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**Disagreement, Regional Representation,
and Federal Reserve Transcript Publication**

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Central Bank Independence and Transparency: Evolution and Effectiveness

This manuscript is not under review elsewhere and will not be submitted to another publication while under review at Contemporary Economic Policy.

Abstract

This short paper looks at disagreement within the Federal Reserve's monetary policy committee, the Federal Open Market Committee or FOMC, following a change in transparency practices taken in 1993 to publish verbatim transcripts of FOMC meetings. Other literature has examined the effects of opening the FOMC's deliberations to public view, and provided empirical evidence that the publication of transcripts made policymakers less willing to voice disagreement with the chair-man's policy proposal. This paper adds to that work by examining whether regional variables are important to the analysis and whether the transcription effects change when regional variables are included in the estimation. The results suggest that regional effects, as represented by the voting share of each Federal Reserve district, are important in explaining disagreements voiced during FOMC deliberations and do not diminish transcription effects.

Key words: Central banking, Monetary policy, Transparency

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1 Introduction

This short paper looks at disagreement within the Federal Reserve's monetary policy committee, the Federal Open Market Committee or FOMC, following a change in transparency practices taken in 1993 to publish verbatim transcripts of FOMC meetings. The paper extends the recent work of Meade and Stasavage (2008 forthcoming) by looking at whether disagreement during FOMC deliberations before and after the change in transparency practices provides evidence of regional heterogeneity.

The structure of the Fed's FOMC is well-known: the 12-member committee is composed of the seven Board members on the Board of Governors in Washington DC and five of the presidents from the twelve Federal Reserve Banks (for additional detail, see *Purposes and Functions* (2005)). While the seven Board members and the president of the Federal Reserve Bank of New York vote at every FOMC meeting, the other four voting presidents are determined according to a legislated annual rotation.¹ All nineteen officials, whether voting or not, participate in the policy deliberations at each meeting.

Each FOMC member has some, at least nominal, affiliation with one of the twelve Federal Reserve regions that were established at the time the Fed was founded. The Bank presidents are appointed to their positions by the Bank's board of directors (made up of representatives from local commercial banks and the public). Each Board member also has some affiliation with one of the districts and the law stipulates that no two Board members can come from the same district.

A number of authors have looked at a possible regional dimension to the FOMC's voting patterns. The early literature on this issue was concerned mainly with the differences between the votes of Board members and Bank presidents, and ignored the regional affiliations of the former (Belden (1989), Havrilesky and Schweitzer (1990), and Gildea (1990, 1992) are examples of this work). More recent literature by Meade and Sheets (2005) and Chappell, McGregor, and Vermilyea (2005) has provided statistical evidence that regional economic information (as measured by a regional unemployment rate) affects the votes cast by FOMC officials and the policy preferences they voice during meeting deliberations. These recent studies tell us that regional effects are important

¹A 1942 amendment to the Federal Reserve Act specifies that one vote is shared by the following districts: Chicago and Cleveland; Boston, Philadelphia, and Richmond; Atlanta, Dallas, and St. Louis; Kansas City, Minneapolis, and San Francisco.

not only for Bank presidents, but for Board members as well.

In this paper, I look at the policy preferences voiced during FOMC deliberations before and after 1993 to see whether there is a regional element to the transparency effect found by Meade and Stasavage (forthcoming 2008). Before 1993, the FOMC published individual votes of committee members as well as summary minutes of meetings, but it did not publish full transcripts that would allow outside observers to determine exactly what individual committee members said about their policy preferences. Under pressure from the US Congress during the fall of 1993 to increase the transparency of the monetary policy process, the FOMC agreed to release lightly-edited transcripts of each meeting after a five-year delay. While many officials knew at the time they agreed to release the transcripts that FOMC meetings were tape-recorded, most thought the recordings were used to prepare meeting minutes and then destroyed. Thus, because transcripts exist from a time when meeting participants did not know that their deliberations would be made public, it is possible to compare the meeting discussions of policymakers before 1993, when they believed that their remarks were private, and after 1993, when they knew that all statements would eventually be made public.

Geraats (2002) identifies two possible effects of increased monetary policy transparency: a reduction or elimination of information asymmetries between the central bank and the public, and an incentive for policymakers to behave strategically. The incentive effect can arise when policymakers have both a public and private objective – for instance, a desire to make the “correct” policy decision as well as obtain re-appointment or enhance future job prospects (Ottaviani and Sorensen (2001) model this incentive effect for a committee that deliberates in public). While an increase in transparency can raise welfare by reducing the information asymmetry, strategic behavior could potentially offset the welfare gain if policymakers withhold information during their deliberations in order to enhance their reputations. Gersbach and Hahn (2004, 2005, 2006) model the effects of publishing monetary policy votes and show that the net effect of increased transparency depends on whether the public objective of the voter is sufficiently strong relative to his or her private objective. Meade and Stasavage (2008 forthcoming) model the effects of opening the FOMC’s deliberations to public view, and provide empirical evidence to support the hypothesis that the publication of transcripts made policymakers less willing to voice disagreement with the chairman’s policy pro-

posal. This paper adds to their work by examining whether regional variables are important to the analysis and whether the transcription effects change when regional variables are included in the estimation.

The next section reviews the size of the twelve Federal Reserve regions and their voting patterns. Section 3 sets up the estimation equation and discusses the empirical results. Section 4 concludes.

2 Regional Representation on the FOMC

Table 1 examines how FOMC votes have lined up with Federal Reserve regions over the 1968-2004 period taking into account the regional affiliations of both Board members and Bank presidents. The New York district has had by far the largest voting share, with an average 1.93 votes at each FOMC meeting, for a total of 733 votes. The New York Fed president or his representative cast a vote at all of the meetings and a Board member affiliated with the New York region voted 93 percent of the time. Furthermore, this voting share probably understates the influence of the New York district in the formulation of monetary policy because three of the Fed chairmen during this period (William Martin, Arthur Burns, and Alan Greenspan) were appointed from the New York district. After New York, the regions can be separated into three groups: Chicago and Richmond have each cast about $1\frac{1}{4}$ votes at FOMC meetings; Boston, Kansas City, Dallas, Philadelphia, and San Francisco have cast roughly one vote per meeting; St. Louis, Atlanta, Cleveland, and Minneapolis have had the least voting power, casting only about $\frac{1}{2}$ vote per meeting.

The data demonstrate that the Fed regions are unequal in terms of voting shares, which is to be expected since the regions themselves differ in size. Table 2 looks at region size in terms of financial assets, population, and output. Total assets on the balance sheet of each Federal Reserve Bank provides an imperfect but rough gauge of the financial size of each region. In 2006, New York was by far the largest region (\$318 billion or more than one-third of total Reserve Bank assets), followed by San Francisco (11 percent of the total). Six of the twelve regions – Boston, Cleveland, Dallas, Kansas City, Minneapolis, and Philadelphia – were quite small, each accounting for less than five percent of the total.

Rankings by region population and real output provide a somewhat different perspective on size.

The former is computed by summing the population of all the counties in a Federal Reserve district and is thus precise; the latter is estimated by applying the share of a state's population to state-level output data for the fourteen US states that are assigned to more than one Federal Reserve district. Regions are ranked by population and output in 1990, which roughly corresponds to the middle of the voting sample. According to the population and output measures, San Francisco is the largest region, followed either by Atlanta or New York, depending on whether size is evaluated by population or output, respectively. It is worth noting that the San Francisco region accounts for about 20 percent of total population and output, while New York and Atlanta are about half as large.

Votes are generally not well aligned with region size regardless of the size measure used. The most egregious mis-alignment is for the San Francisco district, which ranks second for assets, first for population and output, but eighth for voting frequency. Atlanta is also clearly underweight with a voting rank of tenth. At the other extreme, the Boston and Kansas City districts have cast more votes than would be justified by any measure of their size.

Finally, table 2 gives an estimate of GDP per capita in 1990 for each Fed region based upon the population and output figures. The range of per capita income is relatively narrow – from a high of almost \$30,000 in the New York region to a low of about \$20,000 in the St. Louis district. This contrasts sharply with the very wide range of per capita income across members in Europe's monetary union, which is even wider when the prospective member countries in central and eastern Europe are taken into account.

FOMC participants dissent in the formal vote only very infrequently, and the frequency of dissent has dropped since the mid-1990s (table 3).² Of the 4067 votes cast by participants other than the chairman in FOMC meetings and conference calls between 1968 and 2004, only 6.9 percent (282 votes) were dissents. Board members dissent less frequently than Bank presidents (6 and 8 percent, respectively), an empirical regularity noted in other studies that survives regardless of the time period examined. However, the magnitude of the difference in dissent rates depends upon the sample period, as the early 1980s was a time of relatively high dissent for Board members.³

²For a discussion of possible explanations for the low dissent rate, including the structure of the FOMC and the power of its chairman, see Blinder (1998, 2004).

³If the 1978-2004 period is used instead, then the dissent rate for Board members rises to 8 percent, compared with 8.2 percent for Bank presidents.

The lower part of table 3 dissects the dissenting votes cast between 1978 and 2004 into those favoring a tighter stance and those favoring a looser stance than specified in the FOMC's monetary policy directive. Two-thirds of all dissents favored a more restrictive monetary policy, indicating that dissenters were twice as likely to be hawks as doves. The Bank presidents were the real hawks on the FOMC – another well-recognized empirical regularity – casting 87 of 102 dissents for tighter policy. Furthermore, Bank presidents' dissents were not distributed evenly across Federal Reserve districts (table 4): Cleveland and Richmond cast 36 of the 87 tightening dissents, while St. Louis and Minneapolis added another 22. Board members were more evenly split with respect to their dissents for tighter or easier policy, but these dissents were also highly concentrated: the Boston district accounted for 31 of 50 tightening dissents (and no easing dissents), while the Chicago district accounted for 31 of 54 easing dissents (and no tightening dissents). This surprising pattern cannot be explained by a single policymaker from each district, because over the period of the data sample, Boston and Chicago were the home district for three and four, respectively, of the Board's members.⁴

Direct examination of the FOMC's deliberations offers another perspective on the group's decisionmaking. Blinder (2004) has characterized the Fed's policymaking body as an "autocratically collegial" committee, implying that the autocrat who heads the committee may act to suppress dissent from public view. Furthermore, Blinder and several co-authors have noted that "... Fed traditions dictate that a member should 'dissent' only if they find the majority's (that is, the chairman's) opinion unacceptable."⁵ This observation suggests that the official dissent rates in table 3 overstate the degree of consensus within the FOMC. It is possible to gain some insight into this apparent consensus by comparing dissenting votes with disagreements voiced by meeting participants during the discussion of Greenspan's policy proposal.⁶ As table 5 shows, the rate of disagreement with Greenspan's interest rate proposal was nearly 15 percent in the 72 meetings between 1989 and

⁴The tightening dissents were cast by Henry Wallich and John LaWare (appointed from the Boston district), and the easing dissents were cast by Nancy Teeters and Martha Seger (appointed from the Chicago district).

⁵See Blinder, Goodhart, Hildebrand, Lipton, and Wyplosz (2001), p. 39.

⁶Data on voiced preferences (agreements and disagreements) are pieced together from the FOMC transcripts; see Meade (2005). Greenspan spoke first and put a policy proposal on the table during FOMC discussions of monetary policy. He then called on other policymakers (in no fixed order) to speak. The official vote was recorded at the end of the discussions, with Greenspan casting his vote first. Meyer (2004) provides additional detail on the structure of FOMC meetings.

1997,⁷ compared with a 7.5 percent dissent rate in the official vote. Furthermore, while both Board members and Bank presidents dissent more in the discussion than they do in the official vote, it is the Bank presidents who are much more likely to voice disagreement during the deliberations. Voiced disagreements were the highest for the Kansas City, Richmond, and St. Louis, each with about 15 percent of total disagreements. Four other districts – Boston, Chicago, Cleveland, and San Francisco – each accounted for slightly less than 10 percent of disagreements. Not surprisingly, the New York district voiced practically no disagreements with Greenspan’s policy proposal, which is consistent with the fact that Greenspan himself was appointed from the New York district and the Bank president from New York serves as the vice chairman of the FOMC and typically shows strong support for the chairman.

3 Estimation Equation and Empirical Results

The disagreements voiced by FOMC policymakers declined after the FOMC decided to begin publishing lightly-edited transcripts of its meetings. The data in table 6 demonstrate this, and show that the decline in voiced disagreement was particularly pronounced for policymakers who cast an official vote. The theoretical model of Meade and Stasavage (2008 forthcoming) predicts that once policymakers knew that their deliberations would eventually become public, they might have an incentive to suppress their private information and go along with the consensus.

When the disagreements voiced by FOMC policymakers are examined by Federal Reserve district (table 6), they exhibit no obvious systematic regional pattern. In six of the districts, voiced disagreements rose after 1993, while in the other six districts, voiced disagreements fell. Because Federal Reserve districts differ in size and voting power, the incentive to voice disagreement may vary.

In my empirical analysis, I examine the policy preferences voiced in FOMC meetings between 1989 and 1997 for evidence of an effect from known transcription of meetings and from regional variation. This extends the findings of Meade and Stasavage (2008 forthcoming) who focus solely on the former. Throughout the empirical analysis, I exclude observations for all of the 1993 meetings.

⁷Figures in table 6 include views voiced by voting and non-voting Bank presidents. Non-voting Bank presidents disagree more often than voting ones do (19.3 percent and 15.2 percent, respectively).

FOMC participants found out at different times during that year that the literal transcriptions existed and thus may have determined at different points during 1993 that their comments would eventually become public. From reading the transcripts of 1993 meetings and conference calls, it is possible to conclude that Greenspan knew about the existence of the staff's transcriptions as early as the end of 1992, other officials found out somewhat later, and some did not know until the Congressional hearings in October 1993. Therefore, the data sample includes a pre-transcript period of 1989 through 1992 and a post-transcript period of 1994 to 1997, a total of 64 FOMC meetings.

The empirical model tested has the following general form:

$$VDISS_{it} = \alpha_0 + \alpha_1 TRANSCRIPT_t + \mathbf{C}_i \boldsymbol{\beta} + \mathbf{X}_t \boldsymbol{\delta} + \alpha_2 districtproxy_{it} + \varepsilon_{it}$$

where the dependent variable VDISS is a binomial indicator set equal to 0 in the case of voiced agreement and 1 in the case of disagreement with Greenspan's policy proposal for every FOMC participant at each meeting in the estimation sample period. The explanatory variables include a transcription dummy equal to unity after 1993 (*TRANSCRIPT*), variables that capture policymaker characteristics (**C**), variables that control for macroeconomic conditions (**X**), and a regional variable that represents different Federal Reserve districts (*districtproxy*).

There are five characteristic variables in each equation estimated: a dummy for voting Bank presidents (*BPVOTER*), a dummy for non-voting Bank presidents (*NonVOTER*), and interaction terms between *TRANSCRIPT* and these dummy variables (*Trans*BPVOTER*, *Trans*NonVOTER*).⁸ The final characteristic variable (*EXPdiff*), measured as the number of months on the FOMC relative to Greenspan, is intended to proxy for the rise in Greenspan's reputation in order to control for any effect this may have had on the willingness of other policymakers to disagree with him. Each estimated equation also includes three macroeconomic variables: the absolute value of real-time forecasts for consumer price inflation and the output gap (*CPI* and *GAP*, respectively) based upon the Fed staff's Greenbook projections, and the Greenbook forecast error for productivity growth (*PROD*) which measures uncertainty about the economic situation.

⁸The omitted category is Board members. There is some variation across time in the Bank president voter and non-voter categories, since the vote rotates annually.

Table 7 presents estimation results for a baseline equation that excludes a district proxy and for four additional equations with alternative district proxies. In equations (1) through (3), an additional explanatory variable – the district proxy – is included. These are the average vote per FOMC meeting over the 1968-2004 period (*VOTE*, from table 1), the ranking of each district in terms of real GDP in 1990 (*SIZE*, from table 2), and the difference between the district unemployment rate and the national unemployment rate in the month prior to each FOMC meeting (*UNDIFF*), respectively.⁹ In equation (4), there is no district proxy but estimation includes district-level fixed effects.

The parameter estimates are quite similar across all of the specifications (the baseline and the four alternative equations). The transcription dummy is consistently negative and statistically significant, pointing to an effect of known transcription even after other factors, including economic conditions, are taken into account. The variable intended to proxy for macroeconomic uncertainty, *PROD*, is also significant and indicates greater voiced agreement with Greenspan's proposal as uncertainty rises. The real-time forecasts for inflation and the output gap are not significant, and neither is the proxy for Greenspan's reputation.

Of the district proxies, only one of the variables – the voting share in equation (1) – is statistically significant. The negative parameter estimate for this variable points to lower voiced disagreement from officials in Federal Reserve districts with a larger voting share. This is not unexpected given the large share of the New York district, the high likelihood that the New York Bank president voices agreement with the policy proposal, and the fact that a high voting share generally implies a greater number of Board member appointments and, as discussed earlier, Board members tend to voice disagreement less often than Bank presidents do. The alternative district variables, *SIZE* and *UNDIFF*, are not simple substitutes for the voting share but are in fact very different measures. When equation (1) is re-estimated with *SIZE* and *UNDIFF* included as additional independent variables, the parameter estimates are virtually identical to those reported for equation (1) and *SIZE* and *UNDIFF* are statistically insignificant. The inclusion of fixed effects in equation (4) are strongly supported by a likelihood ratio test. Thus, the estimation results for two of the four specifications estimated provide evidence for regional effects on the pattern of disagreements voiced

⁹This variable is used in Meade and Sheets (2005a).

during FOMC deliberations but do not diminish the importance of the transcription effect found by Meade and Stasavage.

Table 8 reports the estimated probability of disagreement with Greenspan’s proposal by Federal Reserve region for each category of meeting participant based upon the marginal effects from equation (1).¹⁰ The probabilities suggest a similar pattern across all of the districts in that voiced disagreement is predicted to fall after 1993 for both Board members and Bank presidents who cast an official vote, but to rise after 1993 for Bank presidents who do not vote at the meeting. Districts with larger historical voting shares generally have lower rates of disagreement both before and after 1993 than do districts with lower voting shares.

4 Conclusion

This paper expands the work on transcription and FOMC deliberations to consider the possibility of a regional dimension to disagreements voiced at FOMC meetings before and after 1993. The results in this paper align with those of Meade and Stasavage (2008 forthcoming) in terms providing empirical support for transcription effects and also provide some evidence of regional effects as proxied by the district voting share or logit estimation with district fixed effects. Predicted probabilities of disagreement for different categories of FOMC meeting participant do vary across regions, although the extent of variation is small. The paper adds to a small but growing literature on the regional aspect of Federal Reserve deliberation and debate. A remaining question perhaps worthy of additional study is why disagreements voiced by non-voting policymakers rise, rather than fall, after 1993. The different behavior of disagreements for voting and non-voting policymakers suggests that the two groups face different incentives during meeting discussions.

¹⁰The estimated probabilities for the groups in each district before and after 1993 was calculated by setting the relevant dummy variables equal to 0 or 1, *VOTE* equal to its value for the particular district, and other variables equal to their mean values.

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