Hertie School
of Governance

연세대학교
YONSEI UNIVERSITY

Does Presidential Partisanship Affect Fed Inflation Forecasts?

Christopher Gandrud **Cassandra Grafström**

November 15, 2012

1. Motivation
2. Describing Forecast Errors
3. What Might Explain Forecast Errors?
4. Empirical Tests
5. Conclusions

Working Paper

The working paper is available on SSRN at:

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2105301.

Presidential Partisan Inflation Forecast Bias:

When inflation forecasts are systematically different depending on the partisan identification of the United States president.

Why should we care about presidential partisan inflation forecast bias?

- Clark & Arel-Bundock (2011) find policymakers at the Federal Reserve are not politically indifferent.
- Could be that the information they receive is biased.
- Economists have not considered political preferences when evaluating Fed accuracy.

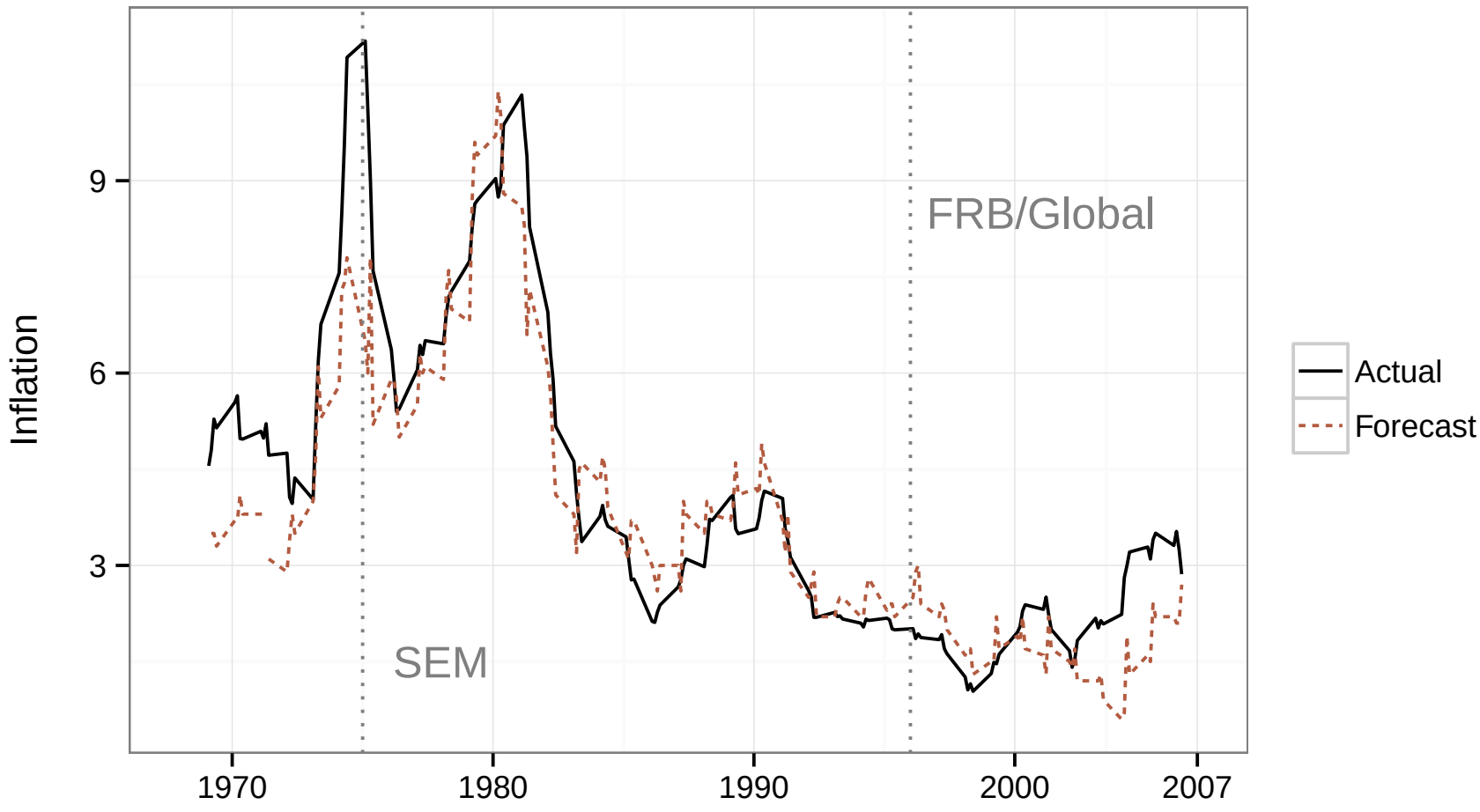
Why should we care about presidential partisan inflation forecast bias?

- Clark & Arel-Bundock (2011) find policymakers at the Federal Reserve are not politically indifferent.
- Could be that the information they receive is biased.
- Economists have not considered political preferences when evaluating Fed accuracy.

Why should we care about presidential partisan inflation forecast bias?

- Clark & Arel-Bundock (2011) find policymakers at the Federal Reserve are not politically indifferent.
- Could be that the information they receive is biased.
- Economists have not considered political preferences when evaluating Fed accuracy.

How accurate are Fed inflation forecasts?


Inflation
9
6
3
1970
1980
1990
2000
2007
SEM
FRB/Global
Actual
Forecast

Forecast Errors

Our **dependent variable**:

$$E_q = \frac{F_q - I_q}{I_q}$$

- $E_q =$ the standardized inflation forecast error for quarter q.
- $F_q =$ Green Book inflation forecast for quarter q. (We use forecasts made *two quarters* prior).
- $I_q =$ actual inflation in quarter q.

Forecast Errors

Our **dependent variable**:

$$E_q = \frac{F_q - I_q}{I_q}$$

- $E_q =$ the standardized inflation forecast error for quarter q.
- $F_q =$ Green Book inflation forecast for quarter q. (We use forecasts made *two quarters* prior).
- $I_q =$ actual inflation in quarter q.

Forecast Errors

Our **dependent variable**:

$$E_q = \frac{F_q - I_q}{I_q}$$

- $E_q =$ the standardized inflation forecast error for quarter q.
- $F_q =$ Green Book inflation forecast for quarter q. (We use forecasts made *two quarters* prior).
- $I_q =$ actual inflation in quarter q.

Forecast Errors

Our **dependent variable**:

$$E_q = \frac{F_q - I_q}{I_q}$$

- $E_q =$ the standardized inflation forecast error for quarter q.
- $F_q =$ Green Book inflation forecast for quarter q. (We use forecasts made *two quarters* prior).
- $I_q =$ actual inflation in quarter q.

Ideally, the mean forecast error is 0.

Consistent errors $\rightarrow$ "wrong" policies.

Traditional understanding of Fed forecasting

- Forecasts produced for every FOMC meeting.
- Product of both econometric models and expert judgments.
- Over long run no bias (e.g., Romer and Romer 2000).
- Periods of over- and under-estimations (Capistrán 2008).
- No research on partisan influence of forecast errors.

Traditional understanding of Fed forecasting

- Forecasts produced for every FOMC meeting.
- Product of both econometric models and expert judgments.
- Over long run no bias (e.g., Romer and Romer 2000).
- Periods of over- and under-estimations (Capistrán 2008).
- No research on partisan influence of forecast errors.

Traditional understanding of Fed forecasting

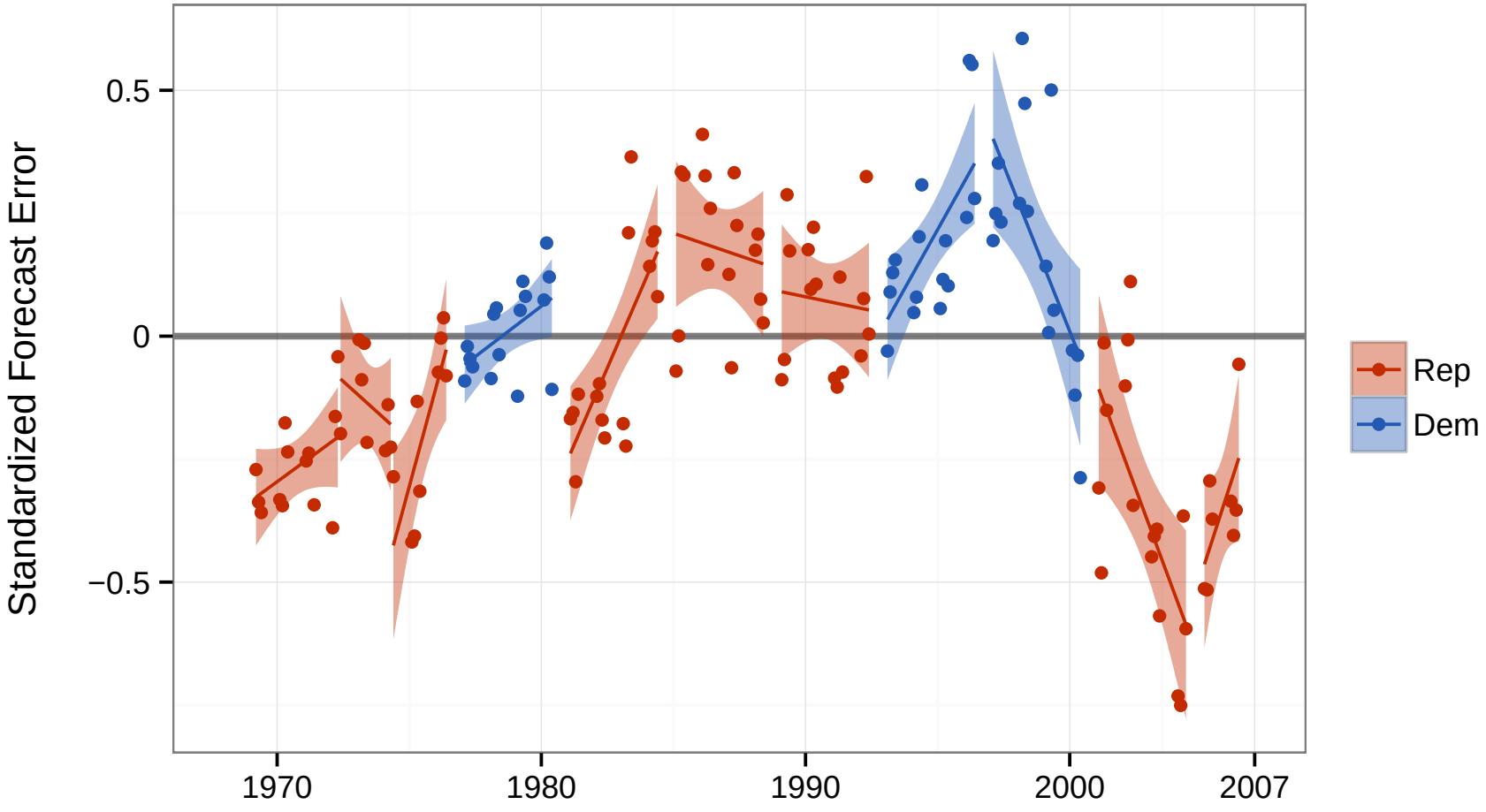
- Forecasts produced for every FOMC meeting.
- Product of both econometric models and expert judgments.
- Over long run no bias (e.g., Romer and Romer 2000).
- Periods of over- and under-estimations (Capistrán 2008).
- No research on partisan influence of forecast errors.

Traditional understanding of Fed forecasting

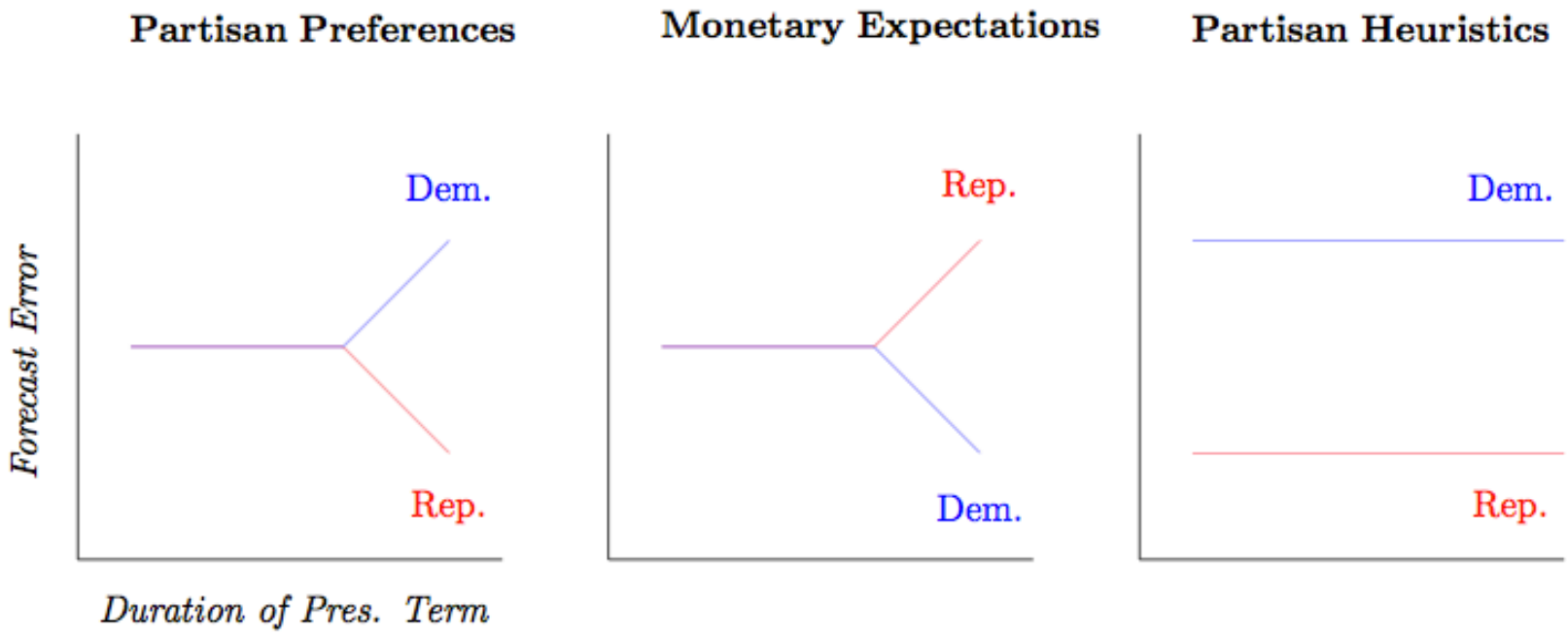
- Forecasts produced for every FOMC meeting.
- Product of both econometric models and expert judgments.
- Over long run no bias (e.g., Romer and Romer 2000).
- Periods of over- and under-estimations (Capistrán 2008).
- No research on partisan influence of forecast errors.

Traditional understanding of Fed forecasting

- Forecasts produced for every FOMC meeting.
- Product of both econometric models and expert judgments.
- Over long run no bias (e.g., Romer and Romer 2000).
- Periods of over- and under-estimations (Capistrán 2008).
- No research on partisan influence of forecast errors.


Standardized Forecast Error
0.5
0
−0.5
1970
1980
1990
2000
2007
Rep
Dem

What might explain forecast errors?


Partisan Preferences
Monetary Expectations
Partisan Heuristics
Dem.
Rep.
Rep.
Dem.
Dem.
Rep.
Forecast Error
Duration of Pres. Term

Empirical Analysis Overview

Followed Ho et al. (2010) to isolate relationship between presidential partisanship/elections and the other controls.

1. Two data sets **matched** on:
   - *presidential party ID*
   - *election period*
2. Used these in **parametric models** with standardized inflation forecast errors as continuous dependent variable.

Empirical Analysis Overview

Followed Ho et al. (2010) to isolate relationship between presidential partisanship/elections and the other controls.

1. Two data sets **matched** on:
   - *presidential party ID*
   - *election period*
2. Used these in **parametric models** with standardized inflation forecast errors as continuous dependent variable.

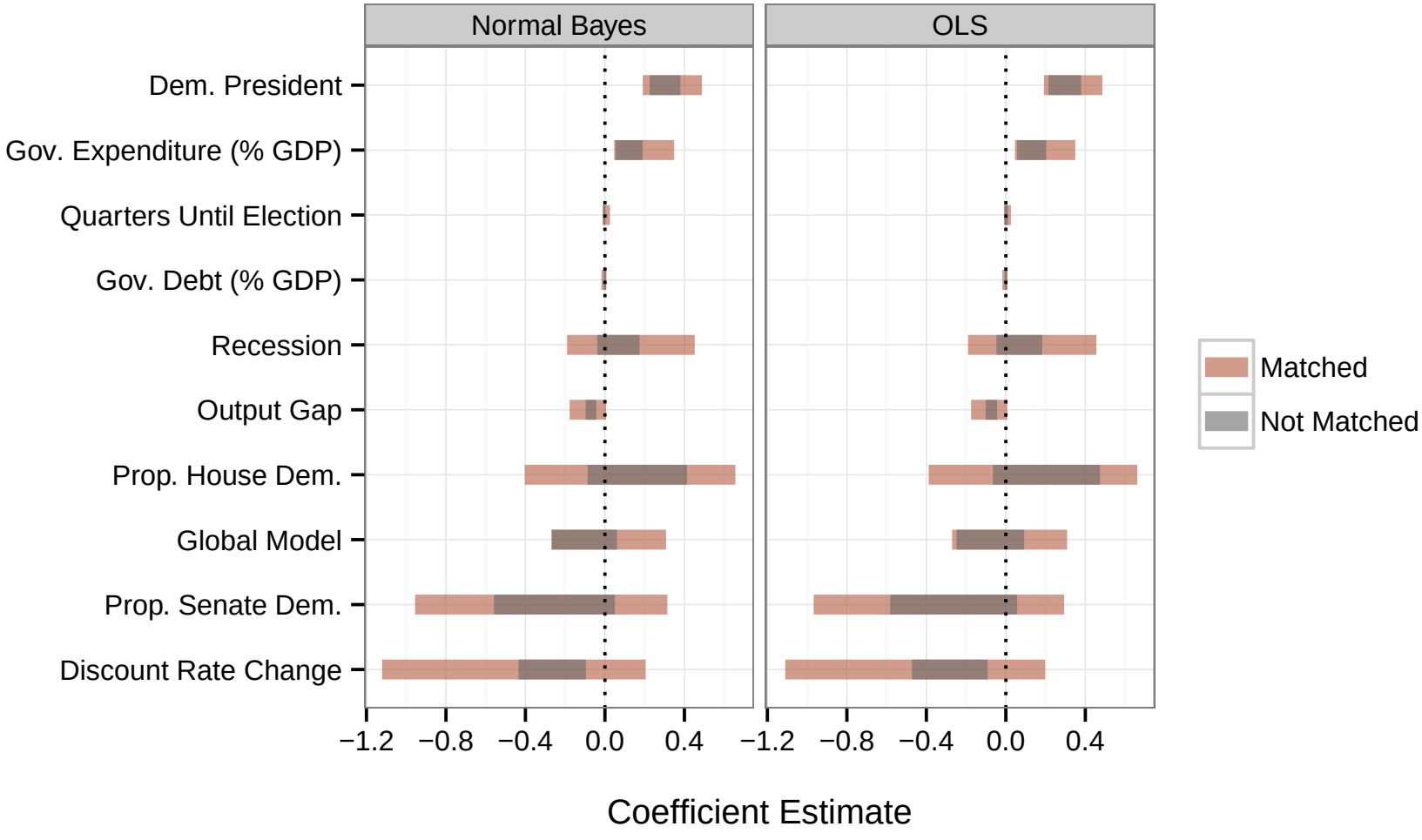
Empirical Analysis Overview

Followed Ho et al. (2010) to isolate relationship between presidential partisanship/elections and the other controls.

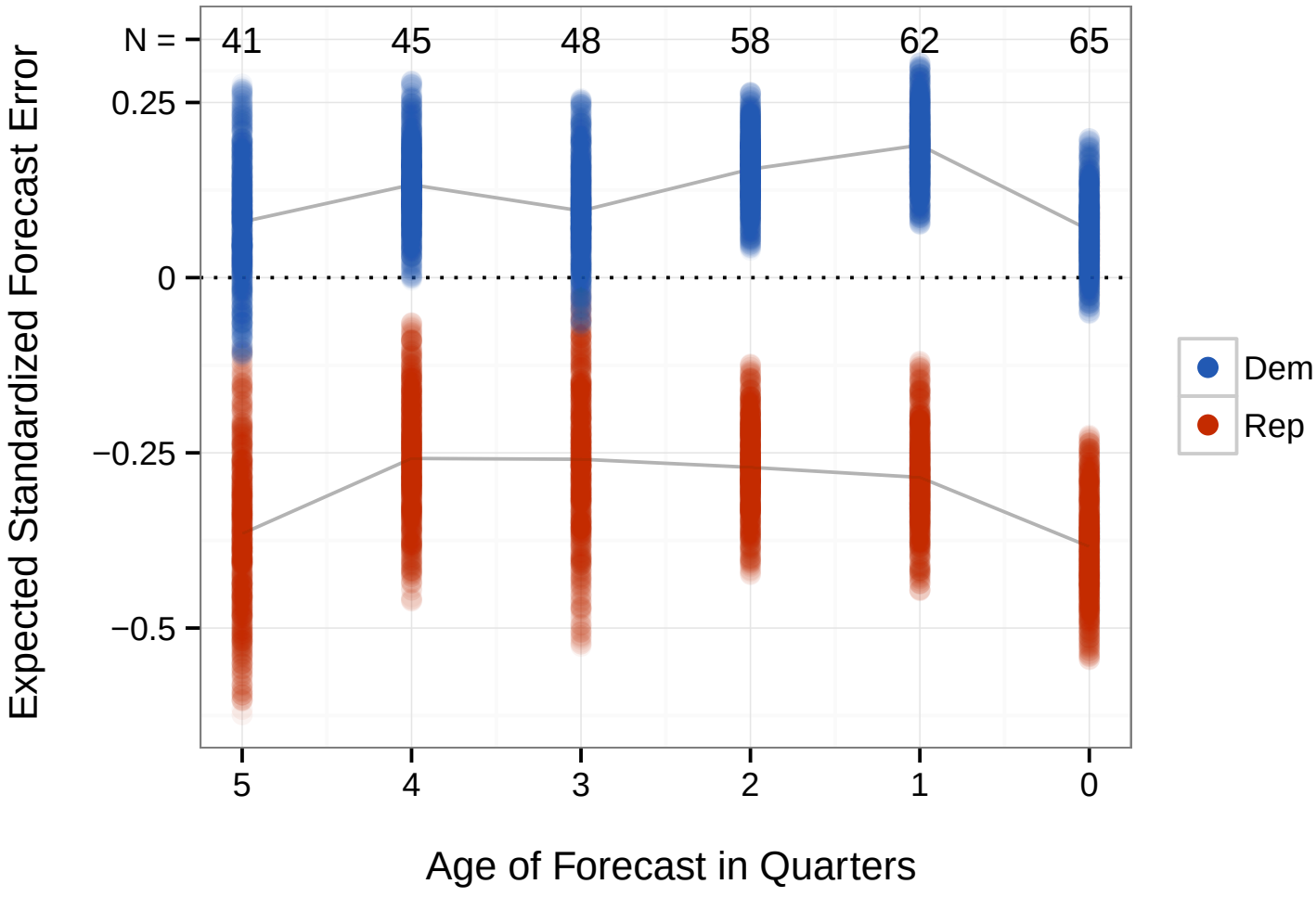
1. Two data sets **matched** on:
   - *presidential party ID*
   - *election period*
2. Used these in **parametric models** with standardized inflation forecast errors as continuous dependent variable.

Results?

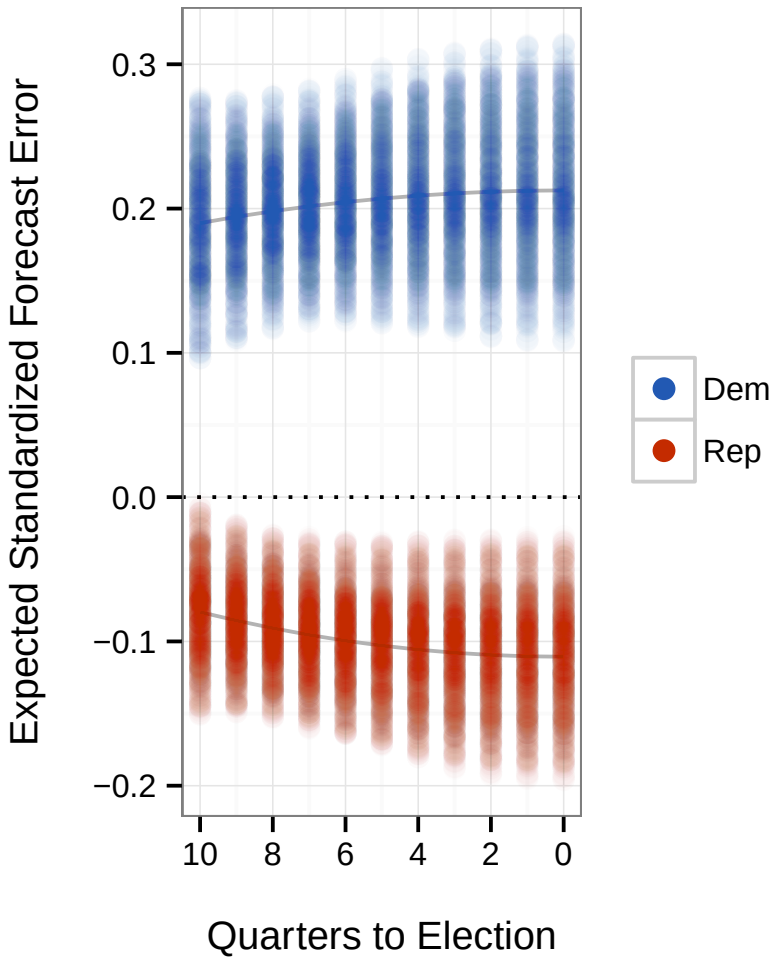
Main Results (2 Quarter Old Forecasts)

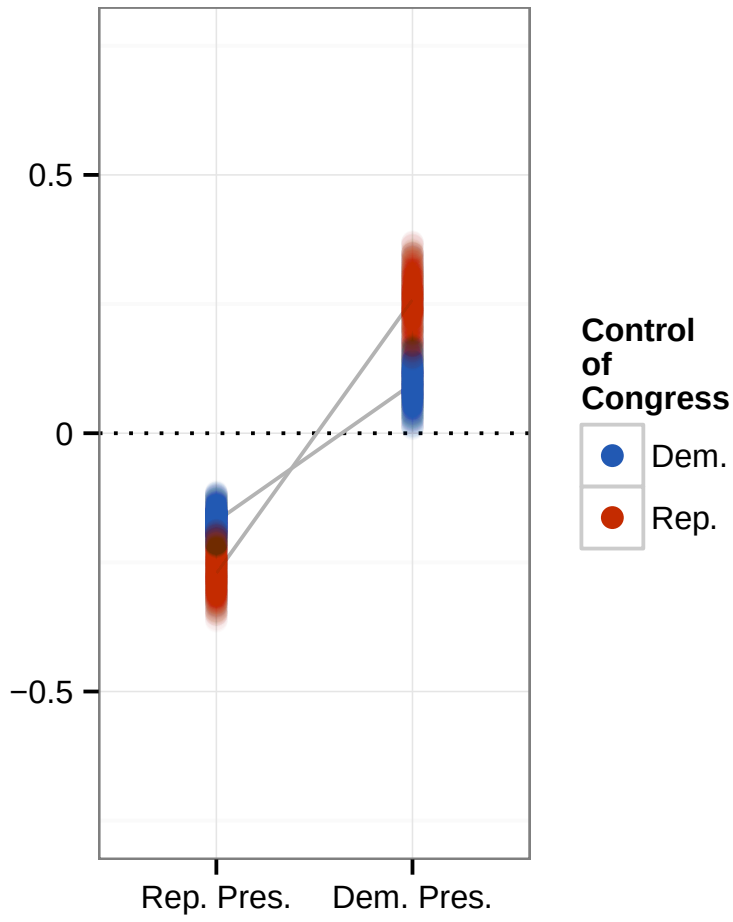


Simulated Errors (All Forecasts)



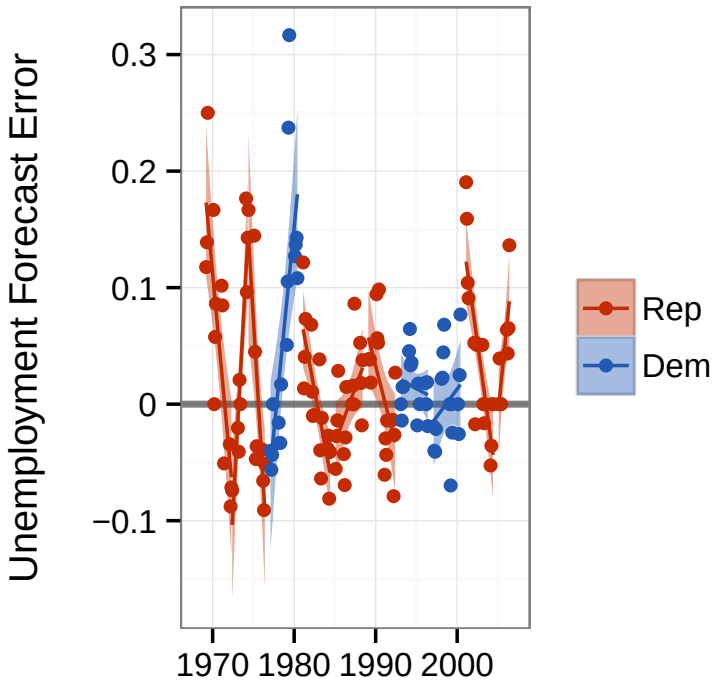
Interactions (2 Quarter Old Forecasts)



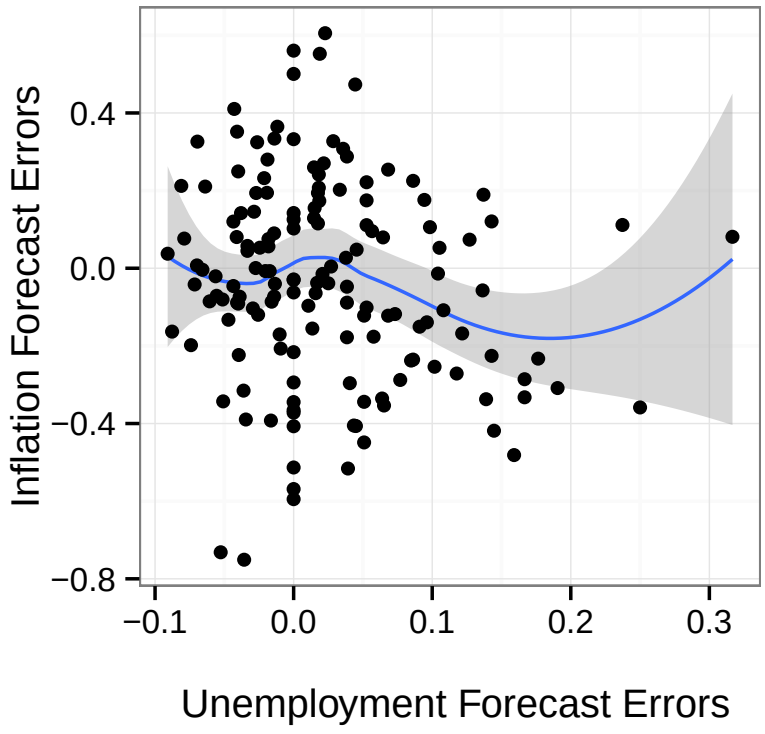


Diagnostic Orthogonal Dependent Variable

Errors in Employment Forecasts
Made 2 Qtr. Beforehand



Scatterplot of Unemployment and
Inflation Forecast Errors



Does presidential partisanship affect Fed staff inflation forecasts?

Probably.

How?

- Fed staff **don't** have an electoral bias.
  - Don't seem to try to influence election outcomes or compensate for FOMC political preferences.
- Fed staff **do** use a **partisan heuristic**.
  - Leads to **systematic bias** in inflation forecasts across presidential terms.

How?

- Fed staff **don't** have an electoral bias.
  - Don't seem to try to influence election outcomes or compensate for FOMC political preferences.
- Fed staff **do** use a **partisan heuristic**.
  - Leads to **systematic bias** in inflation forecasts across presidential terms.

How?

- Fed staff **don't** have an electoral bias.
  - Don't seem to try to influence election outcomes or compensate for FOMC political preferences.
- Fed staff **do** use a **partisan heuristic**.
  - Leads to **systematic bias** in inflation forecasts across presidential terms.

Possible political implications?

- High inflation forecasts during **Democratic** presidencies → interest rates **'too high'**.
  - This could hurt Democrats' re-election chances.
- Low forecasts during **Republican** presidencies → interest rates **'too low'**.
  - This could help Republicans' re-election chances.
- Does not explain Clark and Arel-Boondock's interest rate finding.
- Of course, **more research is needed**.

Possible political implications?

- High inflation forecasts during **Democratic** presidencies → interest rates **'too high'**.
  - This could hurt Democrats' re-election chances.
- Low forecasts during **Republican** presidencies → interest rates **'too low'**.
  - This could help Republicans' re-election chances.
- Does not explain Clark and Arel-Boondock's interest rate finding.
- Of course, **more research is needed**.

Possible political implications?

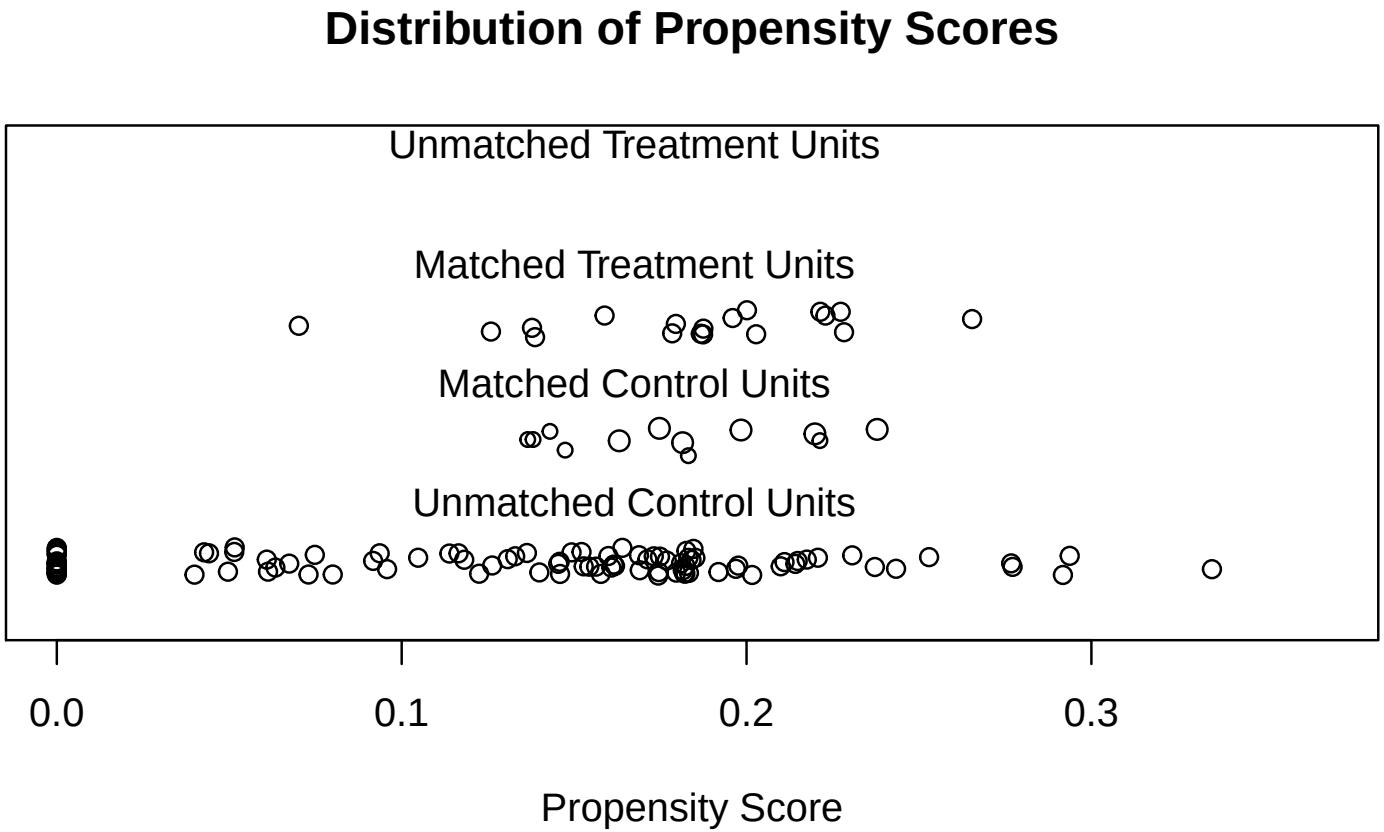
- High inflation forecasts during **Democratic** presidencies $\rightarrow$ interest rates **'too high'**.
  - This could hurt Democrats' re-election chances.
- Low forecasts during **Republican** presidencies $\rightarrow$ interest rates **'too low'**.
  - This could help Republicans' re-election chances.
- Does not explain Clark and Arel-Boondock's interest rate finding.
- Of course, **more research is needed**.

Possible political implications?

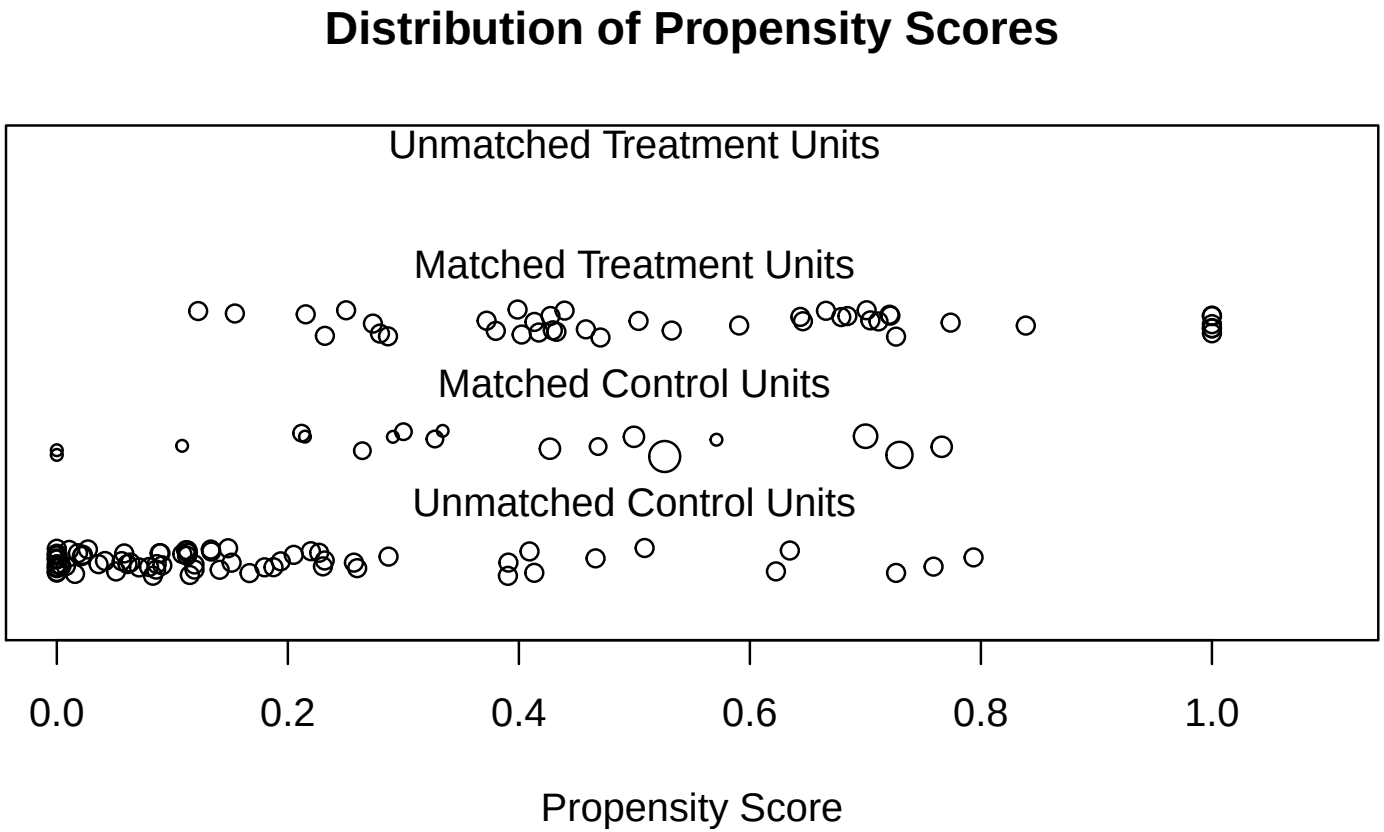
- High inflation forecasts during **Democratic** presidencies $\rightarrow$ interest rates **'too high'**.
  - This could hurt Democrats' re-election chances.
- Low forecasts during **Republican** presidencies $\rightarrow$ interest rates **'too low'**.
  - This could help Republicans' re-election chances.
- Does not explain Clark and Arel-Boondock's interest rate finding.
- Of course, **more research is needed**.

Backup Slides

Propensity Score Matching by Election Quarter



Propensity Score Matching by Presidential Party ID



OLS Regressions with Non-Matched Data

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13
Intercept	4.1**	4.0**	4.1**	4.6***	4.5***	4.5***	4.5***	4.2***	4.6***	4.6***	4.1***	3.1*	−1.8***
	(1.3)	(1.3)	(1.3)	(1.0)	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(1.0)	(1.0)	(1.3)	(0.4)
Recession	0.0	−0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	
Debt/GDP	−0.0	−0.0	−0.0	−0.0*	−0.0*	−0.0	0.0	0.0	−0.0	−0.0	−0.0	0.0	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	
Expenditure/GDP	0.1***	0.1***	0.1***	0.2***	0.2***	0.2***	0.1***	0.1**	0.2***	0.1***	0.2***	0.1***	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	
Output Gap	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	−0.1***	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	
Discount Rate Change	−0.1	−0.1	−0.1	−0.3**	−0.3**	−0.3**	−0.3**	−0.3**	−0.3**	−0.2**	−0.2*	−0.2*	
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	
Qtr. to Election		0.0			0.0	0.0	0.0		0.0	0.0*	0.0*	0.0*	
		(0.0)			(0.0)	(0.0)	(0.0)		(0.0)	(0.0)	(0.0)	(0.0)	
Election Period			−0.0										
			(0.1)										
Pres. Party ID				0.3***	0.3***	0.3***	0.3***	0.3***	0.3***	1.0***	1.1***	1.6*	2.2**
				(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.0)	(0.1)	(0.2)	(0.7)	(0.8)
Senate Dem/Rep						−0.2	−0.3	−0.3†		−0.1	−0.0	0.5	0.8*
						(0.1)	(0.2)	(0.2)		(0.1)	(0.1)	(0.3)	(0.3)
House Dem/Rep						0.2	0.2	0.2		0.4**	0.3*	1.1***	1.6***
						(0.1)	(0.1)	(0.1)		(0.1)	(0.1)	(0.3)	(0.3)
FRB/GlobalModel							−0.1	−0.1					
							(0.1)	(0.1)					
Qrt. Election2								0.0					
								(0.0)					
Pres*Qrt. Election2								−0.0					
								(0.0)					
Burns									0.2				
									(0.2)				
Greenspan									0.2				
									(0.1)				
Martin									0.2				
									(0.2)				
Miller									0.1				
									(0.2)				
Volcker									0.2				
									(0.2)				
Pres*House										−0.5***		−1.5†	−2.5**
										(0.1)		(0.8)	(0.9)
Pres*Senate											−0.7***	−0.2	−0.2
											(0.1)	(0.8)	(0.7)
House*Senate												−0.5*	−0.9***
												(0.2)	(0.2)
Pres*House*Senate												0.5	1.0†
												(0.5)	(0.5)
N	131	131	131	131	131	131	131	131	131	131	131	131	131
R^2	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5
adj. R^2	0.3	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5
Resid. sd	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

OLS Regressions with Election Matched Data

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Intercept	3.8	3.9	3.7	2.6	2.7	4.5	1.8	1.8	3.1	2.4	−1.7	−3.2***
	(3.3)	(3.3)	(3.3)	(2.9)	(2.9)	(3.2)	(4.3)	(4.4)	(2.7)	(3.0)	(4.3)	(0.8)
Debt/GDP	−0.0	−0.0	−0.0	−0.0	−0.0	0.0	0.0	0.0	−0.0	−0.0	0.0	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	
Expenditure/GDP	0.1*	0.1*	0.1*	0.2***	0.2***	0.2**	0.1	0.1	0.3***	0.3***	0.1	
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	
Output Gap	−0.1	−0.1	−0.1	−0.1†	−0.1†	−0.1*	−0.0	−0.0	−0.1*	−0.1*	−0.0	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	
Discount Rate Change	−0.5	−0.5	−0.5	−0.1	−0.2	0.1	0.3	0.3	0.2	0.2	0.4	
	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.4)	(0.4)	(0.4)	(0.3)	(0.3)	(0.3)	
Qtr. to Election		0.0			0.0	0.0	0.0		0.0	0.0	0.0*	
		(0.0)			(0.0)	(0.0)	(0.0)		(0.0)	(0.0)	(0.0)	
Election Period			0.0									
			(0.1)									
Pres. Party ID				0.3**	0.3**	0.4**	0.4**	0.5**	1.4***	1.6**	1.0	0.6
				(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.3)	(0.5)	(0.6)	(0.4)
Senate Dem/Rep						0.0	−0.1	−0.2	0.4	0.5	2.4*	2.1*
						(0.3)	(0.4)	(0.4)	(0.3)	(0.4)	(1.1)	(0.8)
House Dem/Rep						0.4	0.2	0.2	0.1	0.0	2.3**	2.3***
						(0.4)	(0.5)	(0.5)	(0.4)	(0.4)	(0.8)	(0.5)
FRB/GlobalModel							−0.4	−0.4				
							(0.4)	(0.4)				
Qrt. Election2								0.0				
								(0.0)				
Pres*Qrt. Election2								−0.0				
								(0.0)				
Pres*House									−0.8**		−2.6**	−2.7**
									(0.2)		(0.9)	(0.7)
Pres*Senate										−1.0*	2.5	2.8*
										(0.4)	(1.5)	(1.1)
House*Senate											−1.5*	−1.5**
											(0.6)	(0.4)
N	30	30	30	30	30	30	30	30	30	30	30	30
R^2	0.3	0.3	0.3	0.5	0.5	0.5	0.6	0.6	0.7	0.6	0.8	0.7
adj. R^2	0.2	0.1	0.1	0.4	0.4	0.4	0.4	0.3	0.6	0.5	0.7	0.6
Resid. sd	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

The recession variable is ommitted because there was no variation in the matched data set. The reason that there was no variation is because there was never a recession during an election period in our data set.

OLS Regressions with Election Matched Data

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
Intercept	6.3	6.4	6.5†	6.4*	6.4*	4.7	4.6	2.0	4.6	3.1	6.0	−1.7*
	(3.8)	(3.8)	(3.8)	(3.1)	(3.2)	(3.5)	(3.6)	(4.1)	(2.8)	(2.9)	(3.9)	(0.7)
Recession	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	
	(0.2)	(0.2)	(0.2)	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	
Debt/GDP	−0.0	−0.0	0.0	−0.0	−0.0	−0.0	−0.0	0.0	−0.0	−0.0	−0.0	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	
Expenditure/GDP	0.2**	0.2**	0.2**	0.2***	0.2***	0.2**	0.2*	0.1†	0.2**	0.2***	0.2*	
	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	
Output Gap	−0.1*	−0.1*	−0.1*	−0.1**	−0.1**	−0.1†	−0.1†	−0.1	−0.1*	−0.1*	−0.1*	
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	
Discount Rate Change	−0.3	−0.3	−0.2	−0.5†	−0.6†	−0.5	−0.5	−0.5	−0.4	−0.3	−0.5	
	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(0.2)	(0.3)	(0.3)	
Qtr. to Election		0.0			0.0	0.0	0.0		0.0*	0.0†	0.0*	
		(0.0)			(0.0)	(0.0)	(0.0)		(0.0)	(0.0)	(0.0)	
Election Period			0.1									
			(0.1)									
Pres. Party ID				0.3***	0.3***	0.3***	0.3***	0.4***	1.3***	1.5***	1.1	2.1*
				(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)	(1.1)	(1.0)
Senate Dem/Rep						−0.4	−0.3	−0.6	−0.1	0.0	−0.3	0.5
						(0.3)	(0.3)	(0.4)	(0.2)	(0.2)	(0.8)	(0.7)
House Dem/Rep						0.1	0.1	0.5	0.6*	0.4†	0.6	1.5**
						(0.3)	(0.3)	(0.4)	(0.2)	(0.2)	(0.7)	(0.5)
FRB/GlobalModel							0.0	0.0				
							(0.1)	(0.1)				
Qrt. Election2								0.0				
								(0.0)				
Pres*Qrt. Election2								−0.0				
								(0.0)				
Pres*House									−0.8***		−1.3	−2.4*
									(0.1)		(1.2)	(1.0)
Pres*Senate										−1.0***	0.8	0.2
										(0.2)	(1.5)	(0.9)
House*Senate											0.0	−0.6
											(0.5)	(0.4)
Pres*House*Senate											0.0	0.8
											(0.7)	(0.6)
N	60	60	60	60	60	60	60	60	60	60	60	60
R^2	0.2	0.2	0.2	0.4	0.4	0.5	0.5	0.5	0.7	0.6	0.7	0.6
adj. R^2	0.1	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.5
Resid. sd	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table: Bayesian Normal Linear Regression Estimation of Covariate Effects on 2 Qtr. Inflation Forecast Error (non-matched data set)

Variables	Mean	SD	2.5%	50%	97.5%
Intercept	4.49	0.99	2.56	4.49	6.46
Pres. Party ID	0.30	0.04	0.22	0.30	0.38
Recession	0.07	0.05	-0.04	0.07	0.17
Qtr. to Election	-0.00	0.00	-0.01	-0.00	0.00
Senate Dem/Rep	-0.26	0.15	-0.56	-0.26	0.05
House Dem/Rep	0.16	0.13	-0.09	0.16	0.41
Debt/GDP	0.00	0.00	-0.01	0.00	0.01
Expenditure/GDP	0.12	0.04	0.05	0.12	0.19
Output Gap	-0.07	0.01	-0.10	-0.07	-0.04
Discount Rate Change	-0.27	0.09	-0.44	-0.27	-0.10
Global Model	-0.10	0.08	-0.27	-0.10	0.06
sigma2	0.04	0.00	0.03	0.03	0.04

Table: Bayesian Normal Linear Regression Estimation of Covariate Effects on 2 Qtr. Inflation Forecast Error (Matched by President's Party ID variable

Variables	Mean	SD	2.5%	50%	97.5%
Intercept	4.60	3.74	-2.70	4.59	11.90
Pres. Party ID	0.34	0.08	0.19	0.34	0.49
Recession	0.13	0.16	-0.19	0.13	0.45
Qtr. to Election	0.01	0.01	-0.01	0.01	0.03
Senate Dem/Rep	-0.33	0.32	-0.96	-0.34	0.31
House Dem/Rep	0.13	0.27	-0.40	0.13	0.66
Debt/GDP	-0.00	0.01	-0.02	-0.00	0.01
Expenditure/GDP	0.20	0.08	0.05	0.20	0.35
Output Gap	-0.08	0.05	-0.18	-0.08	0.01
Discount Rate Change	-0.46	0.34	-1.12	-0.46	0.20
Global Model	0.02	0.15	-0.27	0.02	0.31
sigma2	0.05	0.01	0.03	0.05	0.08