Voting Power in the FOMC

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Abstract:

We propose an empirical measure of voting power in the FOMC. We use a forecast error framework, where voting power is high if a member's interest rate preference voiced in the policy go-around of the current FOMC meeting matches the interest rate decision in the subsequent FOMC meeting. Using panel data from 1989 to 2008, we find that FOMC members with a long experience in the FOMC, members representing Fed districts with regional unemployment rates similar to the national level as well as career experience in the Board of Governors, academia, government and NGO have high voting power.

Keywords: Voting power; FOMC; Forecast error; Transcripts

JEL classification: D78; E52; E58

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1. Introduction

By casting dissenting votes, members of the FOMC signal their view of the 'right' interest rate and ultimately want to influence the committee to implement this interest rate in future meetings. Dissenting votes of influential committee members may therefore lead future interest rate changes. We test for the voting power of FOMC members by testing the informativeness of dissents cast in the current FOMC meeting for interest rate decisions in the subsequent FOMC meeting. By exploiting information on FOMC members' individual characteristics (career background, committee experience, regional affiliation) we are able to analyze which members cast influential votes that lead subsequent interest rate decisions of the FOMC.

In order to measure individual voting power in the FOMC empirically, we construct an individual forecast error that measures the difference between the interest rate preference voiced by each member in the policy go-around in the previous FOMC meeting and the outcome of the monetary policy decision in the subsequent meeting. By assumption, a smaller forecast error indicates a large voting power of that member which leads the committee in the direction of his/her interest rate preference. In this study we then ask which determinants drives individual voting power.

Anecdotal evidence suggests that FOMC members' current voting behavior may be affected by other FOMC members' voiced policy preferences with some time lag. Former Governor Meyer puts it in his book like this (Meyer 2004):

"So was the FOMC meeting merely a ritual dance? No. I came to see policy decisions as often evolving over at least a couple of meetings. The seeds were sown at one meeting and harvested at the next. So, I always listened to the discussion intently, because it could change my mind, even if it could not change my vote at that meeting. Similarly, while in my remarks to my colleagues it sounded as if I were addressing today's concerns and today's policy decisions, in reality I was often positioning myself, and my peers, for the next meeting."

We use 2,609 interest rate preferences derived from verbatim transcripts to disclose individual voting power of FOMC members in the period 1989 to 2008. Our findings reveal a

large heterogeneity of voting power among FOMC members, which can be explained by several determinants. Committee experience is found to be one of the main drivers of voting power, whereby highly experienced members tend to lead the committee in the direction of their interest rate preference. A one standard deviation increase of Committee experience increases individual voting power by 2.54 basis points. As career concerns are considered, we conclude that a career in academia, government, NGO, or Board of Governors significantly increases individual voting power, whereas FOMC members with a career in industry, finance or regional Fed Bank tend to have less voting power. Regional macroeconomic conditions do also matter. Members representing districts with extreme regional unemployment rates tend to have significant lower voting power as compared to members representing districts with regional unemployment rates closely to the national level.

We also test for possible moderating effects by using interaction models. Firstly, our results indicate that voting power increases for Bank presidents with increasing committee experience or Bank presidents having a career in academia, government, finance or regional Fed Bank before becoming committee member. For Board members we cannot observe such patterns. Secondly, as the voting status is considered we find significant effects of committee experience only for voting members. Voting power is also significantly increased when voting members have a career in government, NGO, or Board of Governors whereas non-voting members' voting power is significantly increased when having a career in academia, or government. Lastly, we also distinguish between members casting dissents in the FOMC and members who do not. Our results indicate that dissenters' voting power increases when his/her committee experience is high. In addition, the individual voting power of a dissenter may be stronger when having a career in academia, industry, finance, Board of Governors or regional Fed Bank. Interestingly, dissenters' voting power significantly increases when he/she represents a district with a large banking sector.

Our study combines different strands of FOMC voting literature. Firstly, an extensive literature studies why different FOMC members may have dissenting views about the 'right' interest rate. Board members and regional Bank presidents tend to show different voting patterns. Some studies on dissenting voting behavior conclude that regional Bank presidents tend to prefer a more "hawkish" monetary policy stance whereas Board members tend to prefer a more "dovish" monetary policy stance (Meade and Sheets 2005; Eichler and Lähner 2014a).[1] What is more, FOMC members endowed with an active voting right tend to differ from their non-voting peers in terms of voting behavior. For instance, Meade and Stasavage (2008) show that for non-voters the probability of voicing disagreement rises after the transparency shift in 1993.[2]

Generally, FOMC members represent a Federal Reserve district either on a de jure basis (in the case of Board members) or on a de facto basis (regional Bank presidents). Literature on FOMC voting links representatives to a regional bias when voting on the short-term interest rate. For example, FOMC members representing Federal Reserve districts with a sound economic environment (such as low unemployment rates) typically favor higher interest rates while those representing economically less successful districts would vote for lower interest rates in the FOMC (see, e.g., Meade and Sheets 2005; Eichler and Lähner 2014a; Chappel et al. 2008). Further papers use data on FOMC members' individual career backgrounds shaping monetary policy preferences. For example, Gildea (1990), Havrilesky and Schweitzer (1990), Havrilesky and Gildea (1991), Chappell et al. (1995) show in their studies that members with a career in the governmental sector – before becoming committee members – tend to prefer an easier monetary policy stance. A similar case can be found for members with a career in the Board's staff (Havrilesky and Gildea 1991; Chappell et al. 1995). A preference for tighter

[1] A more „hawkish" monetary policy preference indicates higher desired interest rates relative to the Chairman's proposal, a more „dovish" monetary policy preference indicates lower desired interest rates.
[2] Before 1993, some FOMC members were aware that the staff recorded verbatim transcripts of FOMC meetings while holding them secretly. After November 1993, the FOMC decided to publish these transcripts with a five years lag (Meade and Stasavage 2008).

monetary policy is found for FOMC members with a career in regional Federal Reserve Banks or academia (Havrilesky and Gildea 1991). Moreover, committee members with a career in the finance branch or in regional Fed banks rather prefer inflation stabilization whereas members with a career in government, industry, academia and NGOs rather prefer output stabilization (Eichler and Lähner 2014b).

Secondly, a further strand of FOMC's interest rate decisions aims to detect the power of the Chairman to impact policy deliberations. Chappell et al. (2004, 2005) studies the leadership of Chairman Burns in the 1970s. Their findings suggest that Burns' voting weight was about 50% in the committee.[3] Additionally, Chappel et al. (2007) finds that when Burns spoke early in the meeting he was able to persuade members towards his policy preference. This finding has been stronger as political affiliations are considered. Since Burns had a Republican affiliation, FOMC members with a Republican background were even more responsive to his policy proposal. Moreover, Meade (2005) focuses on the leadership of Alan Greenspan and detects a powerful position of Chairman Greenspan when coming to the official voting. However, disagreement in internal discussions about the short-term interest rate was still quite high – up to a peak of 30%. Finally, El-Shagi and Jung (2015) conclude that Chairman Greenspan influenced committee members towards his preference and, thus, leading to less disagreement among regional Reserve Bank presidents.[4] These papers focus on the role of the Chairman, while we study the cross-sectional heterogeneity of voting power among FOMC members and their determinants.

Thirdly, recent studies reveal that dissenting votes are informative about future policy decisions. In a related work, Gerlach-Kristen (2004) shows that aggregated measures of

[3] Further studies also underscore the powerful role of the Chairman, see, e.g., Kettl (1986), Peek and Wilcox (1987), Hakes (1990), Krause (1994).

[4] However, we do not measure the influential power on committee members exerted by the Chairman studied so far. We are rather interested in the individual voting power and its determinants of the remaining members. Technically, we cannot use votes cast by the Chairman since they are implicitly excluded due to the construction of our dissent indicator. This coding procedure follows a markable number of studies (see for instance, Gildea 1990; Meade 2005; Meade and Sheets 2005; Eichler and Lähner 2014a, 2014b).

dissenting votes provide predictability for subsequent policy rate changes. By making use of *minutes* for the Bank of England, Gerlach-Kristen (2004) reports forecastability of aggregated dissent, measured as the difference between the average of individually preferred policy rates and the committee decision (majority vote), by controlling for persistency in interest rate changes and market participants' expectations. Thus, dispersion across committee members seems to be informative and provide useful information which are not directly incorporated in private agents' expectations. Several other interesting studies confirm the relevance of aggregated dissent measures for subsequent policy decisions for the Riksbank (e.g., Andersson et al. 2001, Apel and Grimaldi 2012), and the Federal Reserve (e.g., Gerlach-Kristen and Meade 2010, Ehrmann and Fratzscher 2013, El-Shagi and Jung 2015, Jung 2016). However, a causal link behind this forecast performance is less obvious. Riboni and Ruge-Murcia (2014) discuss some possible mechanisms and conclude that decision-making frictions, arising from a desire to find a consensus across individually preferred interest rate levels, seem to account for the predictive performance. However, Gerlach-Kristen (2009) challenged the view of a systematic relationship showing that in the case of the Bank of England, the predictive content is solely determined by dissenting votes done by external members. From this point of view it seems to be unclear whether aggregate dispersion or committee members' characteristics are responsible for the predictive content. In a similar vein, Riboni and Ruge-Murcia (2014) evaluate whether aggregated dissent measures weighted by the tenure or the dissent history of the dissenter affects the overall forecast performance. Taking these individual weighting schemes into account, does however not make a significant difference when evaluating forecast performance.

While previous studies evaluate the informativeness of *aggregated* measures of dissent for future monetary policy decisions, we contribute to the literature by focusing on the informativeness of dissenting votes of *individual* FOMC members. To the best of our knowledge there is no other study which tries to provide an answer to the question: whose votes are informative for future interest rate decisions? By relating individuals voting power to

personal characteristics, we can back out which type of members influence future interest rate decisions in the FOMC.

The paper remains as follows. Section 2 gives an idea about the construction of our voting power indicator. Section 3 provides an overview about the data use and derives some hypotheses to be tested in the regression analysis. Empirical results of the baseline models are given in Section 4 whereas results of the interactions models are presented in Section 5. Finally, Section 6 concludes.

2. An empirical measure of voting power in the FOMC

In order to measure voting power, we evaluate the information content of each FOMC member's interest rate preference voiced in the policy go-arounds to signal interest rate changes made in the subsequent FOMC meeting. In a second step, we relate FOMC members' ability to lead committee decisions to individual career characteristics, national and district specific macroeconomic conditions as well as institutional factors.

A key element of this consideration is the calculation of voting impact for each committee member *j*. We assume great voting power of member *j* when his preferred interest change in the previous policy go-around (Δi_{t-1}^{j}) is realized in the subsequent FOMC meeting in time *t* (Δi_{t}^{*}). For example, if member *j* stated a preference for raising the federal funds target rate by 25bp in the policy go-around of meeting *t-1*, a 25bp hike in the subsequent FOMC meeting would indicate a forecast error of zero, meaning strong voting power in the committee. Due to the considerable time lag between the FOMC meetings (typically around six weeks), we need to account for the change in macroeconomic fundamentals. Since the interest rate preferences voiced in the policy go-around in t-1 are based on macroeconomic fundamentals in time *t-1*, we need the account for the change in the macroeconomic environment until time *t*. This allows us to distinguish between the share of interest rate change explained by a change in macroeconomic fundamentals, and the share explained by member *j*'s voting power. In order

to measure the share of interest change explained by macroeconomic fundamentals, we assume a similar central bank reaction function as proposed by Riboni and Ruge-Murcia (2014):

$$\Delta i_t^* = \alpha + \beta \Delta x_t + \varepsilon_t, \quad (1)$$

where Δi_t^* denotes the interest rate change at meeting *t* (relative to meeting *t-1*), α is an intercept term, Δx_t captures the change of the macroeconomic fundamentals from *t-1* to *t* , β is the vector of coefficients for the $k \times 1$ vector of regressors and ε_t is the corresponding disturbance term.[5] Our vector of adjustment variables encompasses lagged interest rate changes ($\Delta i_{t-1}^*,\ \Delta i_{t-2}^*$) to account for serial correlation effects and changes in expected inflation and unemployment rates ($\Delta E_t(\pi_{t+h}), \Delta E_t(u_{t+h})$). This regression setup is closely linked to a forward-looking Taylor type policy rule in dependence on deviations regarding key macroeconomic variables. By making use of macroeconomic forecasts, we conduct a forward-looking decision process (see, e.g., Batini and Haldane 1999, Rudebusch and Swansson 1999) which might be more appropriate to characterize committee decisions.

We measure changes in the macroeconomic environment by taking Greenbook forecast projections into account. Projections are prepared by the research staff at the Board of Governors and are produced before each meeting. In this context, the usage of Greenbook forecasts bears the advantage that we can directly link FOMC decisions to real-time available macroeconomic projections which have been common knowledge to all FOMC members. In the following our results rests on projections which are based on quarter-over-quarter growth rates of core CPI inflation and unemployment.[6] To measure changes in expected macroeconomic conditions we calculate changes in the forecasts defined by the difference between the four quarters ahead forecasts available at meeting *t* and the five quarters ahead projections available at meeting *t-1* if both meetings occur in consecutive quarters. If more than

[5] In more detail, we measure interest rate changes by the difference between the announced interest rate level at the end of meeting t and the interest rate at the end of meeting t-1.

[6] To ensure that our results do not depend on the selection of specific forecast horizons or selected macroeconomic variables, we provide further results in Table A1.

one meeting takes place within the same quarter, we solely use four quarter projections to measure forecast changes.

Based on this adjustment setup, we determine each committee members voting power according to formula (2).

$$e_t^j = |\varepsilon_t - (\Delta i_{t-1}^j - \Delta i_{t-1}^*)|, \tag{2}$$

where ε_t describes the share of the FOMC's interest rate decision not explained by the change in the macroeconomic fundamentals (extracted from the central bank's reaction function in Eq. (1)), $(\Delta i_{t-1}^j - \Delta i_{t-1}^*)$ denotes the difference in the voiced preferences between member *j* and the whole committee and e_t^j is the individual forecast error of member *j* at time *t* which we define as individual members' voting power to influence subsequent policy outcomes. Under this setup, the voting power for members which coincide with the committee decision at time *t-1* is determined by the absolute value of e_t^j.[7] Smaller values of e_t^j are indicative of larger voting power in the FOMC.

Determinants of individual voting power: In order to examine which determinants are systematically linked to individual voting power, we subsequently relate FOMC members' forecast errors to individual career characteristics, institutional factors and district specific variables by controlling for national wide macroeconomic conditions. In a nutshell, we use random effects regressions of the following form:

$$e_t^j = \alpha^j + \beta X^j + \gamma Z_{t-1}^j + \delta R_{t-1,k}^j + \eta D_{t-1} + \theta N_{t-1} + \mu_k + \varepsilon^j , \tag{3}$$

where e_t^j denotes the voting power (defined by forecast error) of FOMC member *j* ($j = 1,\ldots,N$) at time *t* ($t = 1,\ldots,T$), X_j is a matrix capturing committee members time invariant characteristics, Z_{t-1}^j denotes time variant characteristics, $R_{t-1,k}^j$ denotes regional macroeconomic conditions,

[7] That is, dissenting voting in favor of either tighter monetary policy or easier monetary policy have a symmetric impact on voting power.

D_{t-1} denotes institutional dummies, and N_{t-1} denotes national macroeconomic variables. We control for possible heterogeneity across FOMC members and regional affiliation by allowing the intercept term to be individual-specific and by including regional dummies (μ_k). Thus, we account for the fact that the voting impact varies across individual FOMC members and even across regional districts. Our primarily focus relies on coefficient estimates (β, γ, δ) to quantify the impact of personal and regional determinants on individuals' voting power.

3. Data and hypotheses

3.1 Data on interest rate preferences

Our measure of voting power is based on FOMC transcript data from May 1989 to October 2008, covering chairmanships of Alan Greenspan and Ben Bernanke. Over the complete time span our sample covers 164 meetings, individual voting records of 55 FOMC members and in total 2609 voiced interest rate preferences (excluding proposed policy actions by the chairman). Our dataset is closely related to Edison and Marquez (1998), Meade (2005), Thornton (2005), Chappell et al. (2007b), Chappell et. al (2008), Meade (2010), Lähner (2015) by making use of transcript data which provide a detailed source from which individually interest rate preferences among policymakers can be deduced. At each meeting up to 19 policy officials (seven members of the Board of Governors and the presidents of the twelve district banks) have the opportunity to voice their preferable federal funds interest rate level during the meeting which are recorded in transcripts. Typically, these preferences are expressed eight times a year and are publicly available with a five years lag.[8] In contrast to voting records derived from meeting *minutes* or *statements* (record of official voting members) which are timely available, *transcript* data bears many advantages. Firstly, besides the active voting part of the committee, transcript data also informs about policy actions recommended by non-voting members. Thus, transcript data

[8] From time to time, the FOMC conducts so called conference calls in order to implement monetary policy actions within two consecutive meetings. Our dataset includes such conference calls if individual interest rate preferences could be derived from FOMC transcripts.

allows us to evaluate individuals' voting power from an extended set of policy experts which are not directly involved in the official voting procedure. Secondly, transcript data are published with a five years lag to ensure that committee members express their opinions without any reputational pressure. Following Meade and Stasavage (2008) the incentive of committee members to reveal their private signals during the decision-making process depends on whether deliberations between decision makers remain private or subsequently publicly accessible. Individual committee members have a larger incentive to conceal private information if deliberation occurs in public. Thus, transcript data bears the advantage that outsiders can establish inference about individual's expertise only with a five years lag. Additionally, inference about the expertise of individual committee members is more strongly linked to the quality of committee members' policy decision, rather than expressed statements. As a result of this pressure, Blinder et al. (2001) and Blinder (2004) highlight that the extent of consensus within official voting records might be biased. FOMC members more frequently differ in voiced preferences in the unofficial vote than in the official one (see Meade 2005).

3.2 Hypothesized determinants of voting power

We test for several individual, regional, and institutional characteristics as determinants of FOMC members' voting power. The selection of supposed determinants is inspired by the literature on voting behavior in the FOMC.

For each hypothesized determinant, we formulate the expected impact on voting power, which is the higher, the smaller the forecast error of FOMC member, e_t^j. First, we consider *Committee experience*, which is defined by the number of meetings a FOMC member has spent in the committee. We assume that more experienced members have a higher voting power and therefore impact the outcome of subsequent FOMC decisions. A highly experienced member may have a higher weight in his/her statement in the policy go-around (Riboni and Ruge-Murcia 2014). In other words, an interest rate preference announced by a highly experienced member

today has a higher probability to be implemented by the whole committee in the next meeting. Hence, we expect a positive impact for *Committee experience*. A similar assumption can be made for the *Age* of committee members since presumably older members have gained more professional experiences throughout their careers probably leading to a higher voting power in the committee than young members might have.

We also account for *Career Experience* of FOMC members. We inspect each members' vita and count the number of years a member has worked in academia, government, industry, finance, NGO, Board of Governors, or in the regional Federal Reserve. As mentioned above, a number of studies find that interest rate preferences are (partially) explained by individual career backgrounds. However, these studies mainly focus on explaining dissenting voting behavior. In our study we ask whether members with certain career backgrounds might have higher voting power in the committee than other members by leading future monetary policy decisions. We expect that members' individual career experience in certain sectors might increase their voting power by supporting their networking abilities, while career experience in other sectors may isolate FOMC members and thus deteriorate voting power.

We further test for regional macroeconomic conditions. Each FOMC member has either a *de facto* (regional Bank presidents) or a *de jure* affiliation (Governors) with one out of twelve districts of the Federal Reserve. In our panel dataset, we have linked each member to regional macroeconomic conditions such as regional income or total assets of regional banks. For example, literature on FOMC voting finds a strong connection between the districts' unemployment rate and the individual voting behavior (see, e.g., Meade and Sheets 2005, Eichler and Lähner 2014a). We test if the similarity of the regional economic problems among FOMC members facilitates their voting power. We incorporate the *Distance of regional unemployment rate*, measured as the absolute difference between the districts' unemployment rate and the national level. We assume that FOMC members representing a district with an unemployment rate similar to the national level (i.e. low *Distance of regional unemployment*

rate) have high voting power and, thus, are more likely to impact subsequent policy decisions. FOMC members representing districts similar to the national level, will find it easier to convince colleagues of their interest rate preference. FOMC members representing outlier regions, on the contrary, may face difficulties to organize a majority for his/her monetary policy preference among colleagues in the committee which consequently lowers voting power.

As a second regional determinant, we account for the economic importance of the FOMC district. We expect that committee members representing economically large districts will have more voting power in the FOMC. We account for the size of the total regional economy using the *Personal income of Fed district* relative to the average level of the remaining districts. We also measure the size of the regional financial system by including the *Total assets of regional banks* relative to the average level of the remaining districts.

We also test for the relevance of the institutional design of the FOMC. First, we test for the voting power of *Bank presidents* versus *Governors*. Several differences between both actors may constitute differences in the voting power. First, the seven Governors with their permanent voting right have an institutionalized majority in the FOMC, which may provide them with higher voting power than the Bank presidents. Moreover, Governors are appointed by the U.S. President, and thus may have similar interests while Bank presidents are elected in their region which may lead to more dispersion in their interest rate preferences potentially deteriorating their voting power. Third, Governors have a fixed term of fourteen years and have a permanent voting right, while Bank presidents have a short term of five years (but can be re-elected) and their voting right in the FOMC rotates. Thus, the institutional design of the Federal Reserve System appears to endow Governors with higher voting power than Bank presidents.

We also control for different Chairmanships of Greenspan and Bernanke (*Greenspan dummy*; 1 = Greenspan; 0 = Bernanke) to account for differences in the disproportionate influence of chairman's votes on monetary policy decisions. The *Tape dummy* controls for the change in transparency in 1993, once FOMC members became aware that verbatim transcripts

will be published in the future.[9] Since we use voting records taken from the verbatim transcripts our dataset incorporates both voting and non-voting members of FOMC meetings.[10] Except for the Bank president of New York, the voting rights of all other Bank presidents rotate in an annual manner. However, both voting and non-voting Bank presidents participate on the meetings and, thus, contribute to the policy discussion in the policy go-around. Thus, we include *Voter dummy* (1 = voting Bank presidents or Governors; 0 = non-voting Bank presidents). An a priori expectation may be that voting Bank presidents have higher voting power than non-voting Bank presidents. We further control for members having cast dissents (*Dissent history*) by counting the number of dissents he/she has cast in previous meetings in order to check whether dissenter's preference may "guide" the committee to the preferred interest rate and consequently strengthens individual voting power or not.[11]

Finally, we assume that higher uncertainty about the economic environment leads to lower voting impact of FOMC members. Following Maravall and Pierce (1986), the success of governmental actions depends on the degree of uncertainty surrounding economic evolvements. Thus, we expect that during volatile times, when economic projections get more uncertain, votes by individual FOMC members should be generally less able to influence future committee decisions. Therefore, we also include *Economic policy uncertainty* measuring the stance of the business cycle as an additional control variable to account for time-varying voting power according to uncertain times. Hence, we expect a positive correlation between economic policy uncertainty and the magnitude of individual forecast errors.

4. Empirical Results

4.1 Model design

[9] Meade (2005) shows that the probability of casting dissenting votes declined after the 1993's shift in transparency. Lähner (2015) shows that this is also the case for inconsistent votes.
[10] Governors have a permanent voting right.
[11] Dissenting voting behavior of member *j* is defined as either a preference for monetary tightening or monetary easing relative to the Chairman's interest rate preference stated in the policy go-around. The idea of *Dissent history* is, by and large, based on Riboni and Ruge-Murcia (2014) who state that individual influence on the committee decision raise for members who are willing to dissent frequently.

We use five specifications to underscore the robustness of our baseline results of the determinants of voting power in the FOMC (reported in Section 4.2). In more detail, Specification I of Table 1 considers committee members' individual characteristics such as career backgrounds, committee experience and age as well as time dummies such as the Greenspan dummy and the Tape dummy. In Specification II and III we add regional macroeconomic conditions, namely the regional unemployment rate (measured as absolute difference between the regional unemployment rate and the national unemployment rate) and the district's personal income or total assets of regional banks, respectively. Specification IV additionally contains the Economic policy uncertainty index. Finally, Specification V contains the frequency a committee member has dissented up to meeting *t*; systematic differences between Board members vs. Bank presidents (Governor dummy) as well as voter vs. non-voter (Voter dummy) are also considered. What is more, we control for regional heterogeneity by using district dummies in all mentioned regressions.

4.2 Results of the baseline regressions

The baseline results of Table 1 show that *Committee experience* of FOMC members is negative and significant in all specifications confirming our assumptions. This result suggests that FOMC members with long committee experience lead future committee decisions and thus appear to possess high voting power in the FOMC. In terms of economic importance, one standard deviation increase of *Committee experience* (being 42.40 meetings – corresponding to 6.8 years of committee experience) lead to a lower forecast error of 2.54 basis points (bp).[12] This increase in voting power is considerable given a mean forecast error of around 15 basis points. Considering individual career backgrounds, members having a career in either *academia, government, NGO,* or *Board of Governors* significantly lowers the individual

[12] We further refer to Specification V when interpreting our results. Here we multiply the standard deviation and the coefficient of committee experience (= 42.40 * 0.060).

forecast error. For instance, members with a career in academia – before becoming FOMC member – tend to have the highest voting power. Having worked a one standard deviation in academia (or Board of Governors, government, NGO) increases voting power by 4.66 bp (or 2.65 bp, 2.06bp, 1.45 bp, respectively). On the other hand, FOMC members with a *Career in industry*, *finance* or *regional Fed Bank* tend to have not significant effect on voting power in the FOMC since coefficients remain insignificant in all regressions. *Age* also seems to play no major role for the distribution of voting power. Taken together, policymakers having a career in academia or the Board of Governors before becoming a FOMC member or policymakers with a long FOMC history might lead the committee in the case of future interest rate decisions.

Comparing regional macroeconomic conditions, results reveal, as assumed, that committee members representing districts with extreme regional unemployment rates show significant higher forecast errors lowering individual voting power. One standard deviation increase (or decrease) of the regional unemployment rate relative to the national level increases the forecast error by 1.16 basis points. Thus, members representing districts with a regional unemployment rate similar to the national level tend to have a higher voting power as compared to members representing districts with extreme unemployment rates. Our results seem to be plausible since members representing districts with extreme regional unemployment rates should form the committee's minority and, therefore, might not lead the upcoming interest rate decision.

Surprisingly, committee members representing economically larger districts (i.e., districts with a large aggregated personal income or a large banking sector relative to the remaining districts) tend to have similar voting power like members representing economically smaller districts contradicting our assumption. Under the Chairmanship of Greenspan, FOMC members' forecast errors have been significantly smaller than under Chairman Bernanke by about 0.91bp. Finally, *Economic policy uncertainty* is positive and significant indicating higher forecast errors of committee members once economic policy uncertainty increases in the

economy. One standard deviation increase of economic policy uncertainty raises the individual forecast errors of FOMC members by 2.71bp.

To underscore the robustness of our baseline regressions, we applied different sensivity checks. Firstly, we adjust our Taylor rule (see formula (1)) with changes in contemporary and 1Q - 3Q ahead real time Greenbook forecasts of inflation and unemployment as well as changes in contemporary and 1Q - 4Q ahead real time Greenbook forecasts of inflation and the real GDP gap.[13] This procedure is followed by regressing the individual forecast errors received from these adjustments on the determinants defined in Specification V of the baseline model. Secondly, we replaced economic policy uncertainty with measures of macroeconomic uncertainty or financial uncertainty. Thirdly, to overcome possible multicollinearity issues between individual career backgrounds we reduced Specification I from the baseline regressions while testing committee experience and certain career backgrounds separately (See Table A3 in the Appendix). In a nutshell, our results remain robust towards different types of adjusted Taylor rules, different indexes of macroeconomic uncertainty or possible multicollinearity issues.

To sum up, our results reveal that member-specific characteristics have a significant impact on the individual voting power of FOMC members. The higher the individual experience the higher the individual voting power on the interest rate choice. Career backgrounds also explain voting power in the FOMC. A career in academia tend to have the strongest impact on the voting power. What is more, heterogeneity in voting power within the committee may also stem from either regional or national macroeconomic conditions.

<Insert Table 1 here>

5. Results of the interaction models

[13] For details, see columns of Table A1. Cross correlations of residuals stemming from these adjustments are reported in Table A2.

The baseline regressions have shown that member-specific conditions such as committee experience as well as career backgrounds in academia, government, NGO, or Board of Governors significantly increases individual voting power. Several studies on FOMC voting found significant differences between Board members and Bank presidents, voters and non-voters, dissenters and non-dissenters. However, our baseline results indicate only small (if any) differences between these groups. But even if we cannot observe significant differences between Board members and Bank presidents as a whole there might be differences between Board members and Bank presidents conditioning on individual characteristics. For instance, we distinguish between Board members with high committee experience and Bank presidents with high committee experience and its impact on individual voting power in the FOMC. Hence, we are able to identify individual voting power much more precisely which is one of our main contribution in the paper. In order to specify such conditioning effects, we apply interactions models wherein individual characteristics, regional and national macroeconomic conditions as well as institutional variables are interacted with the Governor dummy, the Voter dummy and the Dissenting dummy.[14]

5.1 Differentiating between board members and bank presidents

For the sake of consistency we use the same specifications for our interaction models as we have used in the baseline regressions. Table 2 show the coefficients of interacting our independent variables with the Governor dummy. The first columns of each specification of Table 2 represent the coefficients of the interaction term for the Bank presidents, the second columns represent the coefficients of the interaction term for the Board members. Our baseline results indicate that a higher committee experience is associated with a higher voting power.

[14] In the baseline regressions we used or more precise measure of the dissenting variable (we counted the number of dissents for each member up to meeting *t*). In order to keep it consistent throughout this chapter, we now use a dummy variable as the dissent measure (1 = if committee member dissented at meeting *t*; 0 otherwise)

However, this result is mostly driven by Bank presidents. The longer the Bank president's career in the FOMC the higher his/her voting power in the committee. A one standard deviation increase of committee experience increases the voting power for Bank presidents by 3.60bp (2.08bp for Board members). In other words, an interest rate vote of a Bank president with five years of experience has a 1.73 higher voting power than an interest rate vote of a Board member with five years of experience. Our results indicate that for Bank presidents it is quite favorable to become re-elected (as much as possible) to build-up high committee expertise as they voting power increases with a long career as committee member. Since Board members' term in the FOMC is limited to a maximum of 14 years (and not expandable thereafter) experience may does not play that role for Board members' individual voting power.

Coming to individual career backgrounds, interaction models reveal that Bank presidents having a career in academia, government, finance or regional Fed Bank significantly increase voting power whereas no effect is found for Bank presidents having a career in industry, NGO, or Board of Governors. A one standard deviation increase of a career in academia, government, finance or regional Fed Bank increases voting power by 8.15bp, 5.27bp, 4.26bp, 5.81bp, respectively. Conversely, our results indicate that Board members' career backgrounds do not help increasing voting power in the FOMC. Instead, Board members with a career in regional Fed Bank have significant lower voting power. A one standard increase of a career in regional Fed Bank lowers Board members' voting power by 25.88bp. Thus, Bank presidents' (not Board members') career backgrounds explain most of the observed heterogeneity of individual voting power. This result may be especially important for the future composition of the committee since members with different career backgrounds may gain different implicit voting weights in the FOMC.

Further results indicate that especially Board members' voting power significantly decreases if he/she represents districts with extreme unemployment rates (relative to the national level). A one standard deviation increase in the absolute distance of the regional

unemployment rate relative to the national level decreases Board members' voting power by 2.24bp (0.91 for Bank presidents). Dissent history is only significant for Bank presidents indicating higher voting power if Bank presidents dissent frequently. A one standard deviation increase of dissent history increases Bank presidents' voting power by 1.60bp. Finally, Bank presidents' and Board members' forecast errors are significantly affected by a change in the macroeconomic environment. A one standard deviation increase of the Economic policy uncertainty index increases the Bank presidents' and Board members' forecast errors by 2.93bp and 2.34bp, respectively.

<Insert Table 2 here>

5.2 Differentiating between voting and non-voting members

As already outlined, since our dataset uses voting records derived from verbatim transcripts, we are able to distinguish between voting and non-voting committee members (including both voting Bank presidents and Board members vs. non-voting Bank presidents as well as voting Bank presidents vs. non-voting Bank presidents). Table 3 considers the coefficients of interacting our independent variables and the Voting dummy incorporating voting Bank presidents *and* Board members vs. non-voting Bank presidents, and Table 4 considers the coefficients of interacting our independent variables and the Voting dummy incorporating *only* voting Bank presidents vs. non-voting Bank presidents. In each specification of Tables 3 and 4 first columns show the results for non-voters, second columns show the results for voters. Our results reveal that committee experience is only significant for committee members having voting status. This result holds true for both samples: voting Bank presidents and Board members vs. non-voting Bank presidents or voting vs. non-voting Bank presidents. However, the effect is much stronger for the Bank presidents sample as compared to the full sample. A one standard deviation increase of committee experience increases voting power for voting

members by 2.76bp in the full sample and by 4.67bp in the Bank presidents sample, respectively, as compared to non-voting Bank presidents.

The importance of individual career backgrounds on the voting power does also rely on the voting status of committee members. For the full sample, results indicate that voting power is significantly increased for voting members having a career in the government, NGO, or Board of Governors whereas voting power is significantly increased for non-voters' having a career in academia, or government. For the subsample, having a career in academia, government, finance and regional Fed Bank voting power is increased for both voting and non-voting Bank presidents. However, considering the Bank presidents sample statistical differences between voting and non-voting Bank presidents tend to disappear conditioning on career backgrounds. Despite this result, differences in the economic impact between voting and non-voting Bank presidents conditioning on career backgrounds still remain. A one standard deviation increase of career in academia, government, finance and regional Fed Bank increases voting power for non-voting Bank presidents by 5.19bp, 5.01bp, 2.52bp and 4.35bp, respectively, and increases voting power for voting Bank presidents by 8.24bp, 5.51bp, 4.75bp and 7.97bp showing larger marginal effects in each category considered.

For the full sample, voting power is not affected by the dissent history conditioning on the voting status of committee members. However, for the Bank presidents sample our results indicate significantly higher voting power for voting and non-voting Bank presidents having cast dissenting votes in the policy go-around. Interestingly, the effect for voting Bank presidents is 1.27 times stronger than for non-voting Bank presidents. What is more, voting power is significantly decreased for voting members representing districts with extreme regional unemployment rates. However, this result is mostly driven by Board members since in the Bank presidents sample a significant effect is neither found for voting Bank presidents nor for non-voting Bank presidents. Finally, forecast errors are significantly increased for voting and non-voting committee members if economic policy uncertainty increases as well. However,

coefficients indicate that non-voting Bank presidents' forecast errors react stronger on changes in economic policy uncertainty.

<Insert Table 3 and 4 here>

5.3 Differentiating between dissenting and non-dissenting members

As a third type of interaction model we consider committee members being defined as either a dissenter (i.e., 1= member *j* cast a dissent in the policy go-around at meeting *t*; 0 otherwise) or assenter. The rationale behind this interaction model is that committee members casting dissenting votes try to influence future policy decisions. Some studies have shown that dissents have indeed guiding power within a committee. Since we do not only have information of committee members' individual votes drawn from verbatim transcripts but also individual characteristics such as committee experience or career backgrounds, we are able to disentangle whose dissenting votes conditioned on individual characteristics have indeed leading power. Table 5 shows the results of interacting our independent variables and the *Dissent dummy* whereas first columns of each specification contain results for assenters and second columns for dissenters. Some interesting results can be observed from this interaction model. First, voting power is significantly increased for dissenters having gained experience in the committee. The more experience a member yields throughout his/her career in the FOMC the higher his/her individual weight of the dissent. One standard deviation increase of committee experience increases voting power for dissenters by 3.77bp. Further results indicate that individual voting power is significantly increased if dissenters had a career in academia, industry, finance, Board of Governors or regional Fed Bank before becoming FOMC member; whereas a career in NGO significantly decreases voting power of dissenters. A one standard deviation increase of a career background in academia, industry, finance, Board of Governors or regional Fed Bank increases voting power for dissenters by 6.58bp, 9.42bp, 4.13bp, or 9.03,

respectively. In contrast to this, for assenters we find an increase in voting power if they had a career in the government before becoming FOMC member.

Coming to regional macroeconomic conditions, our results reveal that dissenters' and assenters' individual voting power is significantly decreased if they represent districts with extreme inflation rates. However, dissenters' voting power significantly increases when he/she represents districts with a large banking sector. Thus, a dissenting vote gains more weight in the FOMC when a dissent is cast by a committee member representing an economically important district. A one standard deviation increase in total assets of regional banks increases the individual voting power of dissenters by 2.39bp.

<Insert Table 5 here>

6. Conclusion

This paper proposed an empirical measure of voting power of FOMC members. Based on a forecast error framework, we compare the interest preferences voiced by FOMC members in the policy go-around of the current FOMC meeting with the FOMC's interest rate decision in the subsequent meeting. A FOMC member's ability to lead the committee decision as measured by a small individual forecast error is indicative of high voting power.

Using 2,609 individual interest rate preferences in the period 1989 to 2008 we find huge differences in voting power among FOMC members and explain them in a panel framework. We find that long committee experience increases voting power. A one standard deviation increase of Committee experience increases individual voting power by 2.54 basis points. We also find explanatory power for certain career backgrounds. Members with a career in academia, government, NGO, or Board of Governors significantly tend to have higher individual voting power, whereas FOMC members with a career in industry, finance or regional Fed Bank tend to have less voting power. What is more, members representing districts with extreme regional unemployment rates tend to have significant lower voting power as compared

to members representing districts with regional unemployment rates closely to the national level.

Findings presented in this paper have a number of policy implications. First, our results reveal a large heterogeneity of voting power among the members of the FOMC. Knowing the influential FOMC members may therefore help investors and consumers to judge the information content of FOMC votes or public statements for future interest rate decisions of the FOMC. Assessing voting power may therefore help private agents to anticipate future monetary policy decisions and to reduce uncertainty about future monetary policy and therefore increase policy effectiveness. However, our analysis also shows that the credibility of casted votes as an indicator for future actions largely differs across individual members. Given the importance of private expectations in achieving macroeconomic outcomes intended by policy actions, records of less important voting members might affect private expectations in the wrong way. Accounting for voting power thus improves the effectiveness of forward guidance.

Table1: Baseline results

	I		II		III		IV		V	
Committee experience	-0.070	**	-0.068	**	-0.066	**	-0.070	**	-0.060	**
	(0.03)		(0.03)		(0.03)		(0.03)		(0.03)	
Age	0.026		0.027		0.027		0.024		0.025	
	(0.02)		(0.02)		(0.02)		(0.02)		(0.02)	
Career in academia	-0.481	**	-0.475	**	-0.474	**	-0.482	**	-0.506	**
	(0.20)		(0.21)		(0.21)		(0.23)		(0.24)	
Career in government	-0.750	***	-0.752	***	-0.746	***	-0.693	**	-0.704	**
	(0.28)		(0.28)		(0.28)		(0.30)		(0.33)	
Career in industry	-0.295		-0.274		-0.289		-0.272		-0.336	
	(0.21)		(0.22)		(0.21)		(0.23)		(0.24)	
Career in finance	-0.291		-0.292		-0.292		-0.305		-0.333	
	(0.19)		(0.20)		(0.20)		(0.22)		(0.23)	
Career in NGO	-0.601	***	-0.573	**	-0.573	**	-0.541	**	-0.560	**
	(0.22)		(0.23)		(0.23)		(0.24)		(0.25)	
Career in Board of Governors	-0.589	***	-0.558	**	-0.557	**	-0.576	**	-0.604	**
	(0.22)		(0.22)		(0.22)		(0.24)		(0.25)	
Career in regional Fed Bank	-0.288		-0.283		-0.290		-0.293		-0.339	
	(0.19)		(0.20)		(0.20)		(0.22)		(0.22)	
Greenspan dummy	-2.998	***	-3.153	***	-3.095	***	-2.135	**	-1.996	*
	(1.06)		(1.03)		(1.03)		(0.93)		(1.02)	
Tape dummy	-1.816	*	-1.693	*	-1.759	*	0.820		1.574	
	(0.98)		(0.94)		(0.93)		(1.05)		(1.06)	
Distance in regional unemployment rate			2.947	**	2.938	**	2.686	**	2.657	**
			(1.35)		(1.34)		(1.23)		(1.21)	
Personal income of Fed district			0.039							
			(0.09)							
Total assets of regional banks					0.001		0.001		0.002	
					(0.01)		(0.01)		(0.01)	
Economic policy uncertainty index							0.099	***	0.102	***
							(0.01)		(0.01)	
Governor dummy									-1.226	
									(1.61)	
Voter dummy									-0.303	
									(1.02)	
Dissent history									-0.185	*
									(0.11)	
Regional fixed effects	YES		YES		YES		YES		YES	
Observations	2,609		2,609		2,609		2,609		2,609	
Overall R^2	0.027		0.032		0.033		0.057		0.058	

Note: Dependent variable: Taylor rule adjusted individual forecast error (adjustment by real-time h4 forecast of unemployment and inflation as well as committee's lagged interest rate decisions), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table 2: Differentiation between Bank presidents and Board members

	I		II		III		IV		V	
	Bank president	Board member	Bank president	Board member	Bank president	Board member	Bank president	Board member	Bank president	Board member
Committee experience	-0.097 ***	-0.056	-0.099 ***	-0.042	-0.097 ***	-0.028	-0.097 ***	-0.045	-0.085 **	-0.049
	(0.06)	(0.05)	(0.03)	(0.06)	(0.03)	(0.06)	(0.04)	(0.06)	(0.03)	(0.06)
Age	0.034 *	0.018	0.038 *	0.004	0.040 **	0.002	0.034	0.009	0.043 **	0.005
	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Career in academia	-0.766 ***	-0.174	-0.817 ***	-0.024	-0.798 ***	-0.023	-0.804 ***	-0.002	-0.885 ***	0.007
	(0.23)	(0.25)	(0.22)	(0.26)	(0.21)	(0.24)	(0.24)	(0.24)	(0.23)	(0.23)
Career in government	-1.671 ***	0.167	-1.767 ***	0.191	-1.837 ***	0.296	-1.814 ***	0.483	-1.803 ***	0.385
	(0.48)	(0.40)	(0.49)	(0.39)	(0.47)	(0.41)	(0.54)	(0.45)	(0.55)	(0.46)
Career in industry	0.389	-0.204	0.413	-0.019	0.448	0.022	0.561 *	-0.012	0.309	0.035
	(0.31)	(0.26)	(0.30)	(0.25)	(0.28)	(0.23)	(0.33)	(0.25)	(0.33)	(0.24)
Career in finance	-0.394 **	-0.102	-0.447 **	-0.050	-0.431 **	-0.072	-0.425 **	0.015	-0.482 **	0.037
	(0.20)	(0.24)	(0.18)	(0.29)	(0.17)	(0.28)	(0.21)	(0.30)	(0.20)	(0.28)
Career in NGO	-0.529	-0.808 **	-0.519	-0.489	-0.315	-0.466	-0.241	-0.602	-0.498	-0.485
	(0.43)	(0.39)	(0.40)	(0.44)	(0.38)	(0.42)	(0.43)	(0.42)	(0.38)	(0.41)
Career in Board of Governors	-0.016	-0.600 *	0.038	-0.456	-0.021	-0.392	0.086	-0.515	0.030	-0.480
	(0.44)	(0.34)	(0.41)	(0.33)	(0.34)	(0.32)	(0.39)	(0.32)	(0.45)	(0.32)
Career in regional Fed Bank	-0.497 **	1.669	-0.554 ***	2.176 **	-0.548 ***	2.272 **	-0.546 ***	2.602 **	-0.585 ***	2.507 **
	(0.19)	(1.14)	(0.18)	(1.04)	(0.17)	(1.09)	(0.20)	(1.10)	(0.20)	(1.22)
Bernanke		-7.540		-4.610		-3.923		-6.228		2.096
		(14.29)		(13.57)		(12.54)		(13.99)		(13.19)
Greenspan	-4.416 ***	-6.520	-4.522 ***	-3.178	-4.357 ***	-1.996	-3.323 ***	-3.599	-3.016 **	4.262
	(1.37)	(14.85)	(1.27)	(13.94)	(1.27)	(12.96)	(1.17)	(14.65)	(1.29)	(13.97)
No Tape		2.037		1.612		2.057		-0.116		-0.175
		(1.55)		(1.67)		(1.60)		(1.49)		(1.43)
Tape	-0.015		0.061		-0.196		2.422		3.596 **	
	(1.33)		(1.27)		(1.30)		(1.58)		(1.43)	

Distance in regional unemployment rate		2.165	5.688	***	2.294	5.828	***	2.156	5.415	***	2.163	5.336	***
		(1.67)	(2.10)		(1.68)	(2.01)		(1.53)	(1.91)		(1.48)	(1.97)	
Personal income of Fed district		0.044	0.052										
		(0.08)	(0.09)										
Total assets of regional banks					-0.004	0.007		-0.005	0.006		-0.002	0.005	
					(0.00)	(0.01)		(0.00)	(0.01)		(0.01)	(0.01)	
Economic policy uncertainty index								0.106	***	0.087	***	0.110	***	0.088	***
								(0.02)	(0.02)		(0.02)	(0.02)	
Voter											-0.294		
											(1.02)		
Dissent history											-0.276	**	0.335		
											(0.12)		(0.64)		
Regional dummies	YES		YES			YES			YES			YES			
Observations	2,609		2,609			2,609			2,609			2,609			
Overall R^2	0.039		0.048			0.05			0.078			0.082			

Note: Columns show results of interacting baseline determinants with the Governor dummy separated by Specification I-V. Dependent variable: Taylor rule adjusted individual forecast error (adjustment by real-time h4 forecast of unemployment and inflation as well as committee's lagged interest rate decisions), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table 3: Differentiation between all Non-voting and voting members

	I		II		III		IV		V	
	Non-Voter	Voter	Non-Voter	Voter	Non-Voter	Voter	Non-Voter	Voter	Non-Voter	Voter
Committee experience	-0.059 *	-0.083 **	-0.058 *	-0.072 **	-0.058 *	-0.071 **	-0.058	-0.081 **	-0.045	-0.065 *
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04	(0.03)
Age	0.014	0.035 *	0.017	0.032	0.018	0.033	0.013	0.032	0.018	0.028
	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)
Career in academia	-0.437 *	-0.523 **	-0.445 **	-0.460 *	-0.451 **	-0.460 *	-0.441 *	-0.505 *	-0.481 *	-0.435
	(0.23)	(0.26)	(0.22)	(0.27)	(0.22)	(0.28)	(0.26)	(0.29)	(0.25)	(0.29)
Career in government	-1.439 **	-0.637 **	-1.478 **	-0.583 *	-1.460 **	-0.581 *	-1.166 *	-0.615 *	-1.211 *	-0.603 *
	(0.61)	(0.31)	(0.65)	(0.32)	(0.63)	(0.31)	(0.70)	(0.34)	(0.68)	(0.33)
Career in industry	0.382	-0.420	0.413	-0.357	0.377	-0.368	0.308	-0.369	0.214	-0.338
	(0.48)	(0.27)	(0.52)	(0.28)	(0.50)	(0.28)	(0.58)	(0.29)	(0.55)	(0.29)
Career in finance	-0.243	-0.332	-0.243	-0.295	-0.251	-0.297	-0.248	-0.334	-0.269	-0.293
	(0.20)	(0.25)	(0.18)	(0.26)	(0.18)	(0.26)	(0.23)	(0.27)	(0.21)	(0.27)
Career in NGO	-0.543 **	-0.780 **	-0.473	-0.692 **	-0.378	-0.695 **	-0.453	-0.673 **	-0.402	-0.563 *
	(0.27)	(0.31)	(0.29)	(0.31)	(0.32)	(0.32)	(0.34)	(0.32)	(0.34)	(0.33)
Career in Board of Governors	-0.640	-0.592 **	-0.553	-0.499 *	-0.605	-0.498 *	-0.528	-0.562 **	-0.455	-0.483 *
	(0.45)	(0.26)	(0.46)	(0.26)	(0.44)	(0.26)	(0.51)	(0.27)	(0.50)	(0.27)
Career in regional Fed Bank	-0.213	-0.359	-0.226	-0.320	-0.240	-0.326	-0.213	-0.351	-0.269	-0.360
	(0.21)	(0.25)	(0.19)	(0.26)	(0.19)	(0.26)	(0.23)	(0.27)	(0.21)	(0.26)
Bernanke		-12.124		-11.172		-10.970		-6.591		-3.502
		(13.04)		(14.24)		(13.84)		(15.73)		(16.39)
Greenspan	-3.684 *	-15.100	-3.872 **	-14.100	-3.800 **	-13.836	-2.681	-8.703	-2.218	-5.320
	(1.97)	(13.34)	(1.76)	(14.49)	(1.77)	(14.06)	(1.69)	(15.78)	(1.72)	(16.49)
No Tape		2.471 *		2.769 **		2.842 **		0.220		0.577
		(1.35)		(1.32)		(1.33)		(1.51)		(1.49)
Tape	-1.008		-1.184		-1.145		1.707		2.274	
	(1.66)		(1.65)		(1.63)		(1.96)		(2.03)	

Distance in regional unemployment rate		2.631		3.058	*	2.634		3.047	*	2.403		2.705	*	2.444		2.817	**
		(2.05)		(1.56)		(2.04)		(1.57)		(1.95)		(1.46)		(1.93)		(1.40)	
Personal income of Fed district		0.041		0.044													
		(0.09)		(0.09)													
Total assets of regional banks						-0.002		0.000		-0.005		0.002		-0.005		0.001	
						(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)	
Economic policy uncertainty index										0.112	***	0.088	***	0.112	***	0.088	***
										(0.02)		(0.01)		(0.02)		(0.01)	
Bank president																2.202	
																(1.70)	
Dissent history														-0.183		-0.154	
														(0.13)		(0.13)	
Regional dummies	YES		YES			YES				YES				YES			
Observations	2,609		2,609			2,609				2,609				2,609			
Overall R^2	0.031		0.039			0.04				0.063				0.069			

Note: Columns show results of interacting baseline determinants with the Voter dummy separated by Specification I-V. Dependent variable: Taylor rule adjusted individual forecast error (adjustment by real-time h4 forecast of unemployment and inflation as well as committee's lagged interest rate decisions), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table 4: Differentiation between Non-voting and voting bank presidents

	I		II		III		IV		V	
	Non-Voter	Voter	Non-Voter	Voter	Non-Voter	Voter	Non-Voter	Voter	Non-Voter	Voter
Committee experience	-0.055	-0.108 **	-0.054	-0.109 ***	-0.057	-0.109 ***	-0.053	-0.110 ***	-0.051	-0.104 ***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Age	0.017	0.049 **	0.021	0.052 ***	0.023	0.051 ***	0.019	0.047 **	0.031	0.058 ***
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)
Career in academia	-0.493 **	-0.810 ***	-0.504 **	-0.874 ***	-0.519 **	-0.841 ***	-0.520 **	-0.856 ***	-0.634 **	-1.007 ***
	(0.25)	(0.28)	(0.24)	(0.28)	(0.23)	(0.28)	(0.25)	(0.29)	(0.25)	(0.27)
Career in government	-1.920 ***	-1.638 ***	-1.852 ***	-1.742 ***	-1.892 ***	-1.826 ***	-1.651 ***	-1.889 ***	-1.708 ***	-1.878 ***
	(0.58)	(0.52)	(0.61)	(0.58)	(0.59)	(0.60)	(0.64)	(0.68)	(0.64)	(0.69)
Career in industry	0.704 *	-0.039	0.561	-0.035	0.593	0.154	0.573	0.270	0.434	-0.038
	(0.41)	(0.38)	(0.47)	(0.43)	(0.42)	(0.53)	(0.46)	(0.56)	(0.48)	(0.60)
Career in finance	-0.241	-0.438 *	-0.297 *	-0.500 **	-0.288 *	-0.466 *	-0.290	-0.469 *	-0.310 *	-0.584 **
	(0.17)	(0.25)	(0.17)	(0.24)	(0.16)	(0.26)	(0.18)	(0.25)	(0.19)	(0.27)
Career in NGO	-0.373	-0.510	-0.313	-0.434	-0.231	-0.252	-0.177	0.010	-0.466	-0.594
	(0.46)	(0.58)	(0.49)	(0.56)	(0.44)	(0.65)	(0.49)	(0.66)	(0.46)	(0.70)
Career in Board of Governors	-0.067	-0.167	-0.291	0.155	-0.215	0.207	-0.133	0.205	-0.133	0.109
	(0.41)	(0.44)	(0.44)	(0.53)	(0.37)	(0.54)	(0.40)	(0.47)	(0.45)	(0.55)
Career in regional Fed Bank	-0.374 **	-0.670 ***	-0.422 ***	-0.744 ***	-0.415 ***	-0.690 ***	-0.403 ***	-0.691 ***	-0.424 ***	-0.777 ***
	(0.16)	(0.21)	(0.16)	(0.20)	(0.14)	(0.22)	(0.15)	(0.22)	(0.16)	(0.24)
Bernanke		-13.461		-10.477		-9.981		-5.497		
		(13.41)		(15.67)		(14.82)		(16.50)		
Greenspan	-3.718 **	-18.251	-3.726 **	-15.257	-3.818 **	-14.756	-2.603 *	-9.269	-1.959	-3.470 *
	(1.80)	(13.81)	(1.69)	(15.96)	(1.70)	(15.11)	(1.57)	(16.50)	(1.73)	(1.94)
No Tape		2.162		1.873		2.014		-0.162		-1.886
		(2.44)		(2.39)		(2.39)		(2.79)		(2.71)
Tape	-1.484		-1.390		-1.358		0.962		2.605	
	(1.80)		(1.71)		(1.71)		(2.05)		(2.15)	

Distance in regional unemployment rate			3.225		3.585		3.250		1.686		3.164		1.479	
			(2.19)		(1.56)		(2.19)		(1.56)		(2.08)		(2.31)	
Personal income of Fed district			0.003		-0.005									
			(0.10)		(0.10)									
Total assets of regional banks							-0.003		-0.007		-0.007		-0.007	
							(0.01)		(0.01)		(0.01)		(0.01)	
Economic policy uncertainty index											0.107	***	0.095	***
											(0.02)		(0.02)	
Bank president														
Dissent history														
Regional dummies	YES		YES				YES				YES			
Observations	1,832		1,832				1,832				1,832			
Overall R^2	0.055		0.059				0.059				0.091			

Distance in regional unemployment rate			3.026		1.619									
			(2.10)		(2.27)									
Personal income of Fed district														
Total assets of regional banks			-0.004		-0.002									
			(0.01)		(0.01)									
Economic policy uncertainty index			0.113	***	0.099	***								
			(0.02)		(0.02)									
Bank president					-1.083									
					(17.76)									
Dissent history			-0.262	*	-0.334	**								
			(0.14)		(0.17)									
Regional dummies	YES													
Observations	1,832													
Overall R^2	0.096													

Note: Columns show results of interacting baseline determinants with the Voter dummy separated by Specification I-V while dropping votes of Board members. Dependent variable: Taylor rule adjusted individual forecast error (adjustment by real-time h4 forecast of unemployment and inflation as well as committee's lagged interest rate decisions), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table 5: Differentiation between Assenters and Dissenters

	I		II		III		IV		V	
	Assenter	Dissenter	Assenter	Dissenter	Assenter	Dissenter	Assenter	Dissenter	Assenter	Dissenter
Committee experience	-0.020	-0.068 *	-0.020	-0.079 **	-0.020	-0.088 **	-0.019	-0.088 **	-0.020	-0.089 **
	(0.02)	(0.04)	(0.19)	(0.03)	(0.19)	(0.03)	(0.20)	(0.04)	(0.20)	(0.04)
Age	0.003	0.083 ***	0.004	0.089 ***	0.004	0.095 ***	0.001	0.095 ***	0.000	0.096 ***
	(0.01)	(0.03)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.03)	(0.01)	(0.03)
Career in academia	-0.163	-0.608 **	-0.161	-0.626 **	-0.164	-0.690 **	-0.157	-0.709 **	-0.150	-0.714 **
	(0.13)	(0.30)	(0.13)	(0.29)	(0.14)	(0.30)	(0.14)	(0.32)	(0.14)	(0.32)
Career in government	-0.416 **	0.389	-0.433 **	0.428	-0.433 **	0.402	-0.366 *	0.453	-0.393 **	0.413
	(0.18)	(0.59)	(0.18)	(0.63)	(0.19)	(0.64)	(0.19)	(0.66)	(0.19)	(0.61)
Career in industry	0.008	-1.661 ***	0.018	-1.688 ***	0.018	-1.771 ***	0.035	-1.791 ***	0.045	-1.806 ***
	(0.13)	(0.32)	(0.14)	(0.31)	(0.13)	(0.33)	(0.14)	(0.34)	(0.13)	(0.36)
Career in finance	-0.083	-0.749 **	-0.085	-0.692 **	-0.087	-0.766 ***	-0.083	-0.780 **	-0.082	-0.792 **
	(0.12)	(0.30)	(0.13)	(0.29)	(0.13)	(0.29)	(0.14)	(0.31)	(0.13)	(0.33)
Career in NGO	-0.201	0.410	-0.180	0.674	-0.190	1.577 **	-0.155	1.834 **	-0.122	1.823 **
	(0.14)	(0.54)	(0.14)	(0.55)	(0.14)	(0.72)	(0.15)	(0.79)	(0.15)	(0.82)
Career in Board of Governors	-0.135	-1.205 **	-0.112	-0.838 **	-0.111	-1.055 **	-0.107	-1.105 *	-0.091	-1.097 *
	(0.12)	(0.59)	(0.13)	(0.62)	(0.14)	(0.53)	(0.13)	(0.60)	(0.13)	(0.65)
Career in regional Fed Bank	-0.116	-0.855 ***	-0.113	-0.817 ***	-0.115	-0.871 ***	-0.107	-0.884 ***	-0.133	-0.910 ***
	(0.11)	(0.32)	(0.12)	(0.31)	(0.12)	(0.31)	(0.13)	(0.33)	(0.12)	(0.35)
Bernanke		-22.619 *		-26.302 **		-29.418 **		-26.665 *		-27.859 *
		(11.72)		(12.06)		(12.27)		(14.39)		(15.00)
Greenspan	-0.529	-30.433 ***	-0.769	-33.990 ***	-0.770	-36.083 ***	0.075	-31.205 **	0.162	-32.296 **
	(0.64)	(10.55)	(0.64)	(11.33)	(0.64)	(11.37)	(0.47)	(13.03)	(0.48)	(13.50)
No Tape		0.369		0.739		0.551		-1.505		-1.532
		(3.05)		(3.13)		(3.16)		(3.71)		(3.76)
Tape	-4.271 ***		-4.113 ***		-4.100 ***		-2.192 **		-2.125 *	
	(0.96)		(0.99)		(0.96)		(1.08)		(1.11)	

Distance in regional unemployment rate			2.175	**	4.949	*	2.143	*	4.667	*	1.970	*	4.461	*	2.006	*	4.565	*
			(1.20)		(2.53)		(1.20)		(2.42)		(1.13)		(2.44)		(1.14)		(2.43)	
Personal income of Fed district			0.015		-0.002													
			(0.06)		(0.06)													
Total assets of regional banks							0.002		-0.025	*	0.001		-0.025	*	0.001		-0.025	*
							(0.00)		(0.01)		(0.00)		(0.01)		(0.00)		(0.02)	
Economic policy uncertainty index											0.094	***	0.061		0.094	***	0.061	
											(0.01)		(0.06)		(0.01)		(0.06)	
Non-Voter																	0.905	
																	(1.83)	
Voter															-0.362			
															(1.08)			
Bank president																	-0.381	
																	(2.83)	
Board member															-0.663			
															(1.09)			
Regional dummies	YES		YES				YES						YES				YES	
Observations	2,609		2,609				2,609						2,609				2,609	
Overall R^2	0.107		0.111				0.112						0.137				0.137	

Note: Columns show results of interacting baseline determinants with the Dissent dummy separated by Specification I-V. Dependent variable: Taylor rule adjusted individual forecast error (adjustment by real-time h4 forecast of unemployment and inflation as well as committee's lagged interest rate decisions), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

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Table A1: Robustness checks of baseline regressions, testing for different Taylor rule adjustments

	Inflation and unemployment rate								Inflation and output gap									
	h0		h1		h2		h3		h0		h1		h2		h3		h4	
Committee experience	-0.055	*	-0.060	**	-0.057	*	-0.060	**	-0.040	*	-0.049	**	-0.049	**	-0.056	**	-0.056	**
	(0.03)		(0.03)		(0.03)		(0.03)		(0.02)		(0.02)		(0.02)		(0.03)		(0.03)	
Age	0.025		0.024		0.025		0.026		0.021		0.022		0.022		0.025		0.024	
	(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)		(0.02)	
Career in academia	-0.490	**	-0.499	**	-0.485	**	-0.502	**	-0.323	*	-0.353	*	-0.364	*	-0.432	**	-0.440	**
	(0.25)		(0.23)		(0.24)		(0.24)		(0.18)		(0.18)		(0.19)		(0.21)		(0.22)	
Career in government	-0.607	*	-0.728	**	-0.737	**	-0.736	**	-0.450	*	-0.527	*	-0.544	**	-0.639	**	-0.624	**
	(0.34)		(0.33)		(0.32)		(0.33)		(0.26)		(0.27)		(0.27)		(0.29)		(0.30)	
Career in industry	-0.359		-0.306		-0.307		-0.332		-0.284		-0.278		-0.267		-0.298		-0.303	
	(0.25)		(0.24)		(0.24)		(0.23)		(0.19)		(0.19)		(0.20)		(0.22)		(0.22)	
Career in finance	-0.317		-0.319		-0.313		-0.332		-0.217		-0.240		-0.237		-0.285		-0.290	
	(0.23)		(0.22)		(0.22)		(0.23)		(0.17)		(0.17)		(0.18)		(0.20)		(0.20)	
Career in NGO	-0.570	**	-0.516	**	-0.510	**	-0.540	**	-0.432	**	-0.441	**	-0.408	**	-0.461	**	-0.493	**
	(0.26)		(0.24)		(0.24)		(0.25)		(0.20)		(0.19)		(0.20)		(0.22)		(0.23)	
Career in Board of Governors	-0.590	**	-0.607	**	-0.586	**	-0.609	**	-0.398	**	-0.438	**	-0.441	**	-0.519	**	-0.523	**
	(0.26)		(0.25)		(0.25)		(0.26)		(0.19)		(0.20)		(0.20)		(0.23)		(0.23)	
Career in regional Fed Bank	-0.306		-0.331		-0.329		-0.340		-0.227		-0.252		-0.256		-0.292		-0.300	
	(0.23)		(0.22)		(0.22)		(0.22)		(0.16)		(0.16)		(0.17)		(0.20)		(0.20)	
Greenspan dummy	-2.866	***	-3.100	***	-2.291	**	-2.170	**	-1.775	**	-1.770	*	-1.816	**	-1.699	*	-1.832	*
	(1.00)		(0.97)		(0.97)		(1.00)		(0.89)		(0.91)		(0.91)		(0.94)		(0.95)	
Tape dummy	3.572	***	1.895	*	1.890	*	1.762		0.775		1.014		1.243		1.071		1.195	
	(1.21)		(1.03)		(1.08)		(1.08)		(0.91)		(0.98)		(0.98)		(1.02)		(1.04)	
Distance in regional unemployment rate	2.810	**	2.270	**	2.270	*	2.384	*	1.853		1.506		2.235	*	2.433	*	2.617	**
	(1.21)		(1.14)		(1.22)		(1.22)		(1.13)		(1.18)		(1.25)		(1.28)		(1.28)	
Total assets of regional banks	0.002		0.001		0.001		0.002		0.001		0.001		0.000		0.001		0.002	
	(0.01)		(0.01)		(0.01)		(0.01)		(0.00)		(0.01)		(0.01)		(0.01)		(0.01)	
Economic policy uncertainty index	0.127	***	0.115	***	0.110	***	0.108	***	0.110	***	0.109	***	0.106	***	0.113	***	0.108	***
	(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)		(0.01)	
Governor dummy	-1.228		-1.672		-1.670		-1.389		-1.433		-1.515		-1.449		-1.345		-1.203	
	(1.51)		(1.52)		(1.53)		(1.59)		(1.14)		(1.23)		(1.23)		(1.38)		(1.42)	
Voter dummy	-0.167		-0.126		-0.291		-0.349		0.090		-0.087		-0.261		-0.262		-0.264	
	(0.87)		(0.82)		(0.99)		(1.00)		(0.63)		(0.69)		(0.79)		(0.84)		(0.90)	
Dissent history	-0.212	**	-0.176	*	-0.191	*	-0.187	*	-0.121		-0.073		-0.103		-0.128		-0.136	
	(0.11)		(0.10)		(0.10)		(0.10)		(0.08)		(0.08)		(0.08)		(0.09)		(0.10)	
Regional dummies	YES		YES		YES		YES		YES		YES		YES		YES		YES	
Observations	2,609		2,609		2,609		2,609		2,609		2,609		2,609		2,609		2,609	

Overall R^2	0.068	0.071	0.057	0.062	0.063	0.060	0.064	0.071	0.065

Note: Robustness checks of baseline regressions with h0 (Taylor rule adjustment with contemporary outcomes of inflation, unemployment or output) up to h3 or h4 (corresponding to 3 or 4 quarters ahead forecasts of inflation, unemployment or output), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table A2: Cross correlation of residuals

	Residuals Infl 0 Unemp 0	Residuals Infl 1 Unemp 1	Residuals Infl 2 Unemp 2	Residuals Infl 3 Unemp 3	Residuals Infl 4 Unemp 4	Residuals Infl 0 Output gap 0	Residuals Infl 1 Output gap 1	Residuals Infl 2 Output gap 2	Residuals Infl 3 Output gap 3	Residuals Infl 4 Output gap 4
Residuals Infl 0 Unemp 0	1.000									
Residuals Infl 1 Unemp 1	0.970	1.000								
Residuals Infl 2 Unemp 2	0.969	0.982	1.000							
Residuals Infl 3 Unemp 3	0.962	0.972	0.989	1.000						
Residuals Infl 4 Unemp 4	0.961	0.968	0.983	0.994	1.000					
Residuals Infl 0 Output gap 0	0.941	0.909	0.921	0.932	0.942	1.000				
Residuals Infl 1 Output gap 1	0.934	0.962	0.949	0.949	0.955	0.954	1.000			
Residuals Infl 2 Output gap 2	0.939	0.942	0.966	0.966	0.969	0.964	0.973	1.000		
Residuals Infl 3 Output gap 3	0.938	0.941	0.962	0.979	0.979	0.963	0.967	0.990	1.000	
Residuals Infl 4 Output gap 4	0.939	0.941	0.960	0.974	0.986	0.963	0.966	0.985	0.992	1.000

Note: Cross correlation of residuals from equation (1) depending on forecast horizons (h0-h4) and macroeconomic conditions (inflation, unemployment, output gap), respectively.

Table A3: Reduced form regressions

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
Committee experience	-0.038 **	-0.026 **	-0.037 ***	-0.026 **	-0.035 ***	-0.023 **	-0.035 ***	-0.022 **	-0.036 ***	-0.023 **	-0.036 ***	-0.024 **	-0.037 ***	-0.024 **
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Career in academia	-0.154 *	-0.120 *												
	(0.08)	(0.07)												
Career in government			-0.662 ***	-0.551 ***										
			(0.20)	(0.18)										
Career in industry					-0.068	-0.045								
					(0.15)	(0.11)								
Career in finance							0.056	0.056						
							(0.06)	(0.05)						
Career in NGO									-0.463 ***	-0.372 ***				
									(0.08)	(0.07)				
Career in Board of Governors											-0.303 ***	-0.247 ***		
											(0.11)	(0.08)		
Career in regional Fed Bank													0.126	0.079
													(0.08)	(0.06)
Greeenspan dummy		-2.863 ***		-2.628 **		-2.681 **		-2.692 **		-2.580 **		-2.793 **		-2.724 **
		(1.06)		(1.11)		(1.11)		(1.08)		(1.10)		(1.09)		(1.07)
Tape dummy		-2.424 **		-2.311 **		-2.551 ***		-2.556 ***		-2.598 ***		-2.402 ***		-2.674 ***
		(1.00)		(0.95)		(0.95)		(0.98)		(0.94)		(0.92)		(0.91)
Regional fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609
Overall R^2	0.003	0.015	0.007	0.018	0.002	0.013	0.002	0.015	0.004	0.015	0.003	0.014	0.001	0.013

Note: Dependent variable: Taylor rule adjusted individual forecast error (adjustment by real-time h4 forecast of unemployment and inflation as well as committee's lagged interest rate decisions), member clustered standard errors in parentheses; Regional dummies' coefficients included but not reported, *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table A4: Forecast error adjustment by key macroeconomic indicators

	I		II		III		IV		V			VI		VII		VIII		IX		X	
Constant	-2.248		-1.791		-1.923		-1.814		-1.802		Constant	-2.784	*	-2.287		-2.387		-2.073		-2.038	
	(1.43)		(1.41)		(1.42)		(1.41)		(1.44)			(1.63)		(1.47)		(1.50)		(1.45)		(1.45)	
Interest rate change (1 lag)	0.363	***	0.295	***	0.303	***	0.315	***	0.330	***	Interest rate change (1 lag)	0.386	***	0.305	***	0.330	***	0.335	***	0.341	***
	(0.09)		(0.08)		(0.09)		(0.09)		(0.09)			(0.09)		(0.09)		(0.09)		(0.09)		(0.09)	
Interest rate change (2 lags)	0.371	***	0.386	***	0.377	***	0.376	***	0.365	***	Interest rate change (2 lags)	0.346	***	0.358	***	0.346	***	0.351	***	0.348	***
	(0.11)		(0.10)		(0.10)		(0.11)		(0.11)			(0.11)		(0.10)		(0.10)		(0.10)		(0.11)	
Change in Inflation exp.	4.702		14.811	*	15.116	*	13.666		14.442		Change in Inflation exp.	5.639	*	20.607	**	16.535	**	16.360		16.700	
	(2.97)		(8.79)		(7.88)		(10.80)		(12.07)			(3.19)		(8.96)		(8.37)		(10.54)		(12.30)	
Change in Unemployment exp.	21.222	***	16.372	***	15.474	***	12.712	***	10.679	***	Change in Output gap exp.	-26.871	**	-24.995	**	-24.935	***	-19.365	***	-17.058	**
	(4.38)		(3.13)		(2.57)		(2.53)		(2.85)			(12.84)		(9.59)		(8.68)		(6.95)		(7.71)	
Adjusted R^2	0.496		0.515		0.507		0.489		0.475		Adjusted R^2	0.441		0.475		0.466		0.460		0.457	

Note: Regressions output of the adjusted Taylor rule with q0 - q4 forecasts of unemployment and inflation (corresponding to specification I – V), and q0 - q4 forecasts of output gap and inflation (corresponding to specification VI – X), standard errors in parentheses; *, **, *** show significance at the 10%, 5% and 1% level, respectively

Table A5: Descriptive statistics of the baseline regressions

Variable	Obs	Mean	Std. dev.	Min	Max
Individual forecast error	2,609	14.89778	14.21407	0.296784	104.7489
Committee experience	2,609	54.1238	42.39632	2	217
Age	2,609	681.2296	80.55069	432	848
Career in Academia	2,609	5.17248	9.214227	0	30
Career in Government	2,609	1.371598	2.923224	0	12
Career in Industry	2,609	1.996934	5.216919	0	22
Career in Finance	2,609	5.175546	8.83683	0	35
Career in NGO	2,609	0.5228057	2.593267	0	25
Career in BoG	2,609	1.328862	4.381003	0	29
Career in Fed Bank	2,609	8.102146	9.926069	0	32
Distance in regional unemployment	2,609	0.5700227	0.4199423	0.0000985	2.373376
Personal income of Fed district	2,609	110	67.53154	34.83438	318.8904
Total assets of regional banks	2,609	111.7467	95.62442	23.16772	519.824
Greenspan dummy	2,609	0.8532005	0.3539738	0	1
Governor dummy	2,609	0.2978153	0.4573855	0	1
Voter dummy	2,609	0.5983135	0.4903332	0	1
Dissent history	2,609	4.456113	5.810241	0	30
Tape dummy	2,609	0.7884247	0.4085036	0	1
Economic policy uncertainty	2,609	97.76986	26.60073	57.55796	189.9173

Table A6: Variable definitions and data sources

Variable	Definition	Data sources
	Dependent variable	
Individual forecast error	Taylor rule adjusted individual forecast error	Voting preferences have been drawn from FOMC transcripts
	Regional variables	
Distance in regional unemployment	Absolute value of the difference between unemployment rate in district i and national unemployment rate	National and State Unemployment Rate: Bureau of Labor Statistics
	District unemployment rate is the weighted average of state-specific unemployment rates, population shares are used as the weighting scheme	Resident Population: Census Bureau
Total assets of regional banks	Total assets of banks in district i relative to the remaining districts	Chicago Feds' call report data
Personal income of Fed district	Personal income in district i relative to the remaining districts	U.S. Bureau of Economic Analysis
	National variable	
Economic policy uncertainty	Index measures policy uncertainty based on newspaper coverage of uncertainty associated with economic policy issues, the number of federal tax codes that expire, and the level of disagreement among professional forecasters.	Baker et al. (2015), www.policyuncertainty.com

	Institutional dummy variables	
Governor dummy	Dummy variable; equals 1 if vote cast by Board member, 0 if vote cast by bank president	
Tape dummy	Dummy variable indicating the date since all committee members were aware that the FOMC meetings have been tape recorded; equals 1 from 1993M11 thru 2008M12 and 0 otherwise	FOMC voting *minutes* (November, 16 1993)
Greenspan dummy	Dummy variable; equals 1 if FOMC chairman is Alan Greenspan, 0 otherwise; reference category is the chairmanship of Ben Bernanke	
Voter dummy	Dummy variable; equals 1 if committee member has voting status; 0 otherwise	
Dissent history	Number of dissents a member has cast up to meeting t	
Dissent dummy	Dummy variable; equals 1 if committee member casts a dissent at meeting t; 0 otherwise	
	Individual characteristics	
Committee experience	Number of FOMC meetings a member has participated throughout his/her career	Own calculations
Age	Age of FOMC member (monthly recorded)	Own calculations
Career in Academia, Government, Industry, Finance, NGO, Board of Governors, Federal Reserve Bank	Number of years FOMC member has worked in a full time position in the respective sector before becoming Federal Reserve Bank president or Board member	Own calculations