US Federal Reserve are more dovish, rather than hawkish when it comes to inflation preferences. Similarly, Istrefi (2019) uses a unique dataset that divides FOMC members into perceived hawks, doves and swingers and finds that women are perceived to be more dovish than men. Bennani et al. (2018) find that female FOMC members have a higher dissenting attitude, while Ainsley (2020) finds no evidence of voting differences between women and men among FOMC members. Analyzing the relationship between inflation rates and the share of women in the monetary policy committees of nine central banks from major OECD countries, Farvaque et al. (2009) find that a higher share of women is associated with lower inflation levels and that female monetary policymakers tend to be more inflation averse than their male counterparts. Farvaque et al. (2014) find similar results focusing on inflation and output volatility using the same sample of countries over the period 1999-2010.

Our study is the first to focus directly on monetary policy decisions, rather than focusing on voting records or the level of inflation.[2] Moreover, our cross-country dataset, which covers 90 countries over the period 2001-2017, is the largest one examined so far: while Chappell and McGregor (2000) focus on the US Federal Reserve's Federal Open Market Committee, Farvaque et al. (2009, 2011) focus on 9 major OECD countries between 1999 and 2008, and Farvaque et al. (2014) analyse the same sample of countries during the 1999-2010 period.

Our results also contribute to a lively debate among policymakers and law experts on how and why we should improve gender balance in decision-making positions. Several European countries, including Austria, Belgium, France, Germany, Greece, Italy and Portugal have recently implemented laws which impose board gender quotas for listed companies (see International Labour Office, 2019). In 2012, the European Commission also proposed a directive aimed at improving the gender balance among non-executive directors of listed companies (see European Commission, 2012), but it has not been adopted yet. Other countries have adopted a voluntary approach or self-regulations (Sojo et al., 2016), while changes to current laws are also discussed. The attention to the topic has grown in particular after the global financial crisis, which has been seen as a bad outcome of a group of non-diverse people (Lagarde, 2018). In the specific context of central banks, which are major institutions for economic decisions and are characterised by a highly visible underrepresentation of women, the debate on gender equality is also spreading (Lagarde, 2019). Notably, the European Central Bank has introduced a diversity strategy with specific gender targets and the FED is also considering the introduction of different hiring and promotion criteria.[3] The debate and action at the policy and legislative level motivates our study.

The paper is organized as follows. The next section summarizes previous literature, and section 3 describes the new dataset collected and presents some stylized facts. Section

4 presents the results on the link between women on boards and monetary policy decisions and on the voting behaviour of members of the monetary policy committee of the Swedish central bank. Section 5 concludes.

2 Related literature

Our paper relates and contributes to several strands of literature across different disciplines. First, it contributes to the literature which focuses on how the presence of women in decision-making positions, such as legislative bodies, may influence the implementation of policies, decision-making processes or leadership styles. The political science literature, for example, has analyzed both the *descriptive* representation of women (Mansbridge, 1999), i.e. the presence of women in decision-making positions, and the *substantive* one, i.e. how the presence of women in legislative bodies can effectively voice "women's interests" by giving higher weight to topics that disproportionately affect women (Thomas, 1991, 1994; Phillips, 1995; Wängnerud, 2000; Swers, 2002; Childs, 2004). Evidence suggests that men and women take different public policy decisions (see Hessami and Lopes da Fonseca, 2020, for a recent review) because they have different preferences (Inglehart and Norris, 2000), a different way of doing politics (Franceschet and Piscopo, 2008; Franceschet et al., 2012; Barnes, 2016) and because women face more obstacles in terms of stereotypes, cultural norms and voter bias which can curb their ambition and increase their perception of not being qualified to be recruited and run for public offices (Fox and Lawless, 2010, 2011, 2014). Once in power, these perceptions may influence both the decisions women take, as well as their decision-making process. In the context of central banking, a general trend towards more conservative monetary policies might suggest that, in order to be appointed, women need stronger credentials, such as a reputation for being more averse to inflation, both before their appointment and during their tenure.

Scholars have also studied gender as it relates to representation in bureaucracies (Saidel and Loscocco, 2005; Dolan and Rosenbloom, 2016). For example, the public law literature has largely analyzed the role played by female judges in influencing judicial decision-making processes (see Peresie, 2004; Boyd et al., 2010). This literature has shown how, especially during sex discrimination suits, the presence of a female judge on a panel causes her male colleagues to behave differently, and how women and men decide cases differently.[4]

Overall, while the literature on women politicians includes several cross-country studies to understand both the political process which leads to the election of women and the relationship between elected female politicians and policy outcomes, empirical analyses of the policy decisions made by women in executive committees of selected bureaucratic bodies is scarce.

The second strand of literature to which this paper contributes is the financial, corporate law and management one, that have largely studied the presence of women on the corporate boards of listed and private companies. Three main features from this academic debate are relevant in our context: i) what makes it more difficult for women to achieve top positions; ii) the relationship between gender and risk aversion; and iii) the impact of women's representation on boards and firm performances. Women are underrepresented in top positions in all sectors across the world. This so-called, *glass-ceiling* effect is widely documented, and the boards of banks are not an exception (see Arfken et al., 2004; Del Prete and Stefani, 2013; De Cabo et al., 2012, among others). Charlety et al. (2017) look at the appointment of women to central bank boards in a sample of 26 OECD countries and find that women are more likely to be appointed after another woman steps down, rather than when the departing member is a man. A possible reason for the underrepresentation of women on boards might be the relationship between gender and risk aversion (see Bertrand, 2011, for a review). A large literature based on experiments provides evidence that women are more

risk averse than men (Gneezy et al., 2003; Niederle and Vesterlund, 2007). Focusing on a large sample of banks, Gulamhussen and Fonte Santa (2015) find a negative relationship between the presence of women in commercial bank boards and risk-taking (see also Palvia et al., 2015). Adams and Funk (2012), on the other hand, find no risk aversion differentials between male and female directors. This literature has also asked whether the gender distribution in decision-making bodies may affect firm performance. The findings are generally mixed. Cross-sectional studies find a positive relationship between gender diversity and firm profitability (Campbell and Mínguez-Vera, 2008; Kang et al., 2010; Erhardt et al., 2003), while those relying on panel data mostly point to a null effect (Rose, 2007; Adams and Ferreira, 2009; Sapienza et al., 2009; Chapple and Humphrey, 2014; Profeta et al., 2014; Ferrari et al., 2016).

Finally, the last strand of the literature to which this paper contributes to is the one on monetary policy committees and how its composition can shape monetary policy outcomes, in particular, its degree of activism (see, among others, Fry et al., 2000; Morris and Lybek, 2004).[5] Focusing on a panel of mainly European countries, Göhlmann and Vaubel (2007) show that committee members with a central banking professional background prefer significantly lower inflation rates than former politicians. Farvaque et al. (2009, 2014) link inflation outcomes with the biographical characteristics of board members and find that age, education and professional experience are correlated with inflation dynamics. On the other hand, Harris et al. (2011) show that the effects of monetary policy committee members' career backgrounds and political influence on voting behaviour are negligible. Malmendier et al. (2020) show that personal experiences of inflation strongly influence the hawkish/dovish leanings of Federal Open Market Committee (FOMC) members, which can then explain the federal funds rate, over and above the conventional Taylor Rule components. Similarly, Hansen et al. (2014) find that internal members of the Bank of England's

MPC are more hawkish and form more precise assessments of the economy.

Chappell and McGregor (2000) were among the first to draw attention to gender. They study the voting behaviour of FOMC members over the 1966-1996 period and ranked their dovishness/hawkishness attitude. Out of the seven women that have served on the board during that period, six of them are ranked among the most dovish members. Farvaque et al. (2011), on the other hand, find a negative correlation between inflation and the share of female members in a sample of nine OECD countries, suggesting that boards with a higher percentage of women on their monetary policy committees are more hawkish. Gender has also been used to explain the dissenting voting behaviour on monetary policy committees, which is a signal of hawkishness. Bennani et al. (2018) look at the US Federal Reserve's monetary policy decisions over the period 1994-2008 and find that female members appear to have a higher dissenting attitude (see, also Lähner, 2018). Ainsley (2020) finds no evidence that women FOMC members vote differently from their male colleagues, despite the fact that they focus more on issues related to output and employment compared to inflation and price stability. Similarly, Bennani and Romelli (2021) find no evidence of differences in the tone used by men and women during FOMC meetings. Finally, Bodea and Kerner (2021) explore the drivers behind the under-representation of women in central bank boards and find that female central banker are scarcest in countries characterised by histories of inflation, independent central banks and flexible exchange rates.

To the best of our knowledge, the two main shortcomings of the previous literature are the focus on macroeconomic variables such as inflation, as opposed to focusing on the tools which are directly influenced by the central banks, i.e. the key policy rate, and the limited number of analysed central banks. The new dataset created in this paper allows us to provide the first cross-country evidence that links the gender composition of monetary policy boards to the key policy rate adopted by central banks, which is the primary tool

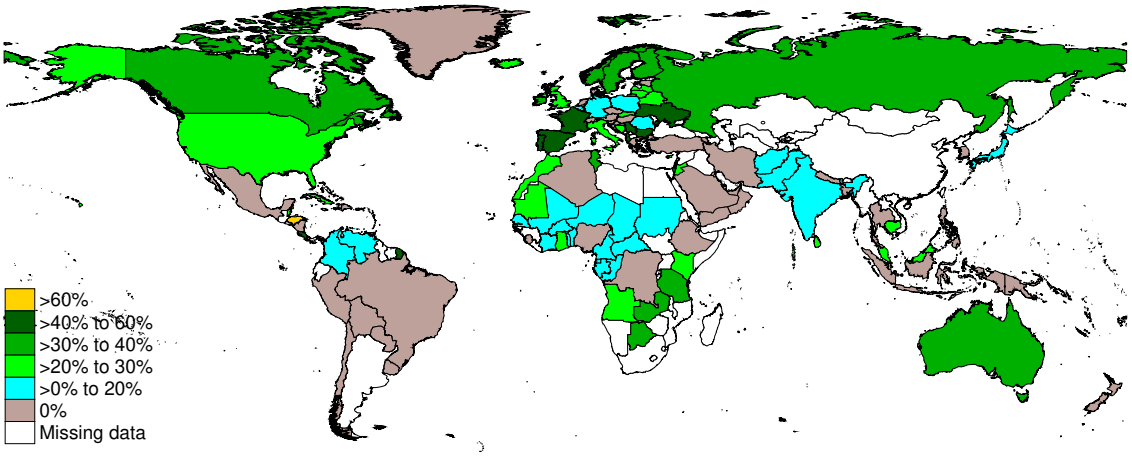
used by central banks to conduct their policies. In addition, as research on monetary policy committees and on women in decision-making positions has largely remained separated, this paper also contributes to bringing these two literatures together. To this end, this paper is the first to assess whether the presence of women on central bank boards is associated with systematic differences in monetary policy-making in a sample of 90 countries, over the period 2001-2017.

3 Data and stylized facts

To understand whether the presence of women in monetary policy committees (MPC) correlates with the monetary policy decisions adopted by central banks, we build a large dataset on the MPC members of 90 countries, over the period 2001-2017. The dataset is compiled from various sources, which include central bank legislations, annual reports, websites, Central Bank Directories, as well as several other online sources. For each of the analyzed central banks, we first identify the highest decision-making body responsible for the implementation of monetary policy in the country.[6] We then collected information on the size of the MPC and the list of all MPC members by cross-checking across multiple sources. For each of the 2,133 members who held tenure over the period of our analysis, we collected information on his/her term of office, country and gender.[7] Using this information, we computed the share of women on MPCs for each country-year observation. Appendix Table A1 provides information on the list of analyzed countries and the share of women on MPC in 2016, while Online Appendix Table I provides information on the main data sources and legislative references used to identify the size of the MPC of each country in our sample.

Figure 1 provides a first glimpse of the data and shows the geographical distribution of the analyzed countries and the share of women on monetary policy committees.[8] In

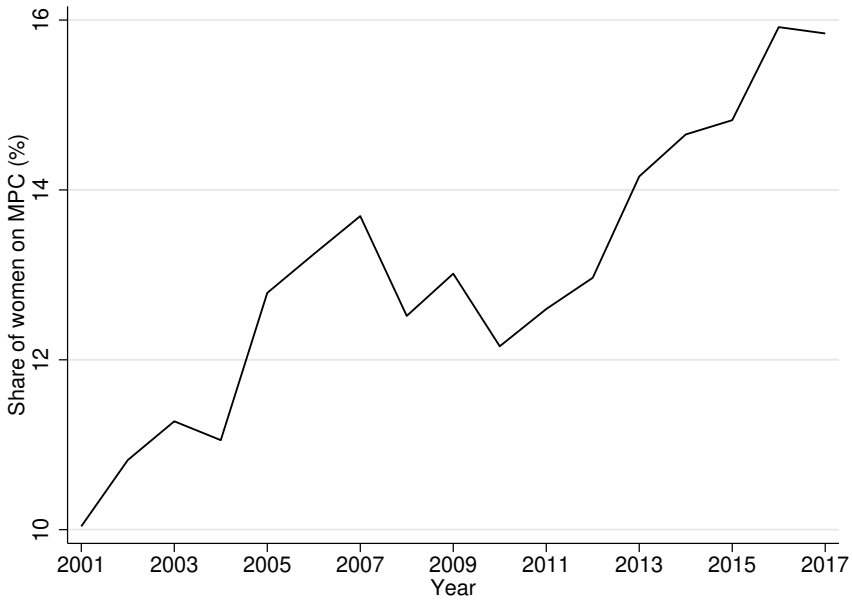
Figure 1: Share of women on Monetary Policy Committees (2017)



Note: The figure shows the share of women on Monetary Policy Committees in 2017.

around 40% of the countries in our sample, MPCs do not include any women, while the average share of women is 13%. Our findings suggest that countries with the highest share of women include Bulgaria and the Republic of Serbia with a share of women on boards of 57% and 50%, respectively.

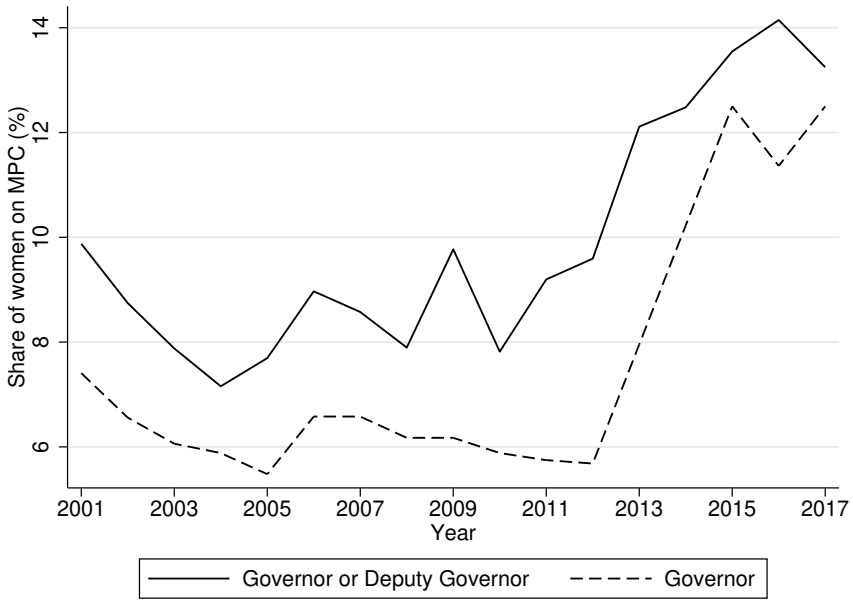
Figure 2: Evolution of the share of women on monetary policy committees



Note: The figure shows the evolution of the average share of women on monetary policy committees between 2001 and 2017.

Figure 2 looks at the evolution of the share of women on MPCs across time. There

Figure 3: Evolution of the share of women acting as governor or deputy governor

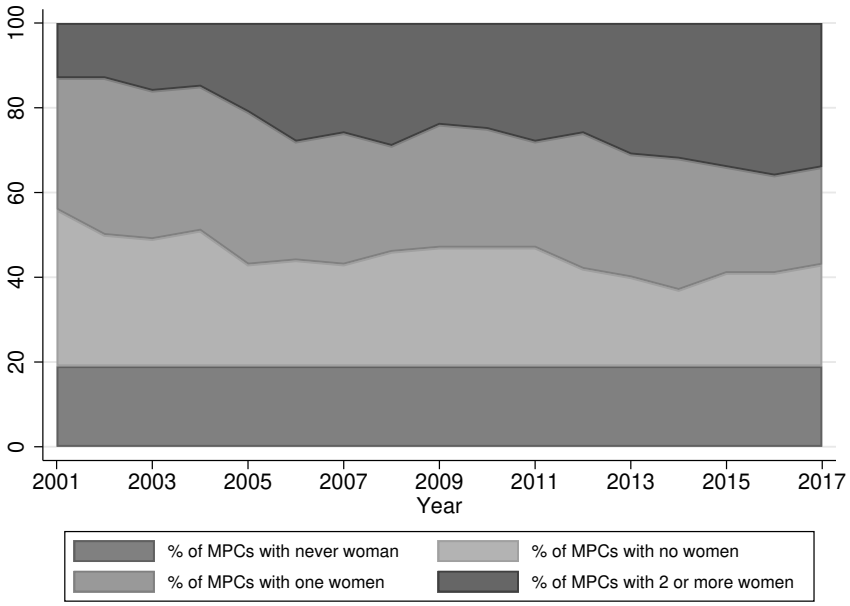


Note: The figure shows the evolution of the share of women acting as central bank governor or deputy governor between 2001 and 2017. The dotted line corresponds to the share of women acting as central bank governor only.

is an overall increasing trend in the share of women on boards, moving from 10% in 2001 to 16% in 2017.[9] This increase has been more pronounced after 2012. Moreover, this trend is not associated with an increase in the average size of the board, which remained almost unchanged at around 7 members over the analyzed period. Similarly, the proportion of women that held the function of governor or deputy governor has also seen a steady increase from less than 10% to around 14% (Figure 3).[10] If we focus on female governors, in particular, this proportion has been stable until 2011 and it has substantially increased afterwards.

Where does this increase in women's committee members come from? It turns out that it is mostly driven by central banks that already had at least one woman on their MPC, which further increased their numbers. Central banks with no women on their committees saw little change in gender representation over the decade considered (see Figure 4). The bottom area of Figure 4 shows the proportion of countries that never had a woman on their MPCs. Over the period 2001-2017, 19% of the countries in our sample never appointed a

Figure 4: Presence of women on monetary policy committees over time



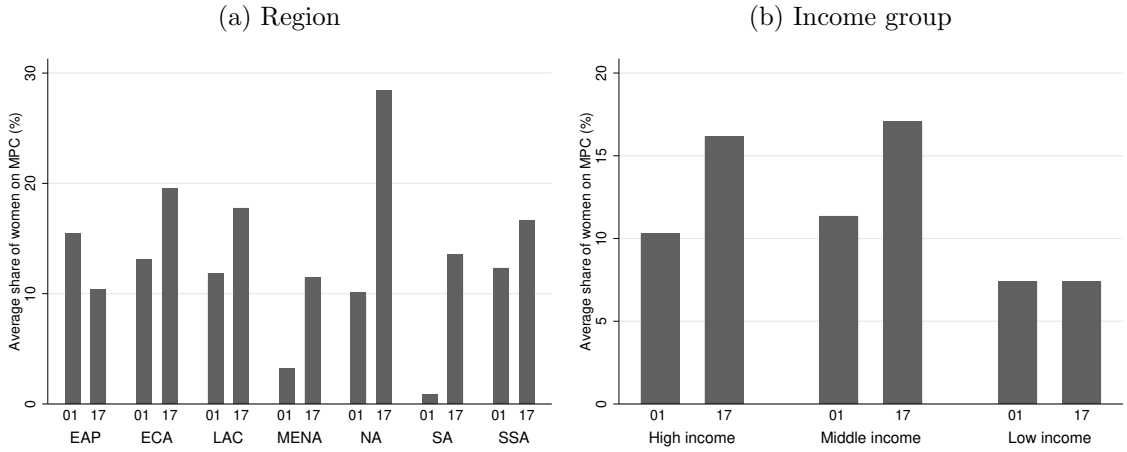
Note: The figure shows the percentage of monetary policy committees that never had a women during the entire 2001-2017 period, the percentage with no women in any given year, and the percentage with one or two and more women.

woman to their MPC, while in any given year around 50% of the countries have no women on their boards. The percentage of central banks with only one woman seems to decrease over time, as these central banks increased the number of women MPC members to two or more.

Figure 5 compares the share of women on MPCs in 2001 (or first available year) and 2017 (or last available year), by regions (Figure 5a) and by income groups (Figure 5b). The largest increase in women's board members was in North America. Overall, all regions, apart from East Asia and the Pacific, increased women's representation in MPCs. Interestingly, when we divide countries according to their level of income, it turns out that only low-income countries marginally decreased the presence of women on MPCs between 2001 and 2017, while medium and high-income countries have increased their shares (Figure 5b). This pattern is confirmed if we look at GDP percentiles as opposed to income groups (see Figure A.2 in the Appendix).

To understand whether these country characteristics are systematically related to gen-

Figure 5: Share of women on monetary policy committees in 2001 vs 2017



Note: Figure (a) shows the average share of women on monetary policy committees by world regions in 2001 (or first available year) and 2017 (or last available year). EAP: East Asia & Pacific; ECA: Europe & Central Asia; LAC: Latin America & Caribbean; MENA: Middle East & North Africa; NA: North America; SA: South Asia; and SSA: Sub-Saharan Africa. Figure (b) shows the average share of women on monetary policy committees by income group in 2001 (or first available year) and 2017 (or last available year).

der participation on MPCs, we perform simple correlations between our main variable and a set of country-level covariates. This analysis is presented in Table 1. We control for three types of characteristics that might be associated with the presence of women on MPC. First, the share of women among the total number of employees of each central bank (*Share of women on staff*), as reported by the Central Banking Directory (2016).[11] Second, we control for a measure of gender equality in a country employing the Gender Gap Index measured by the World Economic Forum. Finally, we include the time-varying measure of central bank independence computed by Romelli (2022), to control for the degree of central bank institutional design. In all regressions we also control for a dummy capturing OECD membership, countries' legal origin (Porta et al., 1998), the size of the MPC, dummies for GDP deciles, and year-fixed effects.[12] Appendix Table A2 provides the summary statistics for the variables presented in Table 1, while we describe all the variables used in the paper in Appendix Table A3.

Columns (1)-(4) of Table 1 show the OLS estimates where the dependent variable is the share of women on MPCs. In particular, columns (1)-(3) present the estimation

Table 1: Women on monetary policy committees

	Share of women				Share of women (Potential)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of women on staff$_{t-1}$	0.248**			0.256**	0.211*			0.217*
	(0.120)			(0.128)	(0.110)			(0.121)
Gender gap index$_{t-1}$		0.455**		0.493		0.423**		0.414
		(0.232)		(0.382)		(0.191)		(0.361)
Central bank independence$_{t-1}$			0.137	-0.096			0.141**	-0.097
			(0.087)	(0.112)			(0.068)	(0.110)
OECD Member	0.023	0.047	-0.064*	0.001	-0.005	0.021	-0.058	-0.023
	(0.065)	(0.055)	(0.033)	(0.062)	(0.059)	(0.036)	(0.035)	(0.057)
British Legal Origin	0.019	0.041	-0.018	0.041	0.001	-0.027	-0.090	0.022
	(0.095)	(0.080)	(0.084)	(0.122)	(0.084)	(0.054)	(0.056)	(0.110)
French Legal Origin	-0.059	-0.052	-0.172**	-0.008	-0.073	-0.067	-0.172***	-0.026
	(0.097)	(0.070)	(0.071)	(0.128)	(0.086)	(0.057)	(0.059)	(0.117)
Socialist Legal Origin	0.019	0.078	-0.031	0.048	0.001	0.015	-0.096	0.027
	(0.112)	(0.072)	(0.081)	(0.134)	(0.104)	(0.059)	(0.062)	(0.124)
MPC size	0.013**	-0.006	-0.013	0.008*	0.014**	0.014***	0.013***	0.010*
	(0.006)	(0.012)	(0.015)	(0.005)	(0.006)	(0.004)	(0.003)	(0.005)
Additional controls:								
Income FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	182	752	1,084	146	182	752	1,084	146
Number of countries	66	82	81	54	66	82	81	54

In Columns (1) to (4), the dependent variable is the share of women on the monetary policy committee of country i in year t. In Columns (5) to (8), the dependent variable is the *potential* share of women on the monetary policy committee of country i in year t, computed as the ratio between the number of women and the de jure number of committee members. The share of women on staff is the ratio between the number of women employed by central bank i and the total number of its employees, in year $t-1$. Gender gap index is the Gender Gap Index as measured by the World Economic Forum. Central bank independence is the degree of central bank independence of country i, in year $t-1$. OECD member is a dummy variable that takes the value of one for OECD member countries. British, French and Socialist legal origin are dummies for countries' legal origin. MPC size is the size of the Monetary Policy Committee. Income FE are dummies to control for GDP deciles fixed effects. Year FE are dummies to control for year-fixed effects. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

results obtained controlling for each one of the main explanatory variables, i.e. the share of women on staff, gender gap index and the degree of central bank independence, alone, while column (4) includes all explanatory variables. Our results suggest that the share of women on staff is positively related to the share of women on MPCs, i.e. that central banks with a higher share of women employed by the institution are also characterised by a higher female representation on boards. The gender gap index is significantly associated with the presence of women board members when we analyse this variable alone but loses its significance when the share of women among staff and the index of central bank independence are included. The degree of central bank independence and the additional control variables are not significantly associated with the presence of women on MPCs. In particular, the OECD member and the French legal origin dummies are negatively related to the share of

women on MPCs only when we control for the index of central bank independence, while the size of the MPC is positively related to the share of women on boards in Columns (1) and (4). Similar results are obtained in Columns (5) to (8), where the dependent variable is the potential share of women, rather than the effective one.[13] Importantly, the size of the coefficient estimates presented in Columns (4) and (8) are qualitatively similar, indicating that our results are not affected by the variation in the share of women generated by the temporary vacancy of certain members. The robustness of our results is also tested in Appendix Table A4, where we estimate order logit regressions using the number of women on MPCs as the dependent variable (Columns (1)-(4)) as well as logit regressions where the dependent variable is a dummy taking the value of one if at least one woman is present on the MPC in a given year. The results are consistent across these alternative specifications and confirm the positive and statistically significant relationship between the share of women among the employees of a central bank and the share of women on its MPC. These results are also robust if we focus our attention on the share and number of women governors and deputy governors, rather than the share in the entire committee (See Appendix Table A5). Overall, the results presented in these tables suggest that the share of women employed in a central bank is correlated with the share of women on MPCs.

4 Gender and monetary policy

In this section, we investigate whether the gender composition of monetary policy committees correlates with the conduct of monetary policy. We start with the observation that, for most of the central banks around the world, the main instrument of monetary policy is the short-term interest rate (see Clarida et al., 1998; Orphanides, 2003; Hartmann and Smets, 2018, among others). Accordingly, we investigate the interest rate reaction functions that characterize how central banks choose the level of the short-term policy rate.

The standard approach in the monetary policy literature is to estimate forward-looking Taylor rules as in Clarida et al. (1998, 2000).[14] The starting point is a modified version of the Taylor rule, where the central bank's desired level of the nominal short-term interest rate (i^*) depends on the deviation of expected inflation k periods ahead from the target level π^*, and the expected output gap, $\tilde{y}_{t+q}$, q periods ahead, as follows:

$$i_t^* = r^* + \pi^* + \beta(E_t\{\pi_{t+k}|\Omega_t\} - \pi^*) + \gamma E_t\{\tilde{y}_{t+q}|\Omega_t\}, \tag{1}$$

where r^* is the long-run equilibrium real rate, E_t is the expectations operator and Ω_t is the information set at the time the policy rate is set. In practice, Eq. (1) is too restrictive as it does not allow for the smooth adjustment of policy rates observed empirically. Assuming central banks adjust the policy rate towards the desired level gradually, the actual interest rate follows the following dynamic process:

$$i_t = \sum_{j=1}^{n} \rho_j i_{t-j} + (1-\rho) i_t^*, \tag{2}$$

where the sum ρ_j captures the degree of interest rate smoothing. Combining Eq. (1) and (2), and assuming that the central bank can control interest rates only up to an independent and identically distributed stochastic error ϵ_t, yields the policy reaction function:

$$i_t = (1-\rho)\left[r^* - (\beta-1)\pi^* + \beta\pi_{t+k} + \gamma\tilde{y}_{t+q}\right] + \sum_{j=1}^{n} \rho_j i_{t-j} + \epsilon_t, \tag{3}$$

where the error term, $\epsilon_t = -(1-\rho)\left[\beta(\pi_{t+k} - E_t\{\pi_{t+k}|\Omega_t\}) + \gamma(\tilde{y}_{t+q} - E_t\{\tilde{y}_{t+q}|\Omega_t\})\right]$ is a combination of forecast errors and is orthogonal to any variable in the information set Ω_t. Eq. (3) can be extended to include other explanatory variables that can potentially influence the policy setting. As such, we proceed to estimate the following reduced form

equation:

$$i_t = \alpha + \phi_1 \pi_{t+k} + \phi_2 \tilde{y}_{t+q} + \phi_3 SW_t + \phi_4 SW_t \times \pi_{t+k} + \phi_5 SW_t \times \tilde{y}_{t+q} + \sum_{j=1}^{n} \rho_j i_{t-j} + \epsilon_t, \quad (4)$$

where $\alpha = (1-\rho)\left[r^* - (\beta - 1)\pi^*\right]$, $(\phi_1, \phi_2)' = (1-\rho)(\beta \ \ \gamma)'$, π_{t+k} is the level of inflation k periods ahead, $\tilde{y}_{t+q}$ is the output gap q periods ahead and SW_t is the share of women on the monetary policy committee at time t. $SW_t \times \pi_{t+k}$ is an interaction term between the share of women board members and the level of inflation, while $SW_t \times \tilde{y}_{t+q}$ is an interaction term between the share of women on MPCs and the output gap. The importance of adding these variables rests in the fact that the share of women on MPCs might not only influence the level of the central bank policy rate but also the responsiveness of the monetary policy decisions with respect to inflation and the output gap. As such, we are interested in assessing the role of women board members in influencing the target rates for a given level of the inflation rate and the output gap.

In our baseline estimations, we employ both annual and quarterly data and set the target horizon as the one period ahead levels of actual inflation and the output gap, i.e., $k = q = 1$. The short-term interest rate (*Policy rate*) is the end-of-period level of the central bank policy rate, i.e. the rate set by the MPC to implement its monetary policy stance, as obtained from the International Financial Statistics (IFS) database of the IMF and central bank websites. The inflation rate (*Inflation*) is the annualized change of the consumer price index obtained from the IFS database. The output gap (*Output gap*) is constructed by calculating the percentage deviation of nominal GDP from its trend using the Hodrick-Prescott filter.[15] In the empirical analysis, we include countries for which information on all variables of interest is available, which reduces our sample to 60 and 37 countries for annual and quarterly data, respectively.[16] We estimate the model in Eq. (4) for this set of countries over the period 2001-2017. Since this implies a panel setting,

we include country-fixed effects to capture all country-specific time-invariant factors, such as the country-specific long-run interest rate or target inflation levels. We also cluster standard errors at the country level to account for cross-sectional correlations in the data.

4.1 Empirical results

We present the estimates of Eq. (4) in a cross-country setting in Table 2. In columns (1)-(3) we employ annual data, while quarterly data is used in columns (4)-(6). We first estimate a standard forward-looking Taylor rule that does not include the gender diversity measure introduced in this paper. These estimations are presented in columns (1) and (4) using annual and quarterly data, respectively. In line with expectations, central banks set higher interest rates for higher levels of expected inflation and the adjustment process of the key policy rate is smooth, with an autoregressive coefficient, ρ, between 0.479 (with annual data) and 0.862 (with quarterly data). The output gap is not significantly related to the policy rate.

Next, we augment the baseline model by including an interaction term between the share of women on MPCs and the expected inflation rate (in columns (2) and (5)). The positive and statistically significant coefficient of this interaction term suggests that, for the same level of inflation, central banks with a higher share of women in monetary policy boards are associated with higher interest rates. The interaction term between the share of women on MPCs and the output gap is not statistically different from zero. These results seem to suggest that MPCs with a higher share of women are more responsive to inflation, but not to the output gap. In columns (3) and (6), we also include the share of women on MPCs alongside its interactions with inflation and the output gap. The negative and significant coefficient of this variable in column (6) can be explained by the fact that the increasing number of women in the second half of our time frame corresponds to the post-

Table 2: Women and monetary policy

	Annual data			Quarterly data		
	(1)	(2)	(3)	(4)	(5)	(6)
Share of women on MPC × Inflation		0.716**	0.857**		0.691*	0.723*
		(0.344)	(0.403)		(0.381)	(0.390)
Share of women on MPC × Output gap		0.001	0.001		0.001	0.001
		(0.000)	(0.000)		(0.000)	(0.000)
Share of women on MPC			-2.537			-0.295
			(1.526)			(0.278)
Inflation	0.226***	0.114*	0.093	0.320***	0.229***	0.224***
	(0.051)	(0.066)	(0.069)	(0.045)	(0.038)	(0.039)
Output gap	-0.001	0.001	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.479***	0.470***	0.471***	0.862***	0.861***	0.861***
	(0.081)	(0.077)	(0.077)	(0.013)	(0.011)	(0.011)
Observations	701	696	696	1,414	1,381	1,381
Number of countries	60	60	60	37	37	37
R-squared	0.357	0.371	0.374	0.939	0.941	0.941

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(3) and in quarter t in columns (4)-(6). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

global financial crisis, period which brought a decrease in policy rates in many countries. Overall, the results in Table 2 suggest that including the gender representation of MPCs can help explain the key policy rate set by central banks, over and above the conventional Taylor rule components. A higher presence of women on monetary policy boards can be associated with a higher responsiveness of MPCs to inflation and hence a tougher monetary policy stance when inflation is above the central bank target. For example, looking at the coefficients estimates in column (6), a one percentage point increase in inflation results in a 0.3 percentage points higher interest rate in a central bank with a share of women MPC members of 50% as opposed to one with a share of 10%. Appendix Figure A.3 shows the marginal effects of inflation on interest rates at different shares of women on MPCs. Marginal effects are computed based on the estimations run in Table 2, column (6).

Table 3 presents the same empirical exercise as in Table 2, but employs an alternative proxy for women's representation on central bank boards. We replace the share of women

Table 3: Women and monetary policy: alternative measure of gender representation

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Women on board × Inflation	0.251***	0.296***	0.306***	0.323***
	(0.057)	(0.052)	(0.079)	(0.080)
Women on board × Output gap	0.001***	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Women on board		-1.320***		-0.278**
		(0.375)		(0.128)
Inflation	0.163***	0.152***	0.203**	0.196**
	(0.043)	(0.042)	(0.082)	(0.085)
Output gap	0.001***	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.370***	0.361***	0.854***	0.854***
	(0.079)	(0.078)	(0.009)	(0.009)
Observations	701	701	1,413	1,413
Number of countries	60	60	37	37
R-squared	0.414	0.424	0.950	0.950

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Women on board is a dummy variable that takes the value one if at least one woman is present on the monetary policy committee at time t. Women on board × Inflation is an interaction term between women on board at t and the level of inflation of country i at $t+1$. Women on board × Output gap is an interaction term between women on board at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

on MPCs variable with a dummy that takes the value one if at least one woman is present on the monetary policy committee. The results are consistent using this alternative definition: boards with at least one female member are associated with higher interest rates, for the same level of inflation. Looking again at the coefficients in Column (6), an increase in inflation of 1% results in a 0.13 percentage points higher key policy rate in a central bank with at least one women board member, as opposed to none. The close estimates obtained in these two empirical strategies are explained by the fact that central bank boards that increased the number of female members were, in fact, among those who already had at least one woman present as suggested in Figure 4.

In Table 4, we estimate an alternative Taylor rule model where we include the unemployment gap, as opposed to the output gap. The Unemployment rate gap is constructed as the percentage deviation of the unemployment rate from its long-term trend using the HP filter (see also Castro, 2011). We include the share of women and its interaction terms

Table 4: Women and monetary policy: alternative Taylor rule

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.846**		0.726*	
	(0.400)		(0.382)	
Share of women on MPC × Unemployment gap	-0.676*		0.413	
	(0.347)		(0.272)	
Women on board × Inflation		0.297***		0.314***
		(0.052)		(0.084)
Women on board × Unemployment gap		-0.042		0.057
		(0.136)		(0.066)
Share of women on MPC	-2.432		-0.298	
	(1.525)		(0.284)	
Women on board		-1.340***		-0.266**
		(0.367)		(0.126)
Inflation	0.090	0.148***	0.223***	0.199**
	(0.069)	(0.042)	(0.037)	(0.086)
Unemployment gap	-0.097	-0.162	-0.188***	-0.127**
	(0.126)	(0.103)	(0.043)	(0.051)
Policy rates	0.472***	0.363***	0.862***	0.855***
	(0.078)	(0.079)	(0.010)	(0.009)
Observations	696	701	1,381	1,413
Number of countries	60	60	37	37
R-squared	0.376	0.425	0.942	0.951

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at t+1. Share of women on MPC × Unemployment gap is an interaction term between the share of women on MPC at t and the unemployment gap of country i at $t+1$. Women on board is a dummy variable that takes the value one if at least one woman is present on the monetary policy committee at time t. Women on board × Inflation is an interaction term between women on board at t and the level of inflation of country i at $t+1$. Women on board × Unemployment gap is an interaction term between women on board at t and the unemployment gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Unemployment gap is a one-period-ahead measure of the deviation of the unemployment rate of country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

in columns (1) and (3) and a dummy for women on MPCs in columns (2) and (4). The results presented in this table confirm the findings presented in columns (3) and (6) of Tables 2 and 3, where we show that not only the share of women but also the presence of at least a woman in the MPC is associated with higher responsiveness of monetary policy decisions to inflation. Focusing on the coefficient estimates obtained for the interaction terms between the share of women on MPCs and the unemployment rate, we find that these results are only statistically significant at the 10% level for the estimates presented in column (1). The negative coefficient of this interaction term suggests that MPCs with a higher share of women are also more responsive to the unemployment rate gap.

4.2 Robustness tests

This section presents several robustness tests of the main results presented in the previous subsection. First, we focus on alternative definitions of the share of women on MPC variable by controlling for the potential share of women on MPC as opposed to the actual one. As already mentioned in section 3, this measure is introduced to check that our results are not influenced by the temporary volatility of the share of women driven by unfilled seats on the board. The results presented in Appendix Table A7 confirm the results presented in Table 2, i.e. that committees characterised by a higher share of women appear to be more responsive to inflation. Next, in Appendix Table A8 we test the robustness of the results presented in Table 3, where the share of women was replaced by a dummy variable taking value one if at least one woman was present in the MPC. In this case, we employ a dummy variable that signals the presence of at least one woman acting as governor or deputy governor. The results presented in this table are only statistically significant when we use quarterly data. The positive and statistically significant coefficient of the interaction terms between the dummy for women governor or deputy governors and both inflation and output gap suggests that MPCs characterised by women in top positions are associated with higher responsiveness with respect to both inflation and the output gap.

Furthermore, the results are also robust to focusing on specific policy rate conditions and a narrower sample of countries. Given that many of the countries in our sample have been affected by the 2008 global financial crisis and the implementation of unconventional monetary policies after these countries reached the zero lower bound, we test the robustness along different lines. First, in Appendix Table A9 we restrict our analysis to the sub-sample of years and quarters in which the policy rate has been changed in a country. Second, in Appendix Table A10 we exclude from our analysis all the periods in which the central bank interest rate had reached the zero lower bound, i.e. an interest rate of zero. Next, in order

to control for the fact that the share of women on MPCs increases mainly after 2011, a period marked by higher responsiveness of countries to inflation following the recovery from the 2008 global financial crisis, in Appendix Table A11 we test the robustness of our results by employing time-fixed effects to absorb common time-variation in the responsiveness of monetary policy decisions to inflation. Finally, in Appendix Table A12 we focus on the set of developing countries, which have been less affected by the global financial crises and the zero lower bound level of the central bank policy rate. Our results are not sensitive to this set of robustness tests.

Next, we test the robustness of our results by estimating the monetary policy reaction function using a generalised method of moments (GMM) approach, that allows us to account for a possible correlation between the explanatory variables and the error term, which rises endogeneity problems. Clarida et al. (1998, 2000) argue that this method is better suited to address the fact that the main determinants of the key policy rate are not known at the moment the central bank sets the policy.[17] Appendix Table A13 re-estimates the results presented in Tables 2 and 3 using GMM estimations with quarterly data. The positive and statically significant coefficient of the interaction terms between inflation and both the share of women and the women on board dummy, confirm the robustness of our main results.

Finally, we explore the robustness of the estimations when employing annual data for a subset of countries for which both annual and quarterly data are available. This allows us to assess whether the absence of these data is systematically related to the outcome of interest. Our results are robust to this estimation (see Appendix Table A14). Finally, in Appendix Table A15 we present the results for an extended sample that includes the ECB Governing Council composition and Euro area variables.

Overall, the results presented in this section point towards a significant correlation

between the presence of women on MPCs and monetary policy-making. More precisely, we provide evidence that, within central banks, committees with a higher presence of women are associated with greater responsiveness to inflation while setting the central bank policy rate.

4.3 An empirical investigation of the behaviour of the Riksbank's Monetary Policy Committee members

In this section we provide evidence on how the presence of women might affect the voting behaviour of monetary policy committees, an outcome that might be directly influenced by the differences in voting patterns between men and women but also indirectly via the changes in the voting behaviour of men when women are present on MPCs. The existing literature on corporate law focuses on the board of directors of firms and suggests that the overall dynamic of the board changes with the presence of women directors (see Dhir, 2015, among others). In the context of judges, Boyd et al. (2010) and Peresie (2004) document that the presence of a female judge significantly increases the probability that a male judge supports the plaintiff in cases of sex discrimination and sexual harassment.

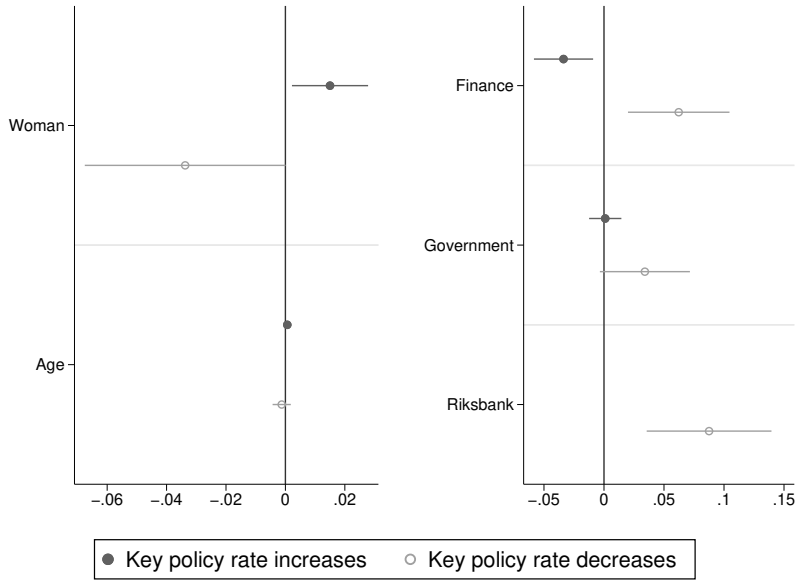
The literature on monetary policy has already considered the Swedish Central Bank (Riksbank, hereafter) as a relevant case study for voting behaviour, as it is far less secretive in its decision-making process than the majority of central banks (Eijffinger et al., 2013). Indeed, the Riksbank publishes the voting on the interest rate changes proposed by each member of the MPC during the different meetings. Using this data Chappell Jr et al. (2014) find that, over the period 2000-2008, the preferences of the Riksbank Governor dominate monetary policy outcomes. Eijffinger et al. (2013) use a different empirical approach, i.e. a spatial voting model, to infer the personal preferences of the MPC members between January 1999 and February 2013. These authors find that the Riksbank Governor tends

to hold centrist positions and avoids extremely hawkish/dovish choices. Chappell Jr and McGregor (2018) shed further light on the preferences of individual MPC members by showing that, during the period January 2000 to April 2014, they tended to place larger voting weights on the preferences of their colleagues and less so on those of the Governor. These findings support the view that the Riksbank acted in a genuinely collegial way, a finding that challenges the previous results. Finally, Eichler and Lähner (2017) find that career experience shapes the voting behaviour of the MPC members as individuals with a career in the Riksbank prefer significantly higher interest rates. Moreover, they find that members with a government career background show partisan voting behaviour, voting in favour of lower interest rates when the government has a centre-left political orientation than during centre-right party administrations. In their empirical strategy, these authors also introduce a dummy variable for women MPC members, but no attention is dedicated to these results. They find that, during the period 1999-2013, female MPC members have a lower probability of dissenting in favour of lower interest rates and a higher probability of dissenting in favour of higher interest rates.

Using the information on the interest rate changes proposed by each member of the Executive Board of the Riksbank, this section allows us to test the robustness of our results at a more granular level. To do so, we use the interest rate votes vast by the Riksbank's Executive Board members between 2000 and 2017.[18] During this period, the Executive Board held a total of 125 monetary policy meetings during which a total of 733 policy changes were proposed by the 18 members serving on the MPC.[19] Following Eichler and Lähner (2017), we collect information on the gender, age and professional background of each one of these members (8 women and 10 men).

We use this individual-level data to perform a simple OLS regression that estimates whether the policy rate change proposed during a meeting by an Executive Board member

Figure 6: Women and proposed policy rate (Riksbank)



Note: The figure presents the coefficient estimates of a regression of the change in key policy rate proposed by each committee member on gender, age and prior professional experience. Policy rate increases (solid lines) refers to positive or zero changes, and policy rate decreases (dashed lines) refers to negative or zero changes. Meeting fixed effects are included. 10% confidence intervals are presented.

is related to his/her gender, age or prior professional experience. We also add meeting fixed effects to absorb common time variations in the proposed policy rate. Figure 6 shows the 90 percent confidence intervals for the estimations run by looking separately at monetary tightening (solid lines) and easing (dashed lines). The main conclusion that we draw from Figure 6 is that gender differences seem to exist for monetary tightening, but not for policy rate easing. This simple exercise confirms our cross-country results: women tend to be more reactive in fighting inflation. These results are also in line with the findings presented in Eichler and Lähner (2017).

5 Concluding remarks

It has been claimed that gender imbalance in central banks reduces the diversity of views, harming their decision-making capacity (Goulard, 2021). In this paper, we empirically

demonstrated that gender diversity matters in influencing monetary policy decisions. At the same time, we show that female representation in central banking is still particularly low. A policy conclusion follows: women should be better represented in central bank boards. Promoting gender diversity in central bank governance should become a legal argument in reviewing the existing central bank statutes. In this respect, politicians should mimic what central banks autonomously are already doing, not only encouraging gender diversity (Donnery, 2020), but more importantly promoting internal regulations to increase the share of female staff members through the introduction of new models for gender targets that cover both hiring and promotion decisions (ECB, 2020).

We have investigated the role of women in central banks on monetary policy, using a new dataset on the gender representation on monetary policy committees in 90 countries over the period 2001-2017. We have shown that the share of women on central bank boards has been increasing over the past decade in all countries, though it remains quite low, at an average slightly below 16% in 2017. Yet, the presence of women on monetary policy committees is associated with a higher responsiveness of MPCs to inflation.

Our paper contributes to the understanding of the role of women in public policy. As their presence in public decision-making is increasing, there is a growing interest in how this can affect the way policies are designed and implemented. Most of the attention has been so far concentrated on female politicians, with non-unambiguous results on the fundamental question: *do women matter?* Understanding the causal effect of women's representation in decision-making positions on policy outcomes is difficult, because of well-known endogeneity concerns: is the presence of women affecting policies, or are policies themselves supporting the presence of women? In our context, we provide evidence of the correlation between the share of women on MPC and the policy rate adopted by central banks. Moreover, for the specific case of Sweden, we are able to analyze the decision taken by each member

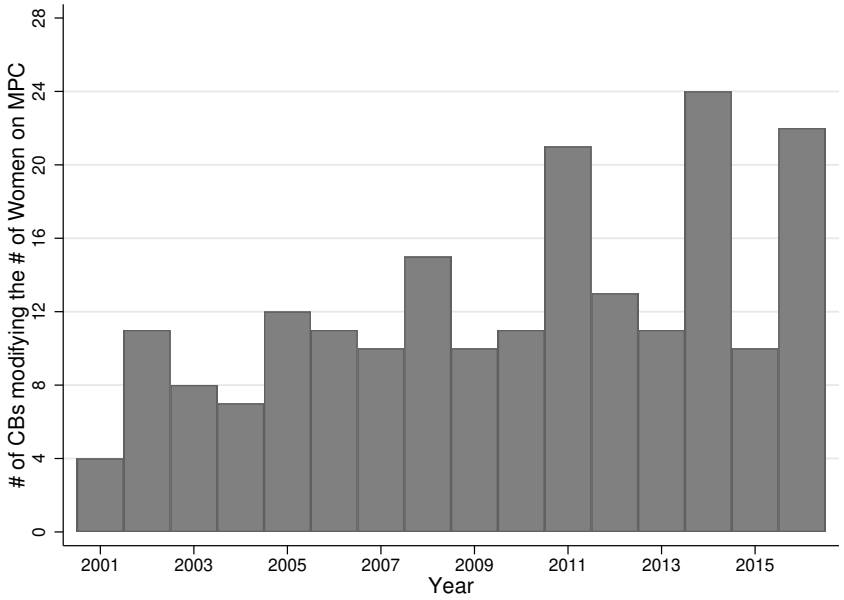
of the Riksbank executive board, and thus provide direct evidence of the role of women in policy-making. Our findings suggest that, in addition to increasing diversity which is a beneficial outcome *per se*, the presence of women in monetary policy-making may affect the policy. Future research could explore whether similar results apply to other policy-making contexts.

Appendices

Table A1: Analyzed countries and share of women on monetary policy committees (2017 or last available year)

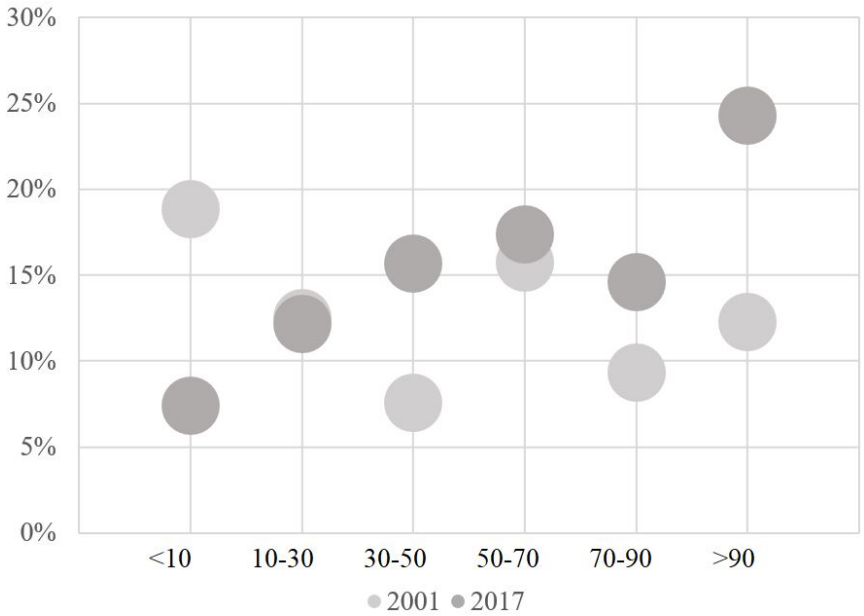
Country	% of women	Country	% of women
Afghanistan	14%	Macao S.A.R	40%
Albania	44%	Malaysia	22%
Algeria	0%	Maldives	43%
Angola	29%	Mauritania	20%
Armenia	0%	Mauritius	0%
Aruba	100%	Mexico	0%
Australia	33%	Morocco	25%
Bahamas	20%	Nepal	0%
Bangladesh	0%	New Zealand	0%
Belarus	22%	Nicaragua	0%
Belize	29%	Nigeria	0%
Bolivia	0%	Norway	38%
Bosnia and Herzegovina	20%	Oman	0%
Botswana	33%	Pakistan	10%
Brazil	0%	Papua New Guinea	0%
Brunei	0%	Paraguay	0%
Bulgaria	57%	Peru	0%
Cambodia	29%	Philippines	0%
Canada	33%	Poland	10%
Chile	0%	Republic of Serbia	50%
Colombia	14%	Romania	11%
Costa Rica	43%	Russia	31%
Croatia	0%	Saudi Arabia	0%
Cuba	20%	Sierra Leone	0%
Czech Republic	0%	Singapore	0%
Dem. Rep. of the Congo	0%	Slovakia	22%
Denmark	0%	Slovenia	0%
Dominican Republic	0%	South Korea	0%
Ethiopia	0%	Sri Lanka	20%
Ghana	29%	Sudan	14%
Honduras	60%	Sweden	33%
Hungary	0%	Switzerland	0%
Iceland	20%	Tanzania	30%
India	8%	Thailand	0%
Indonesia	0%	Trinidad and Tobago	25%
Iran	0%	Tunisia	33%
Israel	40%	Turkey	0%
Jamaica	13%	Ukraine	43%
Japan	11%	United Arab Emirates	0%
Jordan	25%	United Kingdom	22%
Kenya	29%	United States of America	24%
Kuwait	0%	Uruguay	0%
Latvia	25%	Venezuela	14%
Lebanon	14%	Yemen	0%
Lithuania	20%	Zambia	33%

Figure A.1: Central banks modifying the gender composition of its MPCs (2002–2017)



Note: This figure shows the evolution of the number of central banks which have modified the share of women on their MPCs between 2002 and 2017.

Figure A.2: Share of women on monetary policy committees by GDP percentiles (2001 and 2017)



Note: This figure shows the average share of women by GDP percentiles in 2001 (or first available year) and 2017 (or last available year).

Table A2: Summary Statistics

Variable	**Nr of obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Share of women on MPC	1349	0.134	0.172	0	1
Share of women on MPC (Potential)	1349	0.117	0.147	0	1
Share of women on staff	197	0.451	0.13	0.1	0.667
Gender gap index	874	0.678	0.062	0.451	0.881
Central bank independence	1292	0.615	0.177	0.142	0.912
OECD member	1530	0.217	0.412	0	1
British legal origin	1530	0.344	0.475	0	1
French legal origin	1530	0.367	0.482	0	1
Socialist legal origin	1530	0.211	0.408	0	1
MPC size	1349	7.113	3.132	1	22

Table A3: Data and data sources

Variable	Definition	Data sources
	Dependent variables	
Share of women	Variable that measures the share of women on the monetary policy committee of a country's central bank.	Authors
Share of women (Potential)	Variable that measures the share of women on the monetary policy committee of a country's central bank, computed as the ratio between the number of women and the de jure number of committee members.	Authors
Number of women on MPC	Variable that measures the number of women on the monetary policy committee of a country's central bank.	Authors
Presence of women on MPC	Dummy variable that takes the value of one if at least one woman is present on the monetary policy committee of a country's central bank.	Authors
Share of women governor or deputy	Variable that measures the share of women acting as governor and vice governor on the monetary policy committee of a country's central bank.	Authors
Number of women governor or deputy	Variable that measures the number of women acting as governor and vice governor on the monetary policy committee of a country's central bank.	Authors
Policy rate	Variable that measures the end of period level of the central bank policy rate, i.e. the rate set by the monetary policy committee to implement its monetary policy stance.	International Financial Statistics (IFS) database of the IMF and central bank websites
	Explanatory variables	
Share of women on staff	Variable that measures the ratio between the number of women employed by a central bank and the total number of its employees.	Authors following Horakova and Glass (2016)
Gender gap index	Variable that measures the Global Gender Gap Index measured by the World Economic Forum. This index benchmarks the evolution of gender-based gaps among four key dimensions (Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment) and tracks progress towards closing these gaps over time.	Authors following data from the World Economic Forum
Central bank independence	Variable that captures the degree of central bank independence as defined in Romelli (2022).	Authors following Romelli (2022)
OECD member	Dummy variable that takes the value of one for OECD member countries.	Authors
British, French and Socialist legal origin	Dummies for countries' legal origin.	Authors following La Porta et al. (1999)
MPC size	Variable that captures the size of the monetary policy committee of a country's central bank.	Authors
Inflation	Variable that measures the inflation rate, computed as the annualized change of the consumer price index.	Authors following IFS data
Output gap	Variable that measures the deviation of GDP of a country from its long-run trend, computed using the Hodrick-Prescott filter.	Authors following IFS data

Table A4: Women on monetary policy committees: robustness

	Ordered logit				Logit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number of women on MPC				Presence of women on MPC			
Share of women on staff$_{t-1}$	4.023*			7.213***	8.146**			13.341***
	(2.268)			(2.771)	(3.607)			(4.349)
Gender gap index$_{t-1}$		11.885***		3.107		10.785**		0.690
		(4.295)		(7.708)		(4.831)		(8.553)
Central bank independence$_{t-1}$			0.500	-3.007			0.639	-5.309
			(1.204)	(2.149)			(1.218)	(4.093)
OECD member	1.019	0.430	0.378	0.988	0.088	0.465	0.565	0.184
	(0.908)	(0.600)	(0.632)	(0.936)	(1.107)	(0.614)	(0.660)	(1.264)
British legal origin	0.309	0.288	0.126	0.201	-0.823	-0.133	-0.201	-2.544
	(0.976)	(0.694)	(0.723)	(1.715)	(1.204)	(0.763)	(0.719)	(1.943)
French legal origin	-1.941*	-1.269	-1.963**	-1.491	-4.452***	-1.927**	-2.237***	-21.344***
	(1.040)	(0.842)	(0.820)	(1.814)	(1.266)	(0.925)	(0.824)	(2.426)
Socialist legal origin	-0.668	0.340	-0.022	0.253	-3.851**	0.603	0.424	-2.654
	(1.229)	(0.799)	(0.842)	(1.558)	(1.627)	(0.894)	(0.870)	(1.760)
MPC size	0.303***	0.296***	0.233***	0.187	0.440**	0.292***	0.252***	0.146
	(0.110)	(0.076)	(0.064)	(0.116)	(0.174)	(0.098)	(0.089)	(0.215)
Additional controls:								
Income FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	182	752	1,084	146	180	752	1,084	145
Number of countries	66	82	81	54	66	82	81	54

In Columns (1) to (4), the dependent variable is the number of women on the monetary policy committee of country i in year t. In Columns (5) to (8), the dependent variable is a dummy variable that takes the value of one if at least a woman is present on the monetary policy committee of country i in year t. The share of women on staff is the ratio between the number of women employed by central bank i and the total number of its employees, in year $t-1$. Gender gap index is the Gender Gap Index as measured by the World Economic Forum. Central bank independence is the degree of central bank independence of country i, in year $t-1$. OECD member is a dummy variable that takes the value of one for OECD member countries. British, French and Socialist legal origin are dummies for countries' legal origin. MPC size is the size of the Monetary Policy Committee. Income FE are dummies to control for GDP deciles fixed effects. Year FE are dummies to control for year-fixed effects. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A5: Women as governor or deputy governor

	OLS				Ordered logit			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Share of women governor or deputy				Number of women governor or deputy			
Share of women on staff$_{t-1}$	0.470*			1.052***	3.838			7.344*
	(0.261)			(0.296)	(3.275)			(4.119)
Gender gap index$_{t-1}$		0.062		-0.321		3.241		-1.954
		(0.300)		(0.524)		(5.269)		(13.247)
Central bank independence$_{t-1}$			-0.132	-0.235			-0.925	-6.020
			(0.100)	(0.238)			(1.344)	(4.523)
OECD member	-0.119	0.119	-0.017	-0.106	0.039	-0.123	-0.239	-0.227
	(0.160)	(0.136)	(0.030)	(0.135)	(1.106)	(0.691)	(0.678)	(1.036)
British legal origin	0.268	0.249**	0.074	0.071	16.166***	16.475***	1.872*	15.093***
	(0.171)	(0.104)	(0.069)	(0.172)	(0.929)	(0.739)	(1.135)	(2.532)
French legal origin	0.222	0.082	-0.120*	0.210	14.251***	13.891***	-1.078	14.111***
	(0.202)	(0.099)	(0.068)	(0.219)	(1.565)	(1.171)	(1.276)	(2.941)
Socialist legal origin	0.250	0.144	-0.049	0.055	15.095***	14.650***	0.393	15.499***
	(0.242)	(0.104)	(0.086)	(0.247)	(1.440)	(1.053)	(1.258)	(1.919)
MPC size	-0.005	0.002	-0.012	-0.003	-0.034	0.100	0.060	-0.128
	(0.006)	(0.015)	(0.012)	(0.006)	(0.126)	(0.079)	(0.070)	(0.168)
Additional controls:								
Income FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	182	743	1,075	146	182	752	1,084	146
Number of countries	66	81	80	54	66	81	80	54

In Columns (1) to (4), the dependent variable is the share of women acting as governor and vice governor on the monetary policy committee of country i in year t. In Columns (5) to (8), the dependent variable is the number of women acting as governor and vice governor on the monetary policy committee of country i in year t. The share of women on staff is the ratio between the number of women employed by central bank i and the total number of its employees, in year $t-1$. Gender gap index is the Gender Gap Index as measured by the World Economic Forum. Central bank independence is the degree of central bank independence of country i, in year $t-1$. OECD member is a dummy variable that takes the value of one for OECD member countries. British, French and Socialist legal origin are dummies for countries' legal origin. MPC size is the size of the Monetary Policy Committee. Income FE are dummies to control for GDP deciles fixed effects. Year FE are dummies to control for year-fixed effects. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A6: Data availability

	Annual data			Quarterly data		
Country	**Policy rate**	**Inflation**	**Outputgap**	**Policy rate**	**Inflation**	**Outputgap**
Afghanistan		✓	✓			
Albania	✓	✓	✓	✓	✓	✓
Algeria		✓	✓			
Angola	✓	✓	✓	✓		
Armenia	✓	✓	✓	✓		
Aruba		✓	✓			
Australia	✓	✓	✓	✓	✓	✓
Bahamas	✓			✓		
Bangladesh	✓	✓	✓	✓		
Belarus	✓	✓	✓	✓	✓	✓
Belize	✓	✓	✓	✓		
Bolivia	✓	✓	✓	✓	✓	✓
Bosnia and Herzegovina		✓	✓		✓	✓
Botswana	✓	✓	✓	✓		
Brazil	✓	✓	✓	✓	✓	✓
Brunei		✓	✓			
Bulgaria	✓	✓	✓	✓	✓	✓
Cambodia		✓	✓			
Canada	✓	✓	✓	✓	✓	✓
Chile	✓	✓	✓	✓	✓	✓
Colombia	✓	✓	✓	✓		
Costa Rica	✓	✓	✓	✓	✓	✓
Croatia	✓	✓	✓	✓	✓	✓
Cuba		✓	✓			
Czech Republic	✓	✓	✓	✓	✓	✓
Dem. Rep. of the Congo	✓	✓	✓	✓		
Denmark	✓	✓	✓	✓	✓	✓
Dominican Republic	✓	✓	✓	✓		
Ethiopia		✓	✓			
Ghana	✓	✓	✓	✓		
Honduras	✓	✓	✓	✓		
Hungary	✓	✓	✓	✓	✓	✓
Iceland	✓	✓	✓	✓	✓	✓
India	✓	✓	✓	✓		
Indonesia	✓	✓	✓	✓		
Iran		✓	✓			
Israel	✓	✓	✓	✓	✓	✓
Jamaica		✓	✓			
Japan	✓	✓	✓	✓	✓	✓
Jordan	✓	✓	✓	✓		
Kenya	✓	✓	✓	✓		
Kuwait		✓	✓			
Latvia	✓	✓	✓	✓	✓	✓
Lebanon		✓	✓			
Lithuania		✓	✓		✓	✓
Macao S.A.R	✓	✓	✓	✓		
Malaysia	✓	✓	✓	✓	✓	✓
Maldives		✓	✓			
Mauritania		✓	✓			
Mauritius	✓	✓	✓	✓	✓	✓
Mexico	✓	✓	✓	✓	✓	✓
Morocco	✓	✓	✓	✓	✓	✓
Nepal	✓	✓	✓	✓		
New Zealand	✓	✓	✓	✓	✓	✓
Nicaragua		✓	✓			
Nigeria		✓	✓			

Table A3 Continued: Data availability

	Annual data			Quarterly data		
Country	**Policy rate**	**Inflation**	**Outputgap**	**Policy rate**	**Inflation**	**Outputgap**
Norway	✓	✓	✓	✓	✓	✓
Oman		✓	✓			
Pakistan		✓	✓			
Papua New Guinea	✓	✓	✓	✓		
Paraguay	✓	✓	✓	✓	✓	✓
Peru	✓	✓	✓	✓	✓	✓
Philippines	✓	✓	✓	✓	✓	✓
Poland	✓	✓	✓	✓	✓	✓
Republic of Serbia		✓	✓			
Romania	✓	✓	✓	✓	✓	✓
Russia	✓	✓	✓	✓		
Saudi Arabia	✓	✓	✓	✓		
Sierra Leone	✓	✓	✓	✓		
Singapore	✓	✓	✓	✓	✓	✓
Slovakia	✓	✓	✓	✓	✓	✓
Slovenia		✓	✓		✓	✓
South Korea	✓	✓	✓	✓		
Sri Lanka		✓	✓			
Sudan		✓	✓			
Sweden	✓	✓	✓	✓	✓	✓
Switzerland	✓	✓	✓	✓	✓	✓
Tanzania		✓	✓			
Thailand	✓	✓	✓	✓	✓	✓
Trinidad and Tobago		✓	✓			
Tunisia		✓	✓			
Turkey	✓	✓	✓	✓	✓	✓
Ukraine	✓	✓	✓	✓	✓	✓
United Arab Emirates		✓	✓			
United Kingdom	✓	✓	✓	✓	✓	✓
United States of America	✓	✓	✓	✓	✓	✓
Uruguay	✓	✓	✓	✓		
Venezuela		✓	✓			
Yemen		✓	✓			
Zambia		✓	✓			

Figure A.3: Marginal effect of inflation on interest rates (Table 2, Column 6).

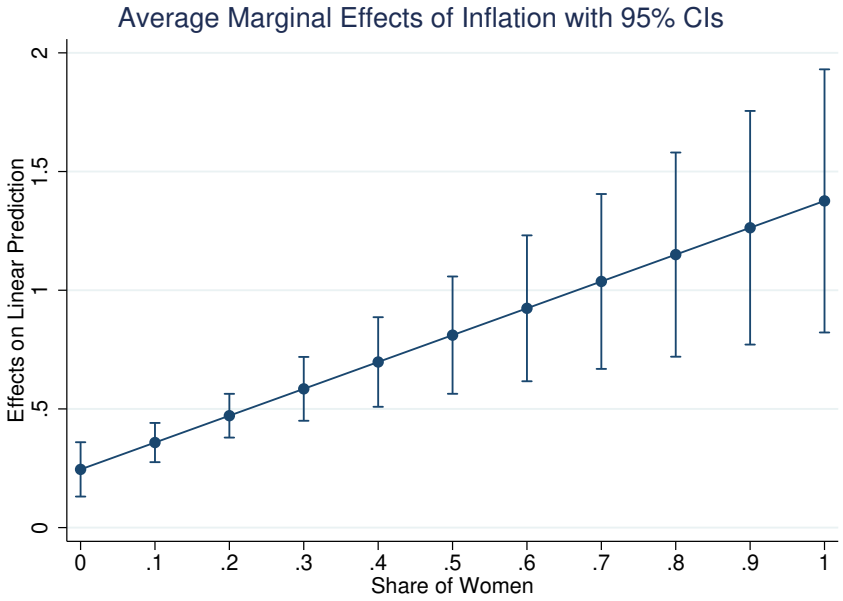


Table A7: Robustness with potential share of women on MPCs

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	1.287***	1.413***	1.575***	1.639***
	(0.432)	(0.448)	(0.489)	(0.487)
Share of women on MPC × Output gap	0.001***	0.001**	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Share of women on MPC		-3.616**		-0.921**
		(1.603)		(0.404)
Inflation	0.179***	0.174***	0.218**	0.213**
	(0.035)	(0.034)	(0.082)	(0.085)
Output gap	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates1,	0.442***	0.442***	0.858***	0.858***
	(0.082)	(0.083)	(0.012)	(0.011)
Observations	690	690	1,413	1,413
Number of countries	60	60	37	37
R-squared	0.406	0.412	0.949	0.949

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(3) and in quarter t in columns (4)-(6). Share of women on MPC is the potential share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the potential share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the potential share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A8: Taylor rules with women governor or deputy governor

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Women on top × Inflation	0.049	0.087	0.197***	0.209***
	(0.070)	(0.086)	(0.030)	(0.033)
Women on top × Output gap	0.001	-0.001	0.001*	0.001*
	(0.000)	(0.000)	(0.000)	(0.000)
Women on top		-0.840*		-0.111
		(0.461)		(0.118)
Inflation	0.226***	0.229***	0.311***	0.311***
	(0.055)	(0.054)	(0.038)	(0.038)
Output gap	-0.001	-0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.467***	0.461***	0.857***	0.857***
	(0.088)	(0.089)	(0.012)	(0.012)
Observations	701	701	1,413	1,413
Number of countries	60	60	37	37
R-squared	0.359	0.362	0.941	0.941

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Women on top is a dummy variable that takes the value one if at least one woman is either governor or deputy governor of the monetary policy committee at time t. Women on board × Inflation is an interaction term between women on top at t and the level of inflation of country i at $t+1$. Women on top × Output gap is an interaction term between women on top at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A9: Women and monetary policy: including policy changes only

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.793**	0.925**	0.870**	0.956**
	(0.393)	(0.454)	(0.403)	(0.427)
Share of women on MPC × Output gap	0.001*	0.001	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Share of women on MPC		-2.721		-0.891
		(1.761)		(0.567)
Inflation	0.120*	0.100	0.285***	0.274***
	(0.072)	(0.076)	(0.051)	(0.052)
Output gap	0.001	0.001	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.429***	0.430***	0.837***	0.837***
	(0.085)	(0.085)	(0.013)	(0.012)
Observations	528	528	760	760
Number of countries	59	59	37	37
R-squared	0.339	0.343	0.929	0.929

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A10: Women and monetary policy: excluding Zero Lowe Bound interest rates

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.717**	0.869**	0.720*	0.761*
	(0.345)	(0.411)	(0.379)	(0.390)
Share of women on MPC × Output gap	0.001	0.001	0.001**	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)
Share of women on MPC		-2.729		-0.373
		(1.666)		(0.319)
Inflation	0.113	0.091	0.230***	0.224***
	(0.068)	(0.070)	(0.038)	(0.039)
Output gap	0.001	0.001	0.001**	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.466***	0.468***	0.860***	0.860***
	(0.079)	(0.078)	(0.011)	(0.011)
Observations	636	636	1,264	1,264
Number of countries	60	60	37	37
R-squared	0.365	0.368	0.940	0.940

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A11: Women and monetary policy: year and quarter fixed effects

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.695**	0.842**	0.741*	0.777*
	(0.336)	(0.376)	(0.387)	(0.395)
Share of women on MPC × Output gap	0.001*	0.001	-0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Share of women on MPC		-2.678*		-0.351
		(1.341)		(0.252)
Inflation	0.125*	0.102	0.216***	0.211***
	(0.068)	(0.068)	(0.036)	(0.037)
Output gap	0.001***	0.001***	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.440***	0.441***	0.852***	0.852***
	(0.085)	(0.085)	(0.009)	(0.009)
Observations	696	696	1,381	1,381
Number of countries	60	60	37	37
R-squared	0.412	0.416	0.946	0.946

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country and year/quarter fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A12: Women and monetary policy: focus on developing countries

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.801**	0.957**	0.592***	0.612***
	(0.339)	(0.420)	(0.172)	(0.176)
Share of women on MPC × Output gap	0.001	0.001	-0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Share of women on MPC		-3.216		-0.227
		(2.114)		(0.417)
Inflation	0.070	0.048	0.266***	0.263***
	(0.065)	(0.068)	(0.032)	(0.033)
Output gap	0.001	0.001	0.001*	0.001*
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.375***	0.376***	0.876***	0.876***
	(0.084)	(0.083)	(0.015)	(0.015)
Observations	453	453	697	697
Number of countries	42	42	21	21
R-squared	0.218	0.223	0.856	0.856

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A13: Women and monetary policy: GMM estimations

	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	-0.572	0.752*		
	(3,659.800)	(0.431)		
Share of women on MPC × Output gap	0.001	0.001		
	(0.000)	(0.000)		
Women on board × Inflation			0.308***	0.340***
			(0.075)	(0.077)
Women on board × Output gap			0.001	0.001
			(0.000)	(0.000)
Share of women on MPC		-0.541		
		(0.371)		
Women on board				-0.507***
				(0.127)
Inflation	0.314	0.246***	0.210**	0.202**
	(262.447)	(0.045)	(0.080)	(0.084)
Output gap	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.935	0.880***	0.867***	0.866***
	(96.026)	(0.017)	(0.013)	(0.013)
Observations	1,381	1,381	1,413	1,413
Number of countries	37	37	37	37

The dependent variable is the central bank policy rate of country i in quarter t. Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Unemployment gap is an interaction term between the share of women on MPC at t and the unemployment gap of country i at $t+1$. Women on board is a dummy variable that takes the value one if at least one woman is present on the monetary policy committee at time t. Women on board × Inflation is an interaction term between women on board at t and the level of inflation of country i at $t+1$. Women on board × Unemployment gap is an interaction term between women on board at t and the unemployment gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Unemployment gap is a one-period-ahead measure of the deviation of the unemployment rate of country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A14: Women and monetary policy: focus on countries with quarterly data availability

	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.669***	0.826***		
	(0.166)	(0.180)		
Share of women on MPC × Output gap	0.001	0.001		
	(0.000)	(0.000)		
Women on board × Inflation			0.226***	0.259***
			(0.067)	(0.057)
Women on board × Output gap			0.001	0.001
			(0.000)	(0.000)
Share of women on MPC		-2.448**		
		(1.086)		
Women on board				-1.124**
				(0.465)
Inflation	0.185***	0.160***	0.218***	0.207***
	(0.036)	(0.037)	(0.041)	(0.037)
Output gap	-0.001	-0.001	-0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.539***	0.538***	0.414***	0.404***
	(0.026)	(0.026)	(0.082)	(0.080)
Observations	442	442	444	444
Number of countries	37	37	37	37
R-squared	0.628	0.632	0.672	0.681

The dependent variable is the central bank policy rate of country i in year t. Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Unemployment gap is an interaction term between the share of women on MPC at t and the unemployment gap of country i at $t+1$. Women on board is a dummy variable that takes the value one if at least one woman is present on the monetary policy committee at time t. Women on board × Inflation is an interaction term between women on board at t and the level of inflation of country i at $t+1$. Women on board × Unemployment gap is an interaction term between women on board at t and the unemployment gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Unemployment gap is a one-period-ahead measure of the deviation of the unemployment rate of country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Table A15: Women and monetary policy: including ECB data

	Annual data		Quarterly data	
	(1)	(2)	(3)	(4)
Share of women on MPC × Inflation	0.714**	0.855**	0.695*	0.726*
	(0.344)	(0.403)	(0.379)	(0.388)
Share of women on MPC × Output gap	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Share of women on MPC		-2.549*		-0.291
		(1.525)		(0.278)
Inflation	0.115*	0.093	0.227***	0.223***
	(0.066)	(0.069)	(0.037)	(0.038)
Output gap	0.001	0.001	0.001	0.001
	(0.000)	(0.000)	(0.000)	(0.000)
Policy rates	0.471***	0.472***	0.861***	0.861***
	(0.077)	(0.077)	(0.011)	(0.011)
Observations	711	711	1,447	1,447
Number of Ccountries	61	61	38	38
R-squared	0.372	0.375	0.941	0.941

The dependent variable is the central bank policy rate of country i in year t in columns (1)-(2) and in quarter t in columns (3)-(4). Share of women on MPC is the share of women on the monetary policy committee of country i, at time t. Share of women on MPC × Inflation is an interaction term between the share of women at t and the level of inflation of country i at $t+1$. Share of women on MPC × Output gap is an interaction term between the share of women on MPC at t and the output gap of country i at $t+1$. Inflation is the inflation rate one period ahead. Output gap is a one-period ahead measure of the deviation of GDP in country i from its long-run trend, computed using the Hodrick-Prescott (HP) filter. Policy rate is the lagged value of the central bank policy rate. Country-fixed effects are included. A constant term is included but not reported. Robust standard errors in parentheses, adjusted for clustering by country. ***/**/* denote significance at 1, 5 and 10 percent levels, respectively.

Figure A.4: Riksbank's policy rate (2000-2017)

Note: The figure plots the actual Riksbank policy rate (repo rate) between 2000 and 2017.

References

Adams, R. B. and D. Ferreira (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics 94*(2), 291–309.

Adams, R. B. and P. Funk (2012). Beyond the glass ceiling: Does gender matter? *Management science 58*(2), 219–235.

Ainsley, C. (2020). The consequences of gender diversity at the federal reserve: An empirical analysis of fomc voting and discourse. Technical report.

Arfken, D. E., S. L. Bellar, and M. M. Helms (2004). The ultimate glass ceiling revisited: The presence of women on corporate boards. *Journal of Business ethics 50*(2), 177–186.

Barnes, T. (2016). *Gendering legislative behavior*. Cambridge University Press.

Barro, R. J. and D. B. Gordon (1983). Rules, discretion and reputation in a model of monetary policy. *Journal of Monetary Economics 12*(1), 101–121.

Bennani, H., E. Farvaque, and P. Stanek (2018). Influence of regional cycles and personal background on FOMC members' preferences and disagreement. *Economic Modelling 68*, 416–424.

Bennani, H. and D. Romelli (2021). Disagreement inside the fomc: New insights from tone analysis. Technical report, Trinity College Dublin, Department of Economics.

Bertrand, M. (2011). New perspectives on gender. In *Handbook of labor economics*, Volume 4, pp. 1543–1590. Elsevier.

Besley, T., N. Meads, and P. Surico (2008). Insiders versus outsiders in monetary policymaking. *American Economic Review 98*(2), 218–23.

Blinder, A. S. and J. Morgan (2005). Are two heads better than one? Monetary policy by committee. *Journal of Money, Credit and Banking*, 789–811.

Blinder, A. S. and J. Morgan (2008). Do monetary policy committees need leaders? A report on an experiment. *American Economic Review 98*(2), 224–29.

Bodea, C. and A. Kerner (2021). The gender credibility gap: All-male boards and substantive gender representation in central banking. *Available at SSRN*.

Boyd, C. L., L. Epstein, and A. D. Martin (2010). Untangling the causal effects of sex on judging. *American journal of political science 54*(2), 389–411.

Campbell, K. and A. Mínguez-Vera (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics 83*(3), 435–451.

Castro, V. (2011). Can central banks' monetary policy be described by a linear (augmented) taylor rule or by a nonlinear rule? *Journal of Financial Stability 7*(4), 228–246.

Chappell, Jr, H. W., T. M. Havrilesky, and R. R. McGregor (1993). Partisan monetary policies: Presidential influence through the power of appointment. *The Quarterly Journal of Economics 108*(1), 185–218.

Chappell, Jr, H. W. and R. R. McGregor (2000). A long history of FOMC voting behavior. *Southern Economic Journal*, 906–922.

Chappell Jr, H. W. and R. R. McGregor (2018). Committee decision-making at sweden's riksbank. *European Journal of Political Economy 53*, 120–133.

Chappell Jr, H. W., R. R. McGregor, and T. A. Vermilyea (2014). Power-sharing in monetary policy committees: Evidence from the united kingdom and sweden. *Journal of Money, Credit and Banking 46*(4), 665–692.

Chapple, L. and J. E. Humphrey (2014). Does board gender diversity have a financial impact? Evidence using stock portfolio performance. *Journal of Business Ethics 122*(4), 709–723.

Charlety, P., D. Romelli, and E. Santacreu-Vasut (2017). Appointments to central bank boards: Does gender matter? *Economics Letters 155*, 59–61.

Childs, S. (2004). A feminised style of politics? women mps in the house of commons. *The British Journal of Politics and International Relations 6*(1), 3–19.

Clarida, R., J. Galı, and M. Gertler (1998). Monetary policy rules in practice: Some international evidence. *European Economic Review 42*(6), 1033–1067.

Clarida, R., J. Gali, and M. Gertler (2000). Monetary policy rules and macroeconomic stability: evidence and some theory. *The Quarterly journal of economics 115*(1), 147–180.

De Cabo, R. M., R. Gimeno, and M. J. Nieto (2012). Gender diversity on european banks' boards of directors. *Journal of Business Ethics 109*(2), 145–162.

Del Prete, S. and M. L. Stefani (2013). Women on italian bank boards: Are they'gold dust'?

Dhir, A. A. (2015). *Challenging boardroom homogeneity: Corporate law, governance, and diversity*. Cambridge University Press.

Dolan, J. and D. H. Rosenbloom (2016). *Representative Bureaucracy: Classic Readings and Continuing Controversies: Classic Readings and Continuing Controversies*. Routledge.

Donnery, S. (2020). Gender diversity for policy making, a central banking perspective. Keynote speech delivered via video link at OMFIF Gender Balance Index 2020 launch.

ECB (2020). ECB announces new measures to increase share of female staff members. European Central Bank Press Release.

Eichler, S. and T. Lähner (2017). Career experience, political effects, and voting behavior in the Riksbank's Monetary Policy Committee. *Economics Letters 155*, 55–58.

Eijffinger, S., R. Mahieu, and L. Raes (2013). Estimating the preferences of central bankers: An analysis of four voting records. *CentER Discussion Paper 2013*.

Eijffinger, S., R. Mahieu, and L. Raes (2018). Inferring hawks and doves from voting records. *European Journal of Political Economy 51*, 107–120.

Erhardt, N. L., J. D. Werbel, and C. B. Shrader (2003). Board of director diversity and firm financial performance. *Corporate governance: An international review 11*(2), 102–111.

European Commission (2012). Proposal for a directive of the european parliament and of the council on improving the gender balance among non-executive directors of companies listed on stock exchanges and related measures. *European Commission, Brussels*.

European Commission (2021). 2021 report on gender equality in the eu.

Farvaque, E., H. Hammadou, and P. Stanek (2009). Select your committee: The impact of central bankers' background on inflation. *Economie internationale* (1), 99–129.

Farvaque, E., H. Hammadou, and P. Stanek (2011). Selecting your inflation targeters: background and performance of monetary policy committee members. *German Economic Review 12*(2), 223–238.

Farvaque, E., P. Stanek, and S. Vigeant (2014). On the performance of monetary policy committees. *Kyklos 67*(2), 177–203.

Ferrari, G., V. Ferraro, P. Profeta, and C. Pronzato (2016). Gender quotas: challenging the boards, performance, and the stock market.

Fox, R. L. and J. L. Lawless (2010). If only they'd ask: Gender, recruitment, and political ambition. *The Journal of Politics 72*(2), 310–326.

Fox, R. L. and J. L. Lawless (2011). Gendered perceptions and political candidacies: A central barrier to women's equality in electoral politics. *American Journal of Political Science 55*(1), 59–73.

Fox, R. L. and J. L. Lawless (2014). Uncovering the origins of the gender gap in political ambition. *American Political Science Review 108*(3), 499–519.

Franceschet, S., M. L. Krook, and J. M. Piscopo (2012). Conceptualizing the impact of gender quotas. *The impact of gender quotas*, 3–26.

Franceschet, S. and J. M. Piscopo (2008). Gender quotas and women's substantive representation: Lessons from argentina. *Politics & Gender 4*(3), 393–425.

Fry, M., D. Julius, L. Mahadeva, S. Roger, and G. Sterne (2000). Key issues in the choice of monetary policy framework. *Monetary policy frameworks in a global context 1*, 1–216.

Gerlach-Kristen, P. (2009). Outsiders at the Bank of England's MPC. *Journal of Money, Credit and Banking 41*(6), 1099–1115.

Gneezy, U., M. Niederle, and A. Rustichini (2003). Performance in competitive environments: Gender differences. *The Quarterly Journal of Economics 118*(3), 1049–1074.

Göhlmann, S. and R. Vaubel (2007). The educational and occupational background of central bankers and its effect on inflation: An empirical analysis. *European Economic Review 51*(4), 925–941.

Goulard, S. (2021). Gender, women economic concerns and monetary policy decision-making.

Gulamhussen, M. A. and S. Fonte Santa (2015). Female directors in bank boardrooms and their influence on performance and risk-taking. *Global Finance Journal 28*, 10–23.

Hansen, S., M. McMahon, and C. V. Rivera (2014). Preferences or private assessments on a monetary policy committee? *Journal of monetary Economics 67*, 16–32.

Harris, M. N., P. Levine, and C. Spencer (2011). A decade of dissent: explaining the dissent voting behavior of Bank of England MPC members. *Public Choice 146*(3-4), 413–442.

Hartmann, P. and F. Smets (2018). The first twenty years of the European Central Bank: monetary policy. Working Paper Series 2219, European Central Bank.

Hessami, Z. and M. Lopes da Fonseca (2020). Female political representation and substantive effects on policies: A literature review.

Hix, S., B. Høyland, and N. Vivyan (2010). From doves to hawks: A spatial analysis of voting in the monetary policy committee of the Bank of England. *European Journal of Political Research 49*(6), 731–758.

Hodrick, R. J. and E. C. Prescott (1997). Postwar us business cycles: an empirical investigation. *Journal of Money, credit, and Banking*, 1–16.

Horakova, M. and E. Glass (2016). *Central Bank Directory 2016*. Central Banking Publications.

Inglehart, R. and P. Norris (2000). The developmental theory of the gender gap: Women's and men's voting behavior in global perspective. *International Political Science Review 21*(4), 441–463.

International Labour Office (2019). *Women in business and management: The business case for change*. International Labour Office.

Istrefi, K. (2019). In fed watchers' eyes: Hawks, doves and monetary policy.

Istrefi, K. and G. Sestrieri (2018). Central banking at the top: it's a man's world.

Jung, A. et al. (2013). Policymakers' interest rate preferences: recent evidence for three monetary policy committees. *International Journal of Central Banking 9*(3), 150–197.

Jung, A. and S. Latsos (2015). Do federal reserve bank presidents have a regional bias? *European Journal of Political Economy 40*, 173–183.

Kang, E., D. K. Ding, and C. Charoenwong (2010). Investor reaction to women directors. *Journal of Business Research 63*(8), 888–894.

La Porta, R., F. Lopez-de Silanes, A. Shleifer, and R. Vishny (1999). The quality of government. *Journal of Law, Economics, and organization 15*(1), 222–279.

Lagarde, C. (2018). If it was lehman sisters, it would be a different world. *The Guardian*.

Lagarde, C. (2019). Why are women missing at central banks? *The New York Times*.

Lähner, T. (2018). Inconsistent voting behaviour in the FOMC. *Applied Economics 50*(14), 1617–1643.

Malmendier, U., S. Nagel, and Z. Yan (2020). The making of hawks and doves. *Journal of Monetary Economics*.

Mansbridge, J. (1999). Should blacks represent blacks and women represent women? a contingent "yes". *The Journal of politics 61*(3), 628–657.

Morris, J. and T. Lybek (2004). Central bank governance: A survey of boards and management. IMF Working Papers 04/226, International Monetary Fund.

Neuenkirch, M. and F. Neumeier (2015). Party affiliation rather than former occupation: The background of central bank governors and its effect on monetary policy. *Applied Economics Letters 22*(17), 1424–1429.

Niederle, M. and L. Vesterlund (2007). Do women shy away from competition? do men compete too much? *Quarterly Journal of Economics 122*(3), 1067–1101.

Orphanides, A. (2003, July). Historical monetary policy analysis and the Taylor rule. *Journal of Monetary Economics 50*(5), 983–1022.

Orphanides, A. (2010). Taylor rules. In *Monetary Economics*, pp. 362–369. Springer.

Orphanides, A. (2019). Monetary policy strategy and its communication. In *Federal Reserve Bank of Kansas City 2019 Jackson Hole Economic Policy Symposium, Challenges for Monetary Policy, Jackson Hole, August*, pp. 22–24.

Palvia, A., E. Vähämaa, and S. Vähämaa (2015). Are female ceos and chairwomen more conservative and risk averse? evidence from the banking industry during the financial crisis. *Journal of Business Ethics 131*(3), 577–594.

Peresie, J. L. (2004). Female judges matter: Gender and collegial decisionmaking in the federal appellate courts. *Yale LJ 114*, 1759.

Phillips, A. (1995). *The politics of presence*. Clarendon Press.

Porta, R. L., F. Lopez-de Silanes, A. Shleifer, and R. W. Vishny (1998). Law and finance. *Journal of political economy 106*(6), 1113–1155.

Profeta, P., L. Aliberti, A. Casarico, M. D'Amico, and A. Puccio (2014). *Women directors: The Italian way and beyond*. Springer.

Romelli, D. (2022). The political economy of reforms in central bank design: evidence from a new dataset. *Economic Policy*.

Rose, C. (2007). Does female board representation influence firm performance? the danish evidence. *Corporate Governance: An International Review 15*(2), 404–413.

Saidel, J. R. and K. Loscocco (2005). Agency leaders, gendered institutions, and representative bureaucracy. *Public Administration Review 65*(2), 158–170.

Samuelson, H. L., B. R. Levine, S. E. Barth, J. L. Wessel, and J. A. Grand (2019). Exploring women's leadership labyrinth: Effects of hiring and developmental opportunities on gender stratification. *The Leadership Quarterly 30*(6), 101314.

Sapienza, P., L. Zingales, and D. Maestripieri (2009). Gender differences in financial risk aversion and career choices are affected by testosterone. *Proceedings of the National Academy of Sciences*, pnas–0907352106.

Sojo, V. E., R. E. Wood, S. A. Wood, and M. A. Wheeler (2016). Reporting requirements, targets, and quotas for women in leadership. *The Leadership Quarterly 27*(3), 519–536.

Spamann, H. (2006). On the insignificance and/or endogeneity of la porta et al.'s' anti-director rights index'under consistent coding. *Harvard Law School John M. Olin Center Discussion Paper* (7).

Swers, M. L. (2002). *The difference women make: The policy impact of women in Congress*. University of Chicago Press.

Taylor, J. B. (1993). Discretion versus policy rules in practice. In *Carnegie-Rochester conference series on public policy*, Volume 39, pp. 195–214. Elsevier.

Thomas, S. (1991). The impact of women on state legislative policies. *The Journal of Politics 53*(4), 958–976.

Thomas, S. (1994). *How women legislate*. Oxford University Press on Demand.

van Daalen, K. R., C. Bajnoczki, M. Chowdhury, S. Dada, P. Khorsand, A. Socha, A. Lal, L. Jung, L. Alqodmani, I. Torres, et al. (2020). Symptoms of a broken system: the gender gaps in covid-19 decision-making. *BMJ Global Health 5*(10), e003549.

Wängnerud, L. (2000). Testing the politics of presence: Women's representation in the swedish riksdag. *Scandinavian political studies 23*(1), 67–91.

Wilson, L. (2014). A Dove to Hawk ranking of the Martin to Yellen Federal Reserves.

Notes

[1]The Taylor rule is a simple model that describes the interest rate decisions of the monetary policy committee of a central bank. First introduced by John Taylor (1993), the Taylor rule prescribes how a central bank should adjust its interest rate policy instrument in a systematic manner in response to the deviation of inflation from its target, on the one side, and the deviation of output from its potential level on the other side. Since its introduction, Taylor rules have been used to discuss the interest rate decisions adopted by central banks around the world and in a variety of policy regimes, from money growth targeting to inflation targeting (Orphanides, 2010).

[2] The primary objective of most of the central banks around the world is to maintain price stability, but central banks do not control the inflation rate directly. By setting their key policy rates, central banks affect economic activity and, in turn, inflation. By focusing on the key policy rate, we are therefore able to better investigate the correlation between the share of women on monetary policy committees and monetary policy decisions, something that has been disregarded in the existing literature.

[3]The ECB strategy, called *Women@ECB*, was presented by Isabelle Schnabel, member of the executive board of ECB, in 2020, see https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200928 97c7e2ba27.en.html.

[4]The literature is however not fully conclusive, as several papers find no significant differences between male and female judges (see Appendix A in Boyd et al., 2010).

[5]Activism has been associated with a particular jargon, whereby a *hawk* is a policymaker that dislikes inflation and is tough in fighting it, while a *dove* is a policymaker that is more tolerant towards inflation in the pursuit of other policy objectives, such as low unemployment (Barro and Gordon, 1983; Chappell et al., 1993; Jung et al., 2013; Wilson, 2014; Jung and Latsos, 2015; Neuenkirch and Neumeier, 2015; Eijffinger et al., 2018). Throughout time, this dovish/hawkish attitude has probably become one of the main focuses of the analysis of monetary policy board decisions. The composition of these committees, including their level of diversity, seems to matter (Blinder and Morgan, 2005, 2008; Besley et al., 2008; Gerlach-Kristen, 2009; Hix et al., 2010; Eijffinger et al., 2018).

[6]In most countries this function is performed by the central bank board or monetary policy committee. For simplicity, we refer to this body as the monetary policy committee, hereafter.

[7]The gender of each MPC member was obtained by cross-checking different data sources, including central bank websites, annual reports, and Central Bank Directories, but also searching the picture of the individual online. The main challenge with this extensive data collection exercise is that most of the time, these sources do not explicitly specify whether a member is a man or a woman, so individual name searches need to be performed manually. Out of this total number of 2133 members, 277 were women.

[8]Figure 1 shows the share of women on MPCs for a larger sample of countries than the one employed in the main empirical part of this paper. For example, the share of women in the national central banks of euro-area countries is reported in this figure, but these countries are not included in our main analysis, since monetary policy decisions are adopted by the European Central Bank. Similarly, we have excluded from our analysis all countries belonging to the three other monetary unions present around the world, i.e. the Economic and Monetary Community of Central Africa, the Eastern Caribbean Currency Union and the West African Monetary Union. All remaining figures will refer to the sample of countries analysed in the paper, exclusively.

[9]This trend is confirmed by the increase in the number of central banks which have modified the share of women on their MPC between 2002 and 2017, as shown in Appendix Figure A.1.

[10]The distinction between governors, deputy governors and other MPC members is motivated by the fact that the first two also cover the senior leadership positions in central banks. In particular, the governor is also the chair of the MPC and he/she has the casting vote in case of a tie during MPC votes. While governors and deputies might be called differently across central banks, we classify as governor and deputy governor(s) the top and vice executive members of the different institutions. See Online Appendix Table I for information on the name assigned to these figures in the various central bank legislations.

[11]This information is reported in the Central Banking Directories for a limited set of central banks starting from 2014, which limits the period and sample of our analysis.

[12]Countries' legal origin is measured using the "anti-director rights index" proposed by (Porta et al., 1998), which has been used as a measure of shareholder protection in thousands of articles since its introduction. However, given that the re-coding of the index by Spamann (2006) has shown severe endogeneity concerns regarding the index's components, we test the robustness of our results by excluding this variable. Our results, available upon request, are robust to the exclusion of this variable.

[13]The potential share of women on MPCs is computed as the ratio between the number of women and the total number of MPC members prescribed in the central bank charter. As a matter of fact, it is not uncommon for central banks to have MPC positions which are left temporarily vacant. For example, at the end of January 2022, three out of the seven positions at the Federal Reserve Board of Governors were vacant. In this context, it is important to test whether our results are affected by the inclusion of cases in

which the share of women on MPCs might appear particularly volatile in the short run due to the departure of an MPC member who is yet to be replaced by someone else. Based on the findings presented in Figure 4, which suggest that in any given year around 50% of the central banks in our sample do not register the presence of a woman on their MPC, we assume that all vacant places are occupied by men, leaving therefore unchanged the number of women over time. Consider, as an example, a case in which in year t an MPC of 3 members is characterised by the presence of 1 woman, equivalent to a share of women on MPC of 33%. Assuming that one of the male MPC members departs from the board at the end of year t and that another man is appointed in $t+2$ to cover for the vacant position, we would end up with a share of women on MPC of 33% in year t, of 50% in year $t+1$ and back to 33% in year $t+2$. In this case, while the share of women on MPC would change over time, the potential share of women would remain unchanged.

[14]As indicated by Orphanides (2019): "Federal Reserve officials, have utilized versions of the Taylor rule in a number of speeches as a device to describe monetary policy". For example, during a 1996 speech, Governor Yellen mentioned that "According to the Taylor rule, the Fed's key instrument, the federal funds rate, should respond to gaps between actual and ideal performance on each of the Fed's dual objectives-price stability and output stability"(see Orphanides, 2019, for more insights on this point).

[15]The Hodrick-Prescott (HP) filter has been introduced for the first time by Hodrick and Prescott (1997) and is probably the most popular technique employed to isolate short-term fluctuations associated with the business cycle from long-term trends. This method is presented in detail in Hodrick and Prescott (1997). For the purpose of our analysis, we use the HP filter to compute the cyclical fluctuations of GDP from its trend, i.e. the output gap. In this context, positive values of the output gap are associated with instances in which GDP is expanding more than its long-term trend, indicating therefore a period of high economic growth, while the opposite would happen during periods of economic downturn.

[16]For each country in our sample, we have checked the availability of the data on the key policy rate from both the IMF International Financial Statistics database and the central bank websites. Unfortunately, many central banks do not provide data on the policy rate fixed by their monetary policy committee, while for some countries we could not obtain information on Inflation and/or Output gap. This reduced the number of available countries from 90 to 60 for annual data. The loss of 23 additional countries when employing quarterly data, is the result of a lack of quarterly data on Inflation and/or Output gap for many of the developing countries included in our sample. Appendix Table A6 provides, for each country, an overview of the data availability for the different variables used in this part of the empirical analysis.

[17]To implement this method, we need to assume that the set of variables (instruments) available in the central bank information at time t is orthogonal to the error term, ϵ_t, i.e., $E\{i_t - \alpha - \phi_1\pi_{t+k} - \phi_2\tilde{y}_{t+q} - \theta' X_t - \sum_{j=1}^{n}\rho_j i_{t-j}|v_t\} = 0$. The set of instruments, v_t includes three lags of the regressors in Eq. (4). (see, also Clarida et al., 2000).

[18]During each meeting, Executive Board members propose a change to the current key policy rate (Repo rate). This information is publicly available on the central bank website. At the end of the meeting, the central bank sets the new rate, which corresponds to the change voted by the majority of members.

[19]Out of these 733 policy changes, 416 were associated with no changes, 174 with a reduction of the current policy rate and 143 in favour of an increase in the policy rate. Figure A.4 in the Appendix shows the evolution of the Riksbank's policy rate from 2000-2017.

Online Appendix

Table I: Data sources and legislative references

Afghanistan	
Source of data:	Archived central bank websites
Data availability:	2008-2017
MPC official name:	Supreme Council
MPC size:	7
Legislative reference:	
	Article 7 Composition of the Supreme Council 7.1 The Supreme Council of Da Afghanistan Bank shall be composed of seven members, as follows: 1) Governor as Chairman of the Supreme Council 2) First Deputy Governor as Vice Chairman of the Supreme Council 3) Five other members. [. . .]
Albania	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Supervisory Council
MPC size:	9
Legislative reference:	
	Article 44 1. The Supervisory Council shall be composed of nine members, as follows: The Governor of the Bank, who shall be the Chairman of the Supervisory Council; The First Deputy Governor of the Bank of Albania, who shall be Deputy Chairman of the Supervisory Council; The Second Deputy Governor; and Six other members. [. . .]
Algeria	
Source of data:	Archived central bank websites
Data availability:	2002-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Article 18 - The Board of Directors of the Bank of Algeria is composed of: - the Governor, as Chairman; - the three Vice-Governors; - three officials of the highest rank nominated by a Presidential Decree owing to their competency in economic and financial fields. [. . .]
Angola	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	5-7 (until 2009); 6-8 (since 2010)
Legislative reference:	
	(Until 2009) Article 52 1. The Board of Directors shall consist of the Governor, who chairs it, the Deputy Governor and three to five administrators. [. . .] (Since 2010) Article 58 1. The Board of Directors is made up of the Governor, who presides, two Deputy Governors and four to six Directors. [. . .]
Armenia	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Central Bank Board
MPC size:	7
Legislative reference:	
	Article 19. The Central Bank Board 1. The Central Bank Board is the highest body of the management of the Central Bank. The Central Bank Board consists of the chairman, his deputy and 5 members. [. . .]

Table I Continued: Data sources and legislative references

Aruba	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	President
MPC size:	1
Legislative reference:	
	Section 19 1. The president determines the policy and conducts the management of the Bank in the broadest sense. He is charged with the administration of the Bankâs property and is authorized to perform all acts of disposition in respect of that property, in so far as this authority is not limited under or pursuant to this state ordinance. [. . .]
Australia	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Reserve Bank Board
MPC size:	9
Legislative reference:	
	14 Membership of Reserve Bank Board (1) The Reserve Bank Board shall consist of: (a) the Governor; (b) the Deputy Governor; (c) the Secretary to the Department of the Treasury; and (d) 6 other members, who shall be appointed in writing by the Treasurer in accordance with this section. [. . .]
Bahamas	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	5
Legislative reference:	
	Schedule (Section 3(5)) The Bank The Board of Directors [. . .] 2. (1) The Board of Directors shall consist of the following persons to be appointed by the Governor-General (a) a Governor, [. . .] (b) four other Directors, [. . .]
Bangladesh	
Source of data:	Annual reports
Data availability:	2010-2017
MPC official name:	Board of Directors
MPC size:	9
Legislative reference:	
	Chapte II, Section 9 [. . .] (3) The Board shall consist of- (a) the Governor; (b) a Deputy Governors, to be nominated by the Government; (c) four Directors who will not be Government officials [. . .] (d) three Government Officials[. . .]
Belarus	
Source of data:	Archived central bank websites
Data availability:	2008-2017
MPC official name:	Board of Directors
MPC size:	9
Legislative reference:	
	The Board of Directors of the National Bank shall be an executive collective body of the National Bank. The Board of Directors of the National Bank shall consist of nine members including its head.
Belize	
Source of data:	Central Bank Directories
Data availability:	2001-2016
MPC official name:	Board of Directors
MPC size:	6-7
Legislative reference:	
	Part IV, Section 11. (1) The Board of Directors shall consist of the following persons, (a) the Governor, a Deputy Governor and the Financial Secretary who shall be ex officio members; and (b) not less than three nor more than four other members.

Table I Continued: Data sources and legislative references

Bolivia	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of directors
MPC size:	6
Legislative reference:	
	Article 45. The Board will consist of the President of the Central Bank of Bolivia and five Directors. [...]
Bosnia and Herzegovina	
Source of data:	Central Bank Directories
Data availability:	2001-2016
MPC official name:	Governing Board
MPC size:	5
Legislative reference:	
	Article 08. Constitution of the Governing Board [...] 2. After the first six years of operation of the Central Bank: a. the Governing Board of the Central Bank shall be composed of five members appointed by the Presidency of Bosnia and Herzegovina; and b. upon the appointment of its members, each Governing Board shall appoint, from among its members, a Governor for a term of six years; no Governor shall be replaced during his term, other than upon his removal from the Governing Board in accordance with Article 11. [...]
Botswana	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of the Bank
MPC size:	5
Legislative reference:	
	Part IV - Board, Management and Staff 9. (1) The Board shall consist of the Governor, who shall be Chairman, and eight other members appointed in accordance with section 10. [...]
Brazil	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Monetary Policy Committee
MPC size:	9
Legislative reference:	
	The Central Bank of Brazil's (BCB) Monetary Policy Committee (COPOM) was created on June 20th 1996, and was assigned the responsibility of setting the stance of monetary policy and the short-term interest rate. The aim in creating the COPOM was to enhance monetary policy transparency and confer adequate regularity to the monetary policy decision-making process. Currently, many Central Banks around the world follow similar procedures, facilitating the decision-making process, monetary policy transparency and communication with the public. The COPOM is composed of the members of the Central Bank's Board of Governors: the Central Bank Governor and the Deputy Governors of Monetary Policy, Economic Policy, International Affairs and Risk Management, Financial Regulation, Financial System Organization and Control of Farm Credit, Supervision, Administration, Institutional Relations and Citizenship. The Governor of the BCB holds the deciding vote in cases where the COPOM is evenly split on a monetary policy decision.
Brunei	
Source of data:	Central Bank Directories
Data availability:	2012-2017
MPC official name:	Board of Directors
MPC size:	6
Legislative reference:	
	Constitution of Board. 4. (1) The Board shall consist of the following members - (a) the Minister, or a person designated by name by His Majesty the Sultan and Yang Di-Pertuan, who shall be the chairman; (b) the Deputy Minister of Finance; (c) 4 other persons to be appointed by His Majesty the Sultan and Yang Di-Pertuan, 2 of whom shall be persons who are experienced in banking or finance. [...]
Bulgaria	
Source of data:	Annual reports
Data availability:	2005-2017
MPC official name:	Governing Council
MPC size:	6
Legislative reference:	
	Article 11. (1) The Governing Council shall consist of seven members: the Governor of the Bank, the three Deputy Governors, and three other members. [...]

Table I Continued: Data sources and legislative references

Cambodia	
Source of data:	Annual reports
Data availability:	2005-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Article 12. 1. The managing organ of the Central Bank is the Board of Directors (herein after referred to as the Board). The Governor shall be Chairman of the Board. The Board shall consist of 7 members, including the Governor, the Deputy Governor and 5 other members [. . .]
Canada	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Governing Council
MPC size:	7
Legislative reference:	
	The Governing Council is the policy-making body of the Bank. It consists of the Governor, Senior Deputy Governor and the Deputy Governors. It is responsible for monetary policy, decisions aimed at promoting a sound and stable financial system, and the strategic direction of the Bank.
Chile	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board
MPC size:	5
Legislative reference:	
	Title II. Section 7. The Board shall be composed of five Members to be appointed by the President of the Republic, by means of an executive decree issued through the Ministry of Finance, with the prior approval of the Senate.
Colombia	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Chapter II. Article 29. Integration. In accordance with Article 372 of the Constitution, the Board of Directors shall be made up of seven (7) members as follows: a) The Minister of the Treasury and Public Credit, who shall preside: b) The Governor of the Bank, and c) Five (5) fullâtime board members appointed by the President of the Republic. [. . .]
Costa Rica	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Organic Law of The Banco Central de Costa Rica NÂ° 7558 Section IV Board of Directors Article 17. Composition The Banco Central shall function under the direction of a Board of Directors, which consists of the following members: a) The President of the Banco Central, [. . .] b) The Minister of the Treasury, [. . .] c) Five persons of absolute moral integrity and extensive capacity and experience in the economic, finance, banking and administration fields. [. . .]
Croatia	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Council of the Croatian National Bank
MPC size:	8
Legislative reference:	
	Article 79 The Council of the Croatian National Bank shall consist of eight members, including the Governor, Deputy Governor and six Vicegovernors of the Croatian National Bank.

Table I Continued: Data sources and legislative references

Cuba	
Source of data:	Central Bank Directories
Data availability:	2001-2015
MPC official name:	Board of Directors
MPC size:	min 5
Legislative reference:	
	Article 51: The Board of Directors is composed of: a) the President of Banco Central de Cuba, who heads the institution and acts as its Chairman; b) the first Vice-President of Banco Central de Cuba, who will stand in for the President in case of his absence; c) the Vice-Presidents; and d) the Secretary.
Czech Republic	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Bank Board
MPC size:	7
Legislative reference:	
	Article 6 (1) The Bank Board shall consist of seven members, comprising the Governor of the Czech National Bank, two Vice-Governors of the Czech National Bank and four other members of the Bank Board of the Czech National Bank.
Dem. Rep. of the Congo	
Source of data:	Annual reports
Data availability:	2008-2016
MPC official name:	Bank Board
MPC size:	7
Legislative reference:	
	Section 20: The Board is made up of seven members: - the Governor; - the Vice-Governor; - five experts called Directors.
Denmark	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Governors
MPC size:	3
Legislative reference:	
	Article 6. The Board of Governors shall consist of 3 members. One of the Governors shall be nominated by the King, and the other Governors appointed by the Board of Directors on the recommendation of the Committee of Directors. The first mentioned Governor shall be chairman of the Board of Governors.
Dominican Republic	
Source of data:	Archived central bank websites
Data availability:	2001-2017
MPC official name:	Monetary Board
MPC size:	9
Legislative reference:	
	Article 10. Composition of the Monetary Board. The Monetary Board is formed by three (3) ex officio members and six (6) members appointed for a specific period of time. Members ex officio are: the Governor of the Central Bank, who will Chair it, the Secretary of State of Finance and the Superintendent of Banks. To the Chairman of the Monetary Board will correspond the official and exclusive representation of the Monetary Board, which cannot be delegated on another member of same.
Ethiopia	
Source of data:	Archived central bank websites
Data availability:	2002-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Article 6. The Board of Directors shall be composed of seven members. The Governor and the Vice Governor shall be permanent ex-officio members. The Chairperson of the Board of Directors and the remaining four members shall be appointed by the Government.

Table I Continued: Data sources and legislative references

Ghana	
Source of data:	Annual reports
Data availability:	2006-2017
MPC official name:	Monetary Policy Committee
MPC size:	7
Legislative reference:	
	Article 27. (1) There is hereby established a committee of the Bank to be known as the Monetary Policy Committee of the Bank. [. . .] (3) The members of the Monetary Policy Committee shall be (a) the Governor; (b) the First and Second Deputy Governors; (c) the head of monetary policy analysis of the Bank; (d) the head of banking operations of the Bank; and (e) two other persons appointed by the Minister being persons with knowledge or experience relevant to the functions of the Monetary Policy Committee. [. . .]
Honduras	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of directors
MPC size:	5
Legislative reference:	
	Article 6. The monetary, credit and exchange policy of the State will be determined and directed by the Board of Directors of the Central Bank of Honduras, in charge of which will also be its superior administration. The Board of Directors will be made up of five (5) directors, of which one will be President of the Institution and another Vice President. [. . .]
Hungary	
Source of data:	Archived central bank websites and voting records
Data availability:	2001-2017
MPC official name:	Monetary Council
MPC size:	5-9
Legislative reference:	
	The Monetary Council Article 9 [. . .] (3) The Monetary Council shall consist of at least five and at most nine members. [. . .]
Iceland	
Source of data:	Annual reports and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Governors (until 2008) and Monetary Policy Committee (since 2009)
MPC size:	3 (until 2008); 5 (since 2009)
Legislative reference:	
	(Until 2008) Article 23 The Board of Governors of the Central Bank of Iceland consists of three Governors, one of whom is Chairman of the Board of Governors. The Board of Governors is responsible for the operations of the Bank and has the authority to make decisions in all of its affairs that is not specifically assigned to others in this Act. [. . .] (Since 2009) Article 24 [. . .] The Monetary Policy Committee shall be comprised of the Governor of the Central Bank, the Deputy Governor, one of the Bankâs executives responsible for formulating monetary policy and two experts in the field of economic and monetary policy appointed by the [Minister]1) for a five-year term. [. . .]
India	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Central Board of Directors
MPC size:	max 21
Legislative reference:	
	Article 8. Composition of the Central Board, and term of office of Directors. (1) The Central Board shall consist of the following Directors, namely:- (a) a Governor and not more than four Deputy Governors to be appointed by the Central Government; (b) four Directors to be nominated by the Central Government, one from each of the four Local Boards as constituted by section 9; (c) ten Directors to be nominated by the Central Government; and (d) two Government officials to be nominated by the Central Government; [. . .]

Table I Continued: Data sources and legislative references

Indonesia	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Governors
MPC size:	6-9
Legislative reference:	
	Article 37 (1) The Board of Governors shall consist of a Governor, a Senior Deputy Governor, and at least 4 (four) or at the maximum of 7 (seven) Deputy Governors. [. . .]
Iran	
Source of data:	archived central bank websites and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Executive Board
MPC size:	6
Legislative reference:	
	Article 19 (a) The Executive Board of the Bank shall consist of a Governor, a Deputy Governor, a Secretary General, and three Vice Governors each with powers and responsibilities as specified in this Act; NB: Looking at the functions of the Vice Governors, I notice that these are the ones responsible for: a) Foreign Exchange Affairs, b) Administrative & Training Affairs, c) Economic Affairs. For this reason, I only consider these vice-governors as member of the Executive Board.
Israel	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Governor (until 2009); Monetary Committee (since 2009)
MPC size:	6
Legislative reference:	
	The Monetary Committee was established under the Bank of Israel Law, 5770-2010. The Monetary Committee has six members. Three are from the Bank - the Governor, who serves as chairperson of the Committee, the Deputy Governor, and an additional Bank employee who is appointed by the Governor. The other three members of the Committee are representatives of the public. The Monetary Committee sets the policy for achieving the Bank's objectives, including monetary policy, and it decides the operations required to achieve those objectives.
Jamaica	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	9
Legislative reference:	
	Article 6. Board of Directors [. . .] (2) The Board shall consist of the following directors- (a) the Governor and the Senior Deputy Governor; (b) the Financial Secretary or the person for the time being exercising the functions of that office; and (c) subject to subsection (3), six other directors appointed by the Minister by instrument in writing. [. . .]
Japan	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Policy Board
MPC size:	9
Legislative reference:	
	Article 16 (Organization) (1) The Board shall be composed of nine members. [. . .]
Jordan	
Source of data:	archived central bank websites and Central Bank Directories
Data availability:	2002-2016
MPC official name:	Open Market Operations Committee
MPC size:	8
Legislative reference:	
	Article 10 (a) The management of the general affairs of the Central Bank shall be entrusted to a Board of Directors consisting of the Governor as chairman, the Deputy Governors, one of whom the Governor will name to be vice chairman in his absence, and six members to be appointed in accordance with the provisions of this Article.

Table I Continued: Data sources and legislative references

Kenya	
Source of data:	Annual reports
Data availability:	2010-2017
MPC official name:	Monetary Policy Committee
MPC size:	9
Legislative reference:	
	Section 4D [. . .] (2) The Committee shall consist of the following members:- (a) the Governor, who shall be the chairman; (b) the Deputy Governor, who shall be the deputy chairman; (c) two members appointed by the Governor from among the staff; (d) four other members who have knowledge, experience and expertise in matters relating to finance, banking, and fiscal and monetary policy, appointed by the Cabinet Secretary for the National Treasury; and, (e) the Principal Secretary to the National Treasury, or his representative, who shall be nonvoting member. [. . .]
Kuwait	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	8
Legislative reference:	
	Article 18 The management of the Central Bank shall be carried out by a Board of Directors composed of : the Governor, who shall be the Chairman of the Board; the Deputy Governor; a representative of the Ministry of Finance; a representative of the Ministry of Commerce and Industry; four other members; [. . .]
Latvia	
Source of data:	Central Bank Directories
Data availability:	2001-2013 (the country adopted the euro in 2014)
MPC official name:	Council of the Bank of Latvia
MPC size:	8
Legislative reference:	
	Article 21 (1) The Bank of Latvia shall be administered by a Council of the Bank of Latvia and an Board of the Bank of Latvia. The Council of the Bank of Latvia shall consist of eight persons: the Governor, the Deputy Governor and six members of the Council. [. . .]
Lebanon	
Source of data:	archived central bank websites and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Central Board
MPC size:	7
Legislative reference:	
	Article 28 The Board shall be composed of the following: - The Governor, Chairman; - The [4] sub-governors; - The Director-General of the Ministry of Finance; - The Director-General of the Ministry of National Economy. [. . .]
Lithuania	
Source of data:	Central Bank Directories
Data availability:	2004-2014 (the country adopted the euro in 2015)
MPC official name:	Board of the Bank
MPC size:	5
Legislative reference:	
	Article 10. The Board of the Bank of Lithuania 1. The Bank of Lithuania shall be governed by the Board of the Bank of Lithuania. The Board shall be comprised of a Chairperson, two Deputy Chairpersons, and two Members of the Board. [. . .]

Table I Continued: Data sources and legislative references

Macao S.A.R	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	min 3 - max 5
Legislative reference:	
	Article 14 - Bodies AMCM bodies are the Board of Directors, comprised of at least three members and at most five, a Supervisory Board, consisting of three members, one of whom must be registered as auditor with the Finance Department, and an Advisory Board.
Malaysia	
Source of data:	Archived central bank websites
Data availability:	2001-2017
MPC official name:	Monetary Policy Committee
MPC size:	min 6 - max 9
Legislative reference:	
	Article 23. (1) There shall be a committee of the Bank to be known as the âMonetary Policy Committeeâ which shall have the responsibility for formulating the monetary policy and the policies for the conduct of monetary policy operations. (2) The Monetary Policy Committee shall consist of the Governor, the Deputy Governors and not less than three but not more than seven other members.
Maldives	
Source of data:	Central Bank Directories
Data availability:	2001-2016
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Article 6. Responsibilities and other matters relating to the Board of Directors [. . .] The Board shall be constituted of the following 7 (seven) persons: (a) Governor; (b) Deputy Governor; (c) an official from the Authorityâs economic research and statistics sector or the financial sector; (d) an official nominated by the Ministry of Finance and Treasury, holding a post that is senior level than that of Executive Director level in the Ministry of Finance and Treasury; (e) an appointee from the economic sector of the Government other than the Ministry of Finance and Treasury; (f) two appointees from the private sector who shall be capable persons of recognised standing and experienced in the economic sector and not representing a government office or a state owned company. [. . .]
Mauritania	
Source of data:	Archived central bank websites
Data availability:	2008-2017
MPC official name:	Monetary Policy Committee
MPC size:	7
Legislative reference:	
	Article 20 : The members of the Monetary Policy Committee (hereinafter referred to as 'the Advisors') are appointed by Presidential decree and can only be removed in the same manner. In addition to the ex officio members, the Governor and the Deputy Governor, the Monetary Policy Council includes: - Two members proposed by the Prime Minister; - A member proposed by the Minister of Finance; - Two members proposed by the Governor. [. . .]
Mauritius	
Source of data:	Annual reports
Data availability:	2008-2017
MPC official name:	Board of Directors
MPC size:	8-10
Legislative reference:	
	Article 12. Board of Directors [. . .] (2) The Board shall consist of - (a) the Governor, who shall be the Chairperson; (b) 2 Deputy Governors; and (c) not less than 5 and not more than 7 other Directors appointed in accordance with section 16.

Table I Continued: Data sources and legislative references

Mexico	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Governors
MPC size:	5
Legislative reference:	
	Article 38. [. . .] The Board of Governors shall be made up of five members, who shall be appointed pursuant to the provisions of Article 28 Paragraph Seven of the Constitution. From among these members, the President of the Republic will appoint the Governor of the Bank, who shall preside over the Board of Governors; the remaining members will be called Deputy Governors.
Morocco	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Bank Board
MPC size:	9
Legislative reference:	
	Article 38 The Board of the Bank is composed as follows: - the Governor of the Bank, Chairman; - the Vice-Governor or the General Manager of the Bank; - the director of the Treasury and external finance within the ministry in charge of finance, who does not take part in voting on decisions relating to monetary policy; - six members appointed by the Prime Minister, including three on the Governor's proposal, from among persons known for their competence in monetary, financial or economic matters and who do not exercise any elective mandate, any position of responsibility in credit or other institutions finance or public administration.
Nepal	
Source of data:	Annual reports
Data availability:	2003-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	As per section 14 of Nepal Rastra Bank Act, 2002, the Board of Nepal Rastra Bank (NRB) comprises of seven members: four ex officio members - the Governor (who is the Chairman), the Secretary, Ministry of Finance, two Deputy Governors, and three other Directors, who are appointed from amongst the persons renowned in the field of Economics, Monetary, Banking, Finance and Commercial Laws. [. . .]
New Zealand	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Governor
MPC size:	1
Legislative reference:	
	Article 40 Governor (1) There shall be a Governor of the Bank who shall be appointed by the Minister on the recommendation of the Board. (2) The Governor shall be the Chief Executive of the Bank.
Nicaragua	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	6
Legislative reference:	
	The Board of Directors is composed of the President of the Central Bank, who presides over it, who is appointed by the President of the Republic and ratified by the National Assembly for a period of five years. The Council is also composed of four members from the private sector, appointed by the President of the Republic and ratified by the National Assembly for a period of five years. The Minister of Finance and Public Credit is also part of the Council and the Deputy Minister of Finance and Public Credit as an alternate.

Table I Continued: Data sources and legislative references

Nigeria	
Source of data:	Annual reports
Data availability:	2010-2017
MPC official name:	Monetary Policy Committee
MPC size:	12
Legislative reference:	
	Section 12 [. . .] 2. The MPC shall consist of: The Governor of the Bank who shall be the Chairman; The four Deputy Governors of the Bank; Two members of the Board of Directors of the Bank; Three members appointed by the President Two members appointed by the Governor [. . .]
Norway	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Executive Board
MPC size:	8
Legislative reference:	
	Section 6. Executive Board The Executive Board consists of eight members appointed by the King. [. . .]
Oman	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Governors
MPC size:	7
Legislative reference:	
	Article 8 The Board of Governors [. . .] The Board of Governors shall consist of seven governors appointed by His Majesty the Sultan, of whom one shall be designated Chairman and one shall be designated Deputy Chairman by His Majesty the Sultan.
Pakistan	
Source of data:	Annual reports and archived central bank websites
Data availability:	2006-2017
MPC official name:	Monetary Policy Committee
MPC size:	10
Legislative reference:	
	9D. Establishment of Monetary Policy Committee:- (1) There shall be a Monetary Policy Committee consisting of (a) Governor, or in his absence, a Deputy Governor Chairperson nominated by him (b) three senior executives of the Bank to be Members nominated by the Governor (c) three members of the Board, to be nominated Members by the Board (d) three external members, who shall be economist, Members to be appointed by the Federal Government on recommendation of the Board.
Papua New Guinea	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Governor
MPC size:	1
Legislative reference:	
	Under the new Capital Banking act 2000, the governor is responsible for monetary policy, and the objective of the policy is the âachievement and maintenance of price stabilityâ.
Paraguay	
Source of data:	Central bank website
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	5
Legislative reference:	
	Article 9. The Board of Directors Management and administration of the Central Bank of Paraguay is the responsibility of a Board of Directors made up of 1 (one) Chairman and 4 (four) Regular Directors appointed by the Executive Branch upon confirmation by the Senate. [. . .]

Table I Continued: Data sources and legislative references

Peru	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Chapter One - Board of Directors Article 9. The Bank is governed by a Board of Directors composed of seven members. [. . .]
Philippines	
Source of data: Annual reports and archived central bank websites	
Data availability:	2001-2017
MPC official name:	Monetary Board
MPC size:	7
Legislative reference:	
	Article II. The Monetary Board SECTION 6. Composition of the Monetary Board. The powers and functions of the Bangko Sentral shall be exercised by the Bangko Sentral Monetary Board, hereafter referred to as the Monetary Board, composed of seven (7) members appointed by the President of the Philippines for a term of six (6) years. [. . .]
Poland	
Source of data:	Central bank website
Data availability:	2001-2017
MPC official name:	Monetary Policy Council
MPC size: 10	
Legislative reference:	
	Article 13 1. The Council shall be composed of: 1) the Chairperson of the Council who shall be the President of the NBP, 2) nine members appointed in equal numbers by the President of the Republic of Poland, the Sejm and the Senate, from among specialists in the field of finance. [. . .]
Republic of Serbia	
Source of data:	archived central bank websites and Central Bank Directories
Data availability:	2003-2017
MPC official name:	Executive Board
MPC size:	min 4
Legislative reference:	
	Article 13 The Executive Board shall consist of the Governor, Director of the Supervision Administration and Vice-Governors of the National Bank of Serbia (hereinafter: the Vice-Governors).
Romania	
Source of data:	Central bank website
Data availability:	2005-2017
MPC official name:	Board of Directors
MPC size:	9
Legislative reference:	
	The Board of Directors The NBR is headed by the Board of Directors consisting of nine members who are elected by the Parliament of Romania, following the nominations by the standing committees of the two Chambers of the Parliament, for a renewable five year-period (NBR Act: Law No. & 312/2004). The nine-strong Board includes four NBR executives, i.e. the Governor and the three Deputy Governors (of whom one is First Deputy Governor), and five members that are not on the payroll of the NBR. Pursuant to the law, Board members shall not be MPs, members of a political party, Court officials or public servants.
Russia	
Source of data:	Central bank website
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	15
Legislative reference:	
	Article 15. The Board of Directors shall be comprised of the Bank of Russia Chairman and 14 Board members. [. . .]

Table I Continued: Data sources and legislative references

Saudi Arabia	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	
Legislative reference:	
	Article 9 The Saudi Arabian Monetary Agency's Board of Directors shall consist of: a. A Chairman, who shall also be the Governor; b. Vice Governor; c. Three members, non-government officials who shall be conversant with financial and commercial affairs. [. . .]
Sierra Leone	
Source of data:	Central Bank Directories
Data availability:	2001-2016
MPC official name:	Monetary Policy Committee
MPC size:	7
Legislative reference:	
	Article 21. Monetary Policy Committee 2) The Monetary Policy Committee shall consist of the Governor, the Deputy Governor, three persons appointed by the Governor and two other persons appointed by the Minister with knowledge or experience relevant to the functions of the Monetary Policy Committee and who shall be persons of probity and sound judgment.
Singapore	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	min 5 - max 14
Legislative reference:	
	Board of directors 7. (1) There shall be a board of directors of the Authority which shall be responsible for the policy and general administration of the affairs and business of the Authority. [. . .] (3) The board shall consist of (a) a chairman who shall be appointed by the President on the recommendation of the Cabinet; and (b) not less than 4 and not more than 13 other directors, one of whom shall be the deputy chairman, appointed in accordance with sections 8 and 9.
Slovakia	
Source of data:	Central bank website
Data availability:	2001-2008 (the country adopted the euro in 2009)
MPC official name:	Governing Board
MPC size:	4
Legislative reference:	
	Article 7 (1) The Bank Board shall consist of five members. The members of the Bank Board shall be the Governor, two Vice-governors and two other members. The position of a member of the Bank Board shall be considered a public office2, which involves the provision of timeoff.
Slovenia	
Source of data:	archived central bank websites and Central Bank Directories
Data availability:	2003-2006 (the country adopted the euro in 2007)
MPC official name:	Governing Board
MPC size:	9
Legislative reference:	
	Article 30 (1) The Governing Board of the Bank of Slovenia shall comprise nine members. The members of the Governing Board of the Bank of Slovenia shall be: the Governor, four Vice Governors and four members. [. . .]

Table I Continued: Data sources and legislative references

South Korea	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Monetary Policy Board
MPC size:	7
Legislative reference:	
	The Monetary Policy Board is composed of seven members representing various groups in the national economy : 1) the Governor, ex-officio; 2) the Senior Deputy Governor, ex-officio; 3) one member recommended by the Minister of Strategy and Finance; 4) one member recommended by the Governor of the Bank of Korea; 5) one member recommended by the Chairman of the Financial Services Commission; 6) one member recommended by the Chairman of the Korea Chamber of Commerce and Industry; 7) one member recommended by the Chairman of the Korea Federation of Banks. [. . .]
Sri Lanka	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Monetary Board
MPC size:	5
Legislative reference:	
	Monetary Board [. . .] The Monetary Board of the Central Bank consists of five (5) members The Governor The Secretary to the Ministry of Finance (ex-officio) Three (3) non - executive members
Sudan	
Source of data:	Annual reports and archived central bank websites
Data availability:	2005-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	The Central Bank of Sudan Act (Amendment, 2012) stipulate the establishment of the Board of Directors of the Central Bank of Sudan as follows: The Governor, ex officio Chairman, The two deputies of the Governor, The Undersecretary of the Ministry of Finance and Economic Planning, Three persons from those possessed of efficiency to be appointed by the President of the Republic and the Board shall be subject to the supervision of the presidency.
Sweden	
Source of data:	Central bank website and voting records
Data availability:	2001-2017
MPC official name:	Executive Board
MPC size:	6
Legislative reference:	
	Article 4. Pursuant to Chapter 9, Article 13 of the Instrument of Government, the activities of the Riksbank are managed by an Executive Board, consisting of six members, who are appointed by the General Council for a period of five or six years. The General Council appoints the Chairman of the Executive Board, who at the same time shall be the Governor of the Riksbank, and at least one Vice-Chairman, who at the same time shall serve as Deputy Governor of the Riksbank. [. . .]
Switzerland	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Governing Board
MPC size:	3
Legislative reference:	
	Art. 43 Election and term of office 1 The Governing Board shall consist of three members, to whom deputies shall be assigned. [. . .]

Table I Continued: Data sources and legislative references

Tanzania	
Source of data:	Annual reports and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors (until 2007); Monetary Policy Committee (since 2008)
MPC size:	10 (until 2007); min 6 (since 2008)
Legislative reference:	
	(Until 2007) Article 9. (1) The Board shall consist of: (a) the Governor, who shall be Chairman; (b) the Deputy Governor, who shall be Deputy Chairman; (c) the Principal Secretary to the Treasury of the Government of the United Republic of Tanzania and the Principal Secretary to the Treasury of the Revolutionary Government of Zanzibar; and (d) six other Directors appointed by the Minister. [. . .] (Since 2008) Article 12. [. . .] (4) The Monetary Policy Committee established under sub-section (1) shall be composed of the Governor, who shall be Chairman or in his absence, the Deputy Governor acting as Deputy Chairman, [3] Deputy Governors and at least one non-executive Director.
Thailand	
Source of data:	Monetary Policy Committee transcripts
Data availability:	2011-2017
MPC official name:	Monetary Policy Committee
MPC size:	7
Legislative reference:	
	The Monetary Policy Committee (MPC) is one of the main committees of the Bank of Thailand and is responsible for setting the monetary policy stance. The MPC works closely with the staff of the Bank of Thailand in monitoring internal and external economic conditions. In formulating the monetary policy direction, MPC makes assessments and policy decisions based upon data provided by the Bank of Thailand. The Monetary Policy Committee is comprised of 3 internal members and 4 external members.
Trinidad and Tobago	
Source of data:	Annual reports
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	min 8
Legislative reference:	
	Article 5. The Bank shall be managed by a Board of Directors comprised of a Governor, not more than two Deputy Governors and not less than six other directors, two of whom may be public service directors. [. . .]
Tunisia	
Source of data:	Central bank website
Data availability:	2001-2017
MPC official name:	Council
MPC size:	10
Legislative reference:	
	Article 19 (1): The Council is composed of: - the Governor, President; - the Vice-Governor; - and eight advisers appointed by decree on the proposal of the Prime Minister, [. . .]
Turkey	
Source of data:	Archived central bank websites and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Monetary Policy Committee
MPC size:	5
Legislative reference:	
	The Monetary Policy Committee Article 22/A The Monetary Policy Committee shall, under the chairmanship of the Governor, be composed of Vice Governors, a member to be elected by and from among the Board members and a member to be appointed by a joint decree on the recommendation of the Governor. The Undersecretary of the Treasury or Deputy Undersecretary to be designated by him/her may participate to the meetings in a non-voting capacity. Monetary Policy Committee membership of those, whose office as Governor, Vice Governor and Board member comes to an end, shall terminate as well.

Table I Continued: Data sources and legislative references

Ukraine	
Source of data:	Annual reports
Data availability:	2002-2017
MPC official name:	Council of the National Bank of Ukraine
MPC size:	8
Legislative reference:	
	Article 8 In accordance with the Constitution of Ukraine, the main task of the NBU Council is to develop the Monetary Policy Fundamentals and exercise control over monetary policy implementation. The NBU Council shall oversee the NBU's internal control system. Constitution and formation of the NBU Council The NBU Council consists of NBU Board members that are appointed by the president of Ukraine and the Ukrainian parliament. The Ukrainian parliament appoints four NBU council members by a resolution. The president of Ukraine appoints four council members by presidential decree. The NBU Governor, being appointed by the Parliament of Ukraine on the recommendation of the President of Ukraine, is a member of the NBU Council ex officio (Article 10 of the Law of Ukraine On the National Bank of Ukraine).
United Arab Emirates	
Source of data:	Annual reports
Data availability:	2002-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Section One: Members of the Board of Directors Article (11) 1) The Bank shall be managed by a Board of Directors of seven members including the Chairman, Deputy Chairman and Governor. [. . .]
United Kingdom	
Source of data:	Archived central bank websites and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Monetary Policy Committee
MPC size:	9
Legislative reference:	
	Monetary policy decisions are taken by the Bank of Englandâs monetary policy committee (MPC) whose members comprise the governor, the two deputy governors, two executive directors responsible for monetary analysis and monetary operations and four non-executive members who are appointed by the chancellor for three year terms.
United States of America	
Source of data:	Archived central bank websites and Central Bank Directories
Data availability:	2001-2017
MPC official name:	Federal Open Market Committee (including voting and non-voting members)
MPC size:	19
Legislative reference:	
	The Federal Open Market Committee (FOMC) consists of twelve members–the seven members of the Board of Governors of the Federal Reserve System; the president of the Federal Reserve Bank of New York; and four of the remaining eleven Reserve Bank presidents, who serve one-year terms on a rotating basis. The rotating seats are filled from the following four groups of Banks, one Bank president from each group: Boston, Philadelphia, and Richmond; Cleveland and Chicago; Atlanta, St. Louis, and Dallas; and Minneapolis, Kansas City, and San Francisco. Nonvoting Reserve Bank presidents attend the meetings of the Committee, participate in the discussions, and contribute to the Committee's assessment of the economy and policy options.
Uruguay	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	3
Legislative reference:	
	Article 14. (Members of the Board of Directors) - The Bank's Board of Directors shall consist of a President, a Vice President and a Director, to be appointed, in accordance with Article 187 of the Constitution of the Republic, from among citizens of recognized standing and experience in financial matters.

Table I Continued: Data sources and legislative references

Venezuela	
Source of data:	Central Bank Directories
Data availability:	2001-2017
MPC official name:	Board of Directors
MPC size:	7
Legislative reference:	
	Chapter II Article 15. The Board of Directors of the Central Bank of Venezuela is made up of the President of the Bank and six (6) Directors, five (5) of whom shall be fulltime members designated for a seven (7) year term. [. . .]
Yemen	
Source of data:	Annual reports
Data availability:	2006-2016
MPC official name:	Board of Directors
MPC size:	5
Legislative reference:	
	Article 10 1. The Board of Directors shall be composed of five members, as follows: (a) The Governor, who shall be Chairman of the Board of Directors; (b) The Deputy Governor, who shall be the Vice-Chairman of the Board of Directors; (c) A representative of the Ministry of Finance; and (d) Two other members. [. . .]
Zambia	
Source of data:	Annual reports
Data availability:	2005-2017
MPC official name:	Board of Directors
MPC size:	6
Legislative reference:	
	Article 13. (1) The Board shall consist of, the following directors (a) the Governor, who shall be the Chairman of the Board; and (b) not more than six other persons appointed by the Minister from among individuals with professional or academic experience in business or financial matters and who are not officials or employees of the Bank.