

# Supplemental Appendix

## Regional Dissent: Do Local Economic Conditions Influence FOMC Votes?

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### A Additional Figures and Tables

Table A.1: District Dissents for Tighter Policy

| Meeting   | District | President | District $u$ | District $\pi$ | National $u$ | National $\pi$ | Follows Hyp. |
|-----------|----------|-----------|--------------|----------------|--------------|----------------|--------------|
| 07feb1990 | 4        | Hoskins   | 6.54         | 2.76           | 5.92         | 4.30           | 0            |
| 07feb1990 | 11       | Boykin    | 6.69         | 3.26           | 5.92         | 4.30           | 0            |
| 27mar1990 | 4        | Hoskins   | 6.01         | 2.76           | 5.56         | 4.30           | 0            |
| 27mar1990 | 11       | Boykin    | 6.20         | 3.26           | 5.56         | 4.30           | 0            |
| 15may1990 | 4        | Hoskins   | 5.50         | 3.90           | 5.25         | 4.27           | 0            |
| 02oct1990 | 4        | Hoskins   | 5.37         | 4.65           | 5.55         | 4.52           | 1            |
| 02oct1990 | 11       | Boykin    | 5.97         | 3.76           | 5.55         | 4.52           | 0            |
| 22mar1994 | 4        | Jordan    | 7.13         | 2.87           | 6.91         | 3.21           | 0            |
| 22mar1994 | 5        | Broaddus  | 5.80         | 4.09           | 6.91         | 3.21           | 1            |
| 06jul1994 | 5        | Broaddus  | 5.39         | 2.96           | 6.30         | 2.72           | 1            |
| 27sep1994 | 5        | Broaddus  | 4.90         | 2.96           | 5.70         | 2.72           | 1            |
| 06jul1995 | 10       | Hoenig    | 4.49         | 3.47           | 5.94         | 3.04           | 1            |
| 03jul1996 | 9        | Stern     | 3.82         | 2.70           | 5.72         | 2.77           | 1            |
| 20aug1996 | 9        | Stern     | 3.45         | 2.70           | 5.17         | 2.77           | 1            |
| 24sep1996 | 9        | Stern     | 3.38         | 2.70           | 5.07         | 2.77           | 1            |
| 20may1997 | 5        | Broaddus  | 4.29         | 2.30           | 4.79         | 2.76           | 1            |
| 12nov1997 | 5        | Broaddus  | 3.70         | 1.49           | 4.40         | 1.92           | 1            |
| 16dec1997 | 5        | Broaddus  | 3.65         | 1.49           | 4.43         | 1.92           | 1            |
| 31mar1998 | 4        | Jordan    | 5.09         | 1.98           | 5.05         | 1.65           | 0            |
| 19may1998 | 4        | Jordan    | 4.10         | 1.52           | 4.28         | 1.63           | 1            |
| 19may1998 | 8        | Poole     | 4.50         | 2.14           | 4.28         | 1.63           | 0            |
| 01jul1998 | 4        | Jordan    | 4.60         | 2.02           | 4.82         | 1.60           | 1            |
| 18aug1998 | 4        | Jordan    | 4.19         | 2.02           | 4.54         | 1.60           | 1            |
| 17nov1998 | 4        | Jordan    | 4.19         | 2.10           | 4.21         | 1.64           | 1            |
| 15may2001 | 10       | Hoenig    | 3.37         | 5.32           | 4.19         | 4.14           | 1            |
| 27jun2001 | 8        | Poole     | 4.97         | 3.28           | 4.77         | 4.14           | 0            |
| 11dec2001 | 10       | Hoenig    | 4.61         | 4.42           | 5.44         | 3.18           | 1            |
| 08aug2006 | 5        | Lacker    | 4.95         | 3.65           | 4.74         | 3.84           | 0            |
| 20sep2006 | 5        | Lacker    | 4.56         | 3.65           | 4.46         | 3.84           | 0            |
| 25oct2006 | 5        | Lacker    | 4.36         | 2.28           | 4.17         | 2.61           | 0            |
| 12dec2006 | 5        | Lacker    | 4.37         | 2.28           | 4.31         | 2.61           | 0            |
| 31oct2007 | 10       | Hoenig    | 3.70         | 2.49           | 4.50         | 3.29           | 1            |
| 30jan2008 | 11       | Fisher    | 4.67         | 4.55           | 5.43         | 3.59           | 1            |
| 18mar2008 | 3        | Plosser   | 5.15         | 4.59           | 5.28         | 3.59           | 1            |
| 18mar2008 | 11       | Fisher    | 4.34         | 4.55           | 5.28         | 3.59           | 1            |
| 30apr2008 | 3        | Plosser   | 4.59         | 5.23           | 4.83         | 4.39           | 1            |
| 30apr2008 | 11       | Fisher    | 3.93         | 5.79           | 4.83         | 4.39           | 1            |
| 25jun2008 | 11       | Fisher    | 5.02         | 5.79           | 5.79         | 4.39           | 1            |
| 05aug2008 | 11       | Fisher    | 5.27         | 5.65           | 6.16         | 4.83           | 1            |
| 27jan2010 | 10       | Hoenig    | 8.26         | 2.24           | 10.60        | 2.24           | 1            |
| 16mar2010 | 10       | Hoenig    | 8.06         | 2.24           | 10.25        | 2.24           | 1            |
| 28apr2010 | 10       | Hoenig    | 7.47         | 3.35           | 9.55         | 3.49           | 1            |

**Table A.1:** District Dissents for Tighter Policy, Continued.

| Meeting   | District | President    | District $u$ | District $\pi$ | National $u$ | National $\pi$ | Follows Hyp. |
|-----------|----------|--------------|--------------|----------------|--------------|----------------|--------------|
| 23jun2010 | 10       | Hoening      | 7.69         | 3.35           | 9.68         | 3.49           | 1            |
| 10aug2010 | 10       | Hoening      | 7.57         | 3.08           | 9.60         | 3.41           | 1            |
| 21sep2010 | 10       | Hoening      | 7.25         | 3.08           | 9.25         | 3.41           | 1            |
| 03nov2010 | 10       | Hoening      | 7.50         | 2.40           | 9.35         | 2.95           | 1            |
| 14dec2010 | 10       | Hoening      | 7.31         | 2.40           | 9.19         | 2.95           | 1            |
| 09aug2011 | 9        | Kocherlakota | 6.00         | 2.12           | 9.14         | 3.42           | 1            |
| 21sep2011 | 3        | Plosser      | 8.25         | 3.25           | 8.84         | 3.42           | 1            |
| 21sep2011 | 9        | Kocherlakota | 5.57         | 2.12           | 8.84         | 3.42           | 1            |
| 21sep2011 | 11       | Fisher       | 8.11         | 3.96           | 8.84         | 3.42           | 1            |
| 20jun2012 | 5        | Lacker       | 8.13         | 1.80           | 8.47         | 2.48           | 1            |
| 13sep2012 | 5        | Lacker       | 7.35         | 1.30           | 7.62         | 1.92           | 1            |
| 24oct2012 | 5        | Lacker       | 7.39         | 1.46           | 7.59         | 2.04           | 1            |
| 12dec2012 | 5        | Lacker       | 7.46         | 1.46           | 7.69         | 2.04           | 1            |
| 30jan2013 | 10       | George       | 6.62         | 2.96           | 8.56         | 2.49           | 1            |
| 20mar2013 | 10       | George       | 5.95         | 2.96           | 7.69         | 2.49           | 1            |
| 01may2013 | 10       | George       | 5.75         | 3.23           | 7.30         | 2.29           | 1            |
| 19jun2013 | 10       | George       | 6.22         | 3.23           | 7.84         | 2.29           | 1            |
| 31jul2013 | 10       | George       | 6.11         | 3.44           | 7.74         | 2.26           | 1            |
| 18sep2013 | 10       | George       | 5.43         | 3.44           | 7.06         | 2.26           | 1            |
| 30oct2013 | 10       | George       | 5.45         | 3.81           | 7.01         | 2.00           | 1            |
| 17sep2015 | 5        | Lacker       | 4.89         | 0.62           | 4.92         | 1.31           | 1            |
| 28oct2015 | 5        | Lacker       | 4.90         | 2.20           | 4.90         | 1.79           | 0            |
| 16mar2016 | 10       | George       | 4.18         | 0.90           | 5.16         | 2.07           | 1            |
| 27apr2016 | 10       | George       | 3.92         | 0.85           | 4.72         | 2.38           | 1            |
| 27jul2016 | 10       | George       | 4.43         | 1.64           | 5.19         | 2.35           | 1            |
| 21sep2016 | 1        | Rosengren    | 3.86         | 3.03           | 4.85         | 2.35           | 1            |
| 21sep2016 | 4        | Mester       | 5.14         | 0.72           | 4.85         | 2.35           | 0            |
| 21sep2016 | 10       | George       | 3.90         | 1.64           | 4.85         | 2.35           | 1            |
| 02nov2016 | 4        | Mester       | 4.77         | 0.90           | 4.48         | 2.49           | 0            |
| 02nov2016 | 10       | George       | 3.59         | 2.55           | 4.48         | 2.49           | 1            |

**Notes:** This table contains the full list of dissents for tighter policy (dissent =  $-1$ ) in scheduled FOMC meetings between 1990 and 2017. We include the date of the meeting, the number of the dissenting district (see Figure 1 for the mapping between the district names and their numbers), the last name of the dissenting district president, the regional unemployment rate and inflation in the dissenting district, the national unemployment rate and inflation, and an indicator that takes the value of one if district unemployment was lower than the national average (“Follows Hyp.”). This indicator proxies for whether the dissent in question “agrees with our hypothesis”, in the sense that dissents for tighter policy are accompanied by a regional unemployment rate that is lower than the national one (notice that here we are not controlling for inflation in any way, which can generate “false positives” or “false negatives”). District inflation is measured as non-tradable inflation from [Hazell et al. \(2022\)](#), as described in the main body of our paper. National unemployment and inflation are an aggregation of the corresponding district variables to the U.S. level (where the aggregation is done with the same procedure, described in the main body of the paper, used to aggregate from counties, or states, to the district level). In the case of unemployment, our constructed aggregate corresponds almost identically to what one could download from FRED as the non-seasonally-adjusted U.S. unemployment rate (the correlation between the two series is over 99.9%). In the case of inflation, our constructed aggregate measure does not identically correspond with U.S. CPI inflation, because our measure focuses on non-tradable inflation (and other reasons described in [Hazell et al., 2022](#)). Nevertheless, the correlation between our constructed U.S. aggregate of non-tradable inflation and actual U.S. CPI inflation is above 78%.

**Table A.2:** District Dissents for Looser Policy

| Meeting   | District | President    | District $u$ | District $\pi$ | National $u$ | National $\pi$ | Follows Hyp. |
|-----------|----------|--------------|--------------|----------------|--------------|----------------|--------------|
| 06oct1992 | 4        | Jordan       | 6.75         | 3.19           | 6.97         | 3.04           | 0            |
| 17nov1992 | 4        | Jordan       | 6.96         | 3.19           | 7.16         | 3.04           | 0            |
| 30jun1999 | 11       | McTeer       | 5.25         | 1.23           | 4.50         | 1.84           | 1            |
| 24aug1999 | 11       | McTeer       | 4.84         | 2.41           | 4.23         | 2.40           | 1            |
| 24sep2002 | 11       | McTeer       | 6.24         | 0.61           | 5.44         | 2.61           | 1            |
| 25jun2003 | 12       | Parry        | 7.10         | 3.01           | 6.57         | 3.66           | 1            |
| 11dec2007 | 1        | Rosengren    | 4.39         | 2.18           | 4.85         | 3.29           | 0            |
| 02nov2011 | 7        | Evans        | 8.19         | 2.71           | 8.27         | 3.37           | 0            |
| 13dec2011 | 7        | Evans        | 8.35         | 2.71           | 8.32         | 3.37           | 1            |
| 19jun2013 | 8        | Bullard      | 8.14         | 1.67           | 7.84         | 2.29           | 1            |
| 18dec2013 | 1        | Rosengren    | 6.07         | 2.96           | 6.53         | 2.01           | 0            |
| 29oct2014 | 9        | Kocherlakota | 3.35         | 1.43           | 5.60         | 2.38           | 0            |
| 17dec2014 | 9        | Kocherlakota | 3.99         | 1.43           | 5.40         | 2.38           | 0            |
| 15mar2017 | 9        | Kashkari     | 4.19         | 2.07           | 4.60         | 2.83           | 0            |
| 14jun2017 | 9        | Kashkari     | 3.58         | 1.88           | 4.53         | 2.58           | 0            |
| 13dec2017 | 7        | Evans        | 3.79         | 1.14           | 3.97         | 2.28           | 0            |
| 13dec2017 | 9        | Kashkari     | 3.46         | 1.16           | 3.97         | 2.28           | 0            |

**Notes:** This table contains the full list of dissents for looser policy (dissent = 1) in scheduled FOMC meetings between 1990 and 2017. We include the date of the meeting, the number of the dissenting district (see Figure 1 for the mapping between the district names and their numbers), the last name of the dissenting district president, the regional unemployment rate and inflation in the dissenting district, the national unemployment rate and inflation, and an indicator that takes the value of one if district unemployment was higher than the national average (“Follows Hyp.”). This indicator proxies for whether the dissent in question “agrees with our hypothesis”, in the sense that dissents for looser policy are accompanied by regional unemployment rate that is higher than the national one (notice that here we are not controlling for inflation in any way, which can generate “false positives” or “false negatives”). District inflation is measured as non-tradable inflation from [Hazell et al. \(2022\)](#), as described in the main body of our paper. National unemployment and inflation are an aggregation of the corresponding district variables to the U.S. level (where the aggregation is done with the same procedure, described in the main body of the paper, used to aggregate from counties, or states, to the district level). In the case of unemployment, our constructed aggregate corresponds almost identically to what one could download from FRED as the non-seasonally-adjusted U.S. unemployment rate (the correlation between the two series is over 99.9%). In the case of inflation, our constructed aggregate measure does not identically correspond with U.S. CPI inflation, because our measure focuses on non-tradable inflation (and other reasons described in [Hazell et al., 2022](#)). Nevertheless, the correlation between our constructed U.S. aggregate of non-tradable inflation and actual U.S. CPI inflation is above 78%.

**Table A.3:** Share of District Dissents for Tighter and for Looser “Following Hypothesis”

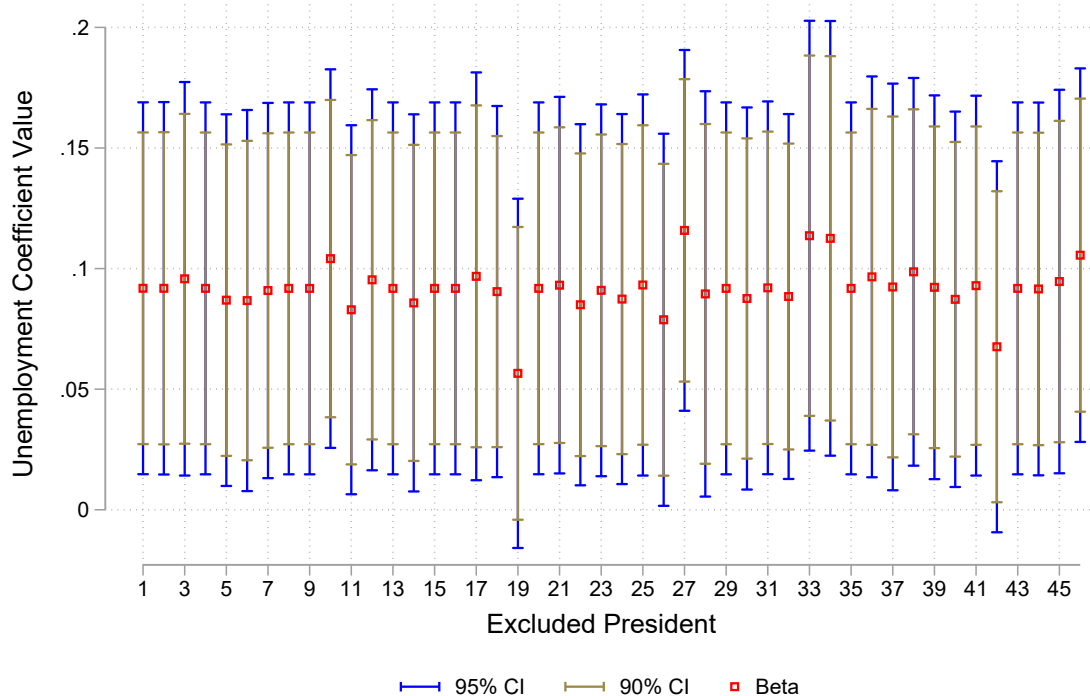
| Dissent Type | Raw Data | FWL    |
|--------------|----------|--------|
| Tighter      | 76.39%   | 64.29% |
| Looser       | 35.29%   | 63.16% |

**Notes:** This table contains the shares of dissents for tighter and for looser policy that go in the direction “expected by our hypothesis”, in the sense that dissents for tighter policy are accompanied by district unemployment that is lower than the national level and dissents for looser policy are accompanied by district unemployment that is higher than the national level. While we do not necessarily expect these numbers to be close to 100% (because we do not claim that local economic conditions are the **only** thing driving FOMC dissents by district presidents), we expect these numbers to be above 50%. The column labelled “Raw Data” displays the agreements with our hypothesis in the raw, unaltered, data, in the sense that we do not control for any other variables (like inflation or any fixed effects). For all dissents for tighter (looser) policy, we simply report the share of them where, in that period, the district of the dissenting president had an unemployment rate lower (higher) than the nation. In the column labeled FWL, instead, we run a Frisch-Waugh-Lovell decomposition based on our baseline specification (column (2) of Table 1), and report the share of observations that agree with our hypothesis. That is, both regional unemployment and the dissent variable are regressed on all independent variables in column (2) of Table 1 except for unemployment, then the residualized unemployment is compared with residualized dissent. We report the share of observations with a positive dissent residual that have a positive unemployment residual (reported as the “Looser” row in the table) and the share of observations with negative dissent residual that have a negative unemployment residual (reported as the “Tighter” row in the table). In three out of the four cases reported in the table, the share of dissents agreeing with our hypothesis is well above 50%. The single exception is the case of dissents for looser policy in the raw data. Nevertheless, the results in the FWL column indicate that, once we control for inflation and president fixed effects through the FWL decomposition, indeed the majority of dissents in favor of looser policy do agree with our hypothesis.

**Table A.4:** Dissent for Looser or Tighter

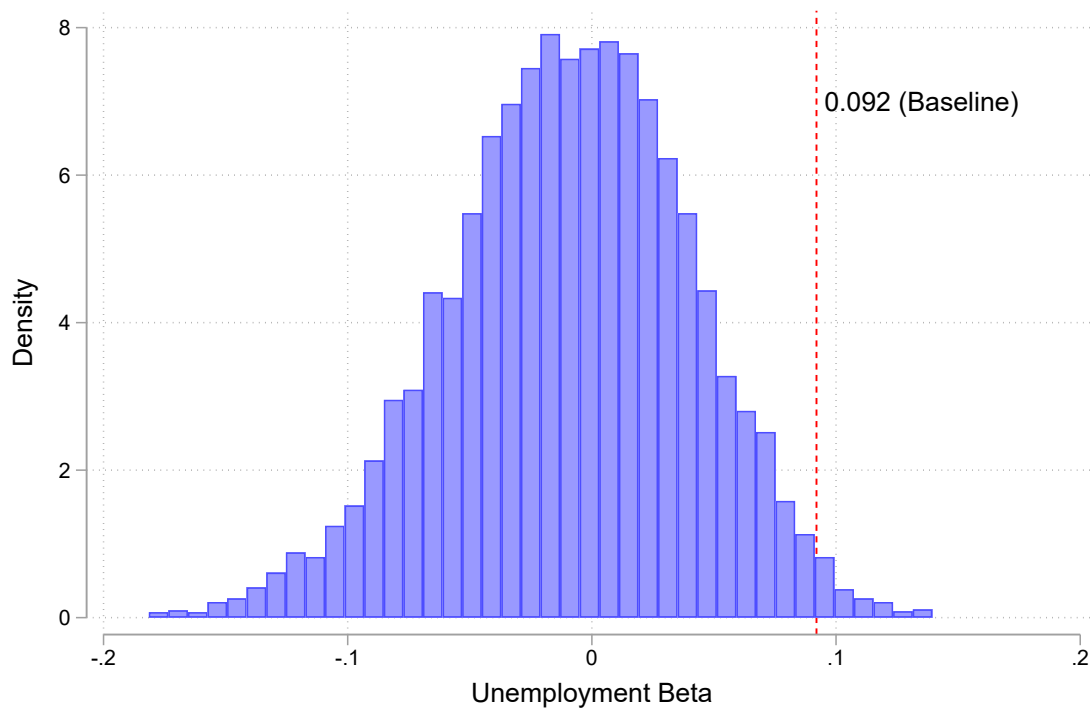
|                  | (1)               | (2)               |
|------------------|-------------------|-------------------|
|                  | Looser Dissent    | Tighter Dissent   |
| <b>Const.</b>    | -0.065<br>(0.112) | 0.336<br>(0.228)  |
| <b>Unemploy</b>  | 0.022<br>(0.015)  | -0.070<br>(0.036) |
| <b>NT Infla.</b> | -0.015<br>(0.009) | -0.015<br>(0.018) |
| Observations     | 896               | 896               |
| President FE     | YES               | YES               |
| Time FE          | YES               | YES               |
| Unscheduled      | DROP              | DROP              |
| R Squared        | 0.363             | 0.524             |
| Adj. R Squared   | 0.101             | 0.328             |

**Notes:** This table presents the estimation results from regressions similar to the baseline specification in column (2) of Table 1 but using alternative dependent variables. Column (1) uses a binary indicator for dissents in favor of looser policy (those are coded as a one and everything else, both agreements and dissents in favor of tighter policy, are coded as a zero), and column (2) uses a binary indicator for dissents in favor of tighter policy (those are coded as a one and everything else, both agreements and dissents in favor of looser policy, are coded as a zero). Recall that there are 17 dissents in favor of looser policy and 72 dissents in favor of tighter policy. Driscoll-Kraay standard errors are given in parenthesis.



**Figure A.1:** Excluding One President at a Time

**Notes:** This figure plots the estimates and confidence intervals of the specification in column (2) of Table 1 leaving out one district president at a time. All estimated coefficients are positive. Excluding Hoenig (president number 19) results in a p-value of 0.125 and excluding Stern (president number 42) results in a p-value 0.085; all other estimates are significant at the 5% level. Excluding five presidents (10, Evans; 27, Lacker; 33, Minehan; 34, Moskow; and 46, Yellen) brings the unemployment coefficient above 10%.



**Figure A.2: Placebo Test**

**Notes:** This figure plots the density of estimated unemployment coefficients using placebo data. We assign to each district  $i$  a placebo district  $j$  by selecting it at random from other districts (sampling without replacement). We then estimate our baseline specification (column (2) of Table 1) but where the dissent on the left-hand-side corresponds to the actual district  $i$  and the values of the independent variables on the right-hand-side correspond to those of placebo district  $j$ . This is done 10 000 times and the density of the unemployment coefficients is plotted in the figure. Less than 1.5% of our 10 000 placebo samples result in an unemployment coefficient that is larger than our baseline value of 0.092.

**Figure A.3:** Excerpt from FOMC transcript

MR. ANGELL: *That's why I want to have a tilt policy.*

CHAIRMAN GREENSPAN: *Yes, but the point is that if that is in fact the case, the risks are very clear; and one has much more clout per unit of action by moving in advance. I must admit I'm really trying to listen to your argument and I'm having difficulty with it, because there has been a general thrust of policy here which has been extraordinarily successful . . . The markets in this context cannot perceive of a further slight tightening of the targets as being negative. I really can't [see it].*

MR. ANGELL: *Well—*

CHAIRMAN GREENSPAN: *Remember this economy—*

MR. ANGELL: *That's the reason we have a 12-member group—because some people might see it differently.*

CHAIRMAN GREENSPAN: *Well, I think we've conveyed our points. I will take it out on a tennis court and see if—*

VICE CHAIRMAN CORRIGAN: *Well, I feel sorry for that ball!*

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*—Meeting of the Federal Open Market Committee June 29-30, 1988*