The Political Economy of the US Mortgage Default Crisis

by Mian, Sufi, and Trebbi (2010)

Alper Sukru Gencer

February 13, 2023

Roadmap

- Mian, Sufi, and Trebbi (2010): *"The Political Economy of the US Mortgage Default Crisis"*
  - Puzzle
  - Theory and Hypotheses
  - Data
  - The Model and the Empirical Findings

Puzzle: The Motivations of Voting Behavior?

- Puzzle:
  - What determines politician voting behavior?
  - What are the mechanisms through which economic interests and ideology affect politician voting behavior?
  - Do politicians respond to the median voter or their "base" supporters?

Theory:

- Trade-off between political ideology and re-election:

Theory:

- Trade-off between political ideology and re-election:
  - Political ideology vs.

Theory:

- Trade-off between political ideology and re-election:
  - Political ideology vs.
  - Re-election:
    - Constituents
    - Special interest groups

Theory:

- Trade-off between political ideology and re-election:
  - Political ideology vs.
  - Re-election:
    - Constituents
    - Special interest groups
- Competitiveness:
  - More responsive to median voters where re-election chances are at stake

Case:

- Natural Experiment of 2008 Housing Crisis
  - Two historical federal mortgage legislation

Case:

- Natural Experiment of 2008 Housing Crisis
  - Two historical federal mortgage legislation

1) American Housing Rescue and Foreclosure Prevention Act (AHRFPA) - Net transfer to Households

Case:

- Natural Experiment of 2008 Housing Crisis
  - Two historical federal mortgage legislation

1) American Housing Rescue and Foreclosure Prevention Act (AHRFPA) - Net transfer to Households 2) Emergency Economic Stabilization Act (EESA)
- Net transfer to Financial Institutions

Data:

- Four Major Data:
  1) voting behavior of politicians (as the choice and switching outcomes)

Data:

- Four Major Data:
  1) voting behavior of politicians (as the choice and switching outcomes)
  2) zip code-level credit defaults (to test whether responsive to their constituents)
     - 2005, 2007
     - mortgage, non-mortgage

Data:

- Four Major Data:
  1) voting behavior of politicians (as the choice and switching outcomes)
  2) zip code-level credit defaults (to test whether responsive to their constituents)
     - 2005, 2007
     - mortgage, non-mortgage
  3) average campaign contributions (to test whether responsive to special interests)

Data:

- Four Major Data:
  1) voting behavior of politicians (as the choice and switching outcomes)
  2) zip code-level credit defaults (to test whether responsive to their constituents)
     - 2005, 2007
     - mortgage, non-mortgage
  3) average campaign contributions (to test whether responsive to special interests)
  4) unidimensional ideology score (DW-Nominate score) that a representative receives over a congressional cycle from the financial industry,

Empirical Model

$$U_i = \theta f(v_i) + g(v_i) + \varepsilon_i^v$$

Figure 1: Preferences Model

Empirical Model

$$U_i = \theta f(v_i) + g(v_i) + \varepsilon_i^v$$

Figure 1: Preferences Model

$$\Pr(v_i = 1) = \Pr(\theta(f(1) - f(0)) + g(1) - g(0) > \varepsilon_i^0 - \varepsilon_i^1).$$

Figure 2: Objective

Empirical Model

$$f(v_i) = -ID_i v_i \text{ and } g(v_i) = \beta_1 CI_i v_i + \beta_2 SI_i v_i.$$

Figure 3: Modelling

Empirical Model

$$f(v_i) = -ID_i v_i \text{ and } g(v_i) = \beta_1 CI_i v_i + \beta_2 SI_i v_i.$$

Figure 3: Modelling

$$\Pr(v_i = 1) = \Pr(-\theta ID_i + \beta_1 CI_i + \beta_2 SI_i > \varepsilon_i^0 - \varepsilon_i^1),$$

Figure 4: Yes Choice

Empirical Results - 1.1

- The AHRFPA of 2008 and the Role of Constituent Interests

Empirical Results - 1.1

- The AHRFPA of 2008 and the Role of Constituent Interests

TABLE 4—CONSTITUENT INTERESTS AND VOTING PATTERNS ON THE AHRFPA OF 2008
Dependent variable: voted in favor of AHRFPA 2008 (July 26, 2008)

	(1)	(2)	(3)	(4)	State fixed effects (5)	With census controls (6)	May 8, 2008 vote (7)	Probability of voting Yes in July given Yes on May 8 (8)	Probability of voting Yes in July given No on May 8 (9)
Mortgage default rate (2007:IV)	6.708*** (1.448)	6.660*** (1.303)		6.691*** (1.296)	4.789** (2.260)	5.009*** (1.915)	3.697** (1.434)	6.085** (2.294)	6.028*** (1.713)
DW-Nominate ideology score		−0.866*** (0.153)	−0.836*** (0.155)	−0.821*** (0.149)	−0.578*** (0.199)	−0.809*** (0.149)	−1.083*** (0.171)	−0.520 (0.941)	−0.555*** (0.144)
ln(financial industry contributions per cycle)		0.028 (0.030)	0.031 (0.029)	0.036 (0.040)	0.041 (0.048)	0.006 (0.041)	0.035 (0.028)	0.017 (0.079)	0.006 (0.028)
Mortgage default rate (2005:IV)			1.737 (2.281)						
ΔMortgage default rate (2005:IV-2007:IV)			7.455*** (1.322)						
Finance committee				0.092 (0.090)	0.014 (0.096)	0.089 (0.088)			
Number of terms served				0.011 (0.009)	0.010 (0.011)	0.005 (0.009)			
Vote margin 2006 elections				−0.001 (0.001)	−0.000 (0.002)	−0.000 (0.001)			
Constant	−0.135* (0.080)	0.015 (0.362)	0.110 (0.352)	−0.162 (0.506)	−0.239 (0.635)	−5.629 (4.017)	0.180 (0.330)	0.265 (0.937)	0.057 (0.317)
Observations	194	194	194	194	194	194	193	38	150
Adjusted R^2	0.08	0.21	0.23	0.21	0.26	0.23	0.24	0.00	0.15

Notes: Coefficient estimates relating voting patterns on the 519 vote (July 26, 2008, passage of the AHRFPA of 2008)

Empirical Results - 1.2

- Precision in Targeting Constituent Interests

Empirical Results - 1.2

- Precision in Targeting Constituent Interests

TABLE 5—TARGETING CONSTITUENTS' INTERESTS: WHICH DEFAULT RATE MATTERS FOR VOTES ON THE AHRFPA OF 2008?
Dependent variable: voted in favor of AHRFPA 2008 (July 26, 2008)

	(1)	With political controls (2)	State fixed effects and political controls (3)	Census and political controls (4)
Home default rate (2007:IV)	9.071***	8.864***	6.522*	6.741***
	(2.038)	(2.063)	(3.476)	(2.554)
Nonhome default rate (2007:IV)	−3.308	−2.967	−2.515	−2.964
	(2.285)	(2.346)	(4.430)	(2.998)
DW-Nominate ideology score	−0.846***	−0.806***	−0.578***	−0.789***
	(0.154)	(0.150)	(0.196)	(0.150)
ln(financial industry contributions per cycle)	0.033	0.043	0.041	0.011
	(0.030)	(0.040)	(0.048)	(0.042)
Observations	194	194	194	194
Adjusted R^2	0.21	0.21	0.26	0.23

Notes: Coefficient estimates relating voting patterns on the 519 vote (July 26, 2008, passage of the AHRFPA of 2008) to the congressional district home and nonhome default rate as of 2007:IV. The home default rate includes defaults on mortgages and home equity loans, and the nonhome default rate includes defaults on credit card debt, auto loans, student loans, and consumer loans. The sample includes voting Republicans only. All regressions include a constant (not reported). Political controls include a financial committee indicator variable, terms served, and margin of victory in 2006 election. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median household income, percentage below poverty, percentage less than high school, and percentage with high school only.

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

- Despite high correlation: housing correlated with auto (0.66) and the credit card (0.58).

Empirical Results - 1.3

- Electoral Competition and Constituent Interests

Empirical Results - 1.3

- Electoral Competition and Constituent Interests

TABLE 6—DO POLITICIANS RESPOND MORE TO CONSTITUENT INTERESTS IN MORE COMPETITIVE DISTRICTS?
(*Dependent variable: voted in favor of AHRFPA 2008*)

	(1)	(2)	(3)	(4)	(5)
Competitive district	−0.103	−0.213	−0.027	−0.007	−0.318**
	(0.302)	(0.233)	(0.248)	(0.009)	(0.139)
Mortgage default rate (2007:IV)	6.302***	6.350***	6.505***	4.456**	5.085**
	(1.370)	(1.375)	(1.382)	(2.078)	(2.047)
(Mortgage default rate) ×	7.227*	8.236**	4.246	0.272*	4.370*
(competitive district)	(4.190)	(3.689)	(4.550)	(0.160)	(2.526)
DW-Nominate ideology score	−0.795***	−0.793***	−0.810***	−0.783***	−0.848***
	(0.153)	(0.154)	(0.153)	(0.151)	(0.152)
ln(financial industry	0.012	0.010	0.009	0.002	0.028
contributions per cycle)	(0.030)	(0.030)	(0.030)	(0.030)	(0.029)
Constant	0.164	0.183	0.192	0.328	0.110
	(0.362)	(0.363)	(0.362)	(0.371)	(0.356)
Definition of competition	Margin less than 2 percent in 2006	Margin less than 4 percent in 2006	Margin less than 6 percent in 2006	Linear censored	Swing states
Observations	194	194	194	194	194
Adjusted R^2	0.23	0.22	0.22	0.23	0.22

Notes: Coefficient estimates relating voting patterns on the 519 vote (July 26, 2008, passage of the AHRFPA of 2008) to the congressional district mortgage default rate as of 2007:IV. Each specification includes an interaction term that measures districts that are competitive for the incumbent in the November 2008 election. The sample includes voting Republicans only. Robust standard errors in parentheses.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Figure 6: Electoral Competition

Empirical Results - 1.4

- Responding to Voting Bloc within Constituency

Empirical Results - 1.4

- Responding to Voting Bloc within Constituency

TABLE 7—DO POLITICIANS RESPOND UNIQUELY TO THEIR OWN VOTING BLOC?
Dependent variable: voted in favor of AHRFPA 2008 (July 26, 2008)

	Sample: All Republicans		Sample split by Republicans in districts with large difference in default rates			
	(1)	With census and political controls (2)	Only above median sample (3)	(4)	With census and political controls (5)	Competition interaction (6)
Republican mortgage default rate	5.676*	8.523**	9.345***	8.840***	12.921***	13.188***
	(3.318)	(3.375)	(3.023)	(3.251)	(3.488)	(3.566)
Democratic mortgage default rate	1.109	−1.579	−3.124	−2.730	−5.880*	−8.477***
	(3.125)	(3.683)	(2.915)	(3.362)	(3.187)	(2.805)
DW-Nominate ideology score	−0.960***	−0.875***	−1.133***	−0.965***	−0.887***	−1.000***
	(0.171)	(0.179)	(0.275)	(0.173)	(0.180)	(0.284)
ln(financial industry contributions per cycle)	0.039	0.017	0.107*	0.036	0.017	0.071
	(0.033)	(0.048)	(0.059)	(0.034)	(0.048)	(0.063)
(Republican mortgage default rate) × (Below median default difference?)				−23.832	−30.052	
				(18.775)	(21.719)	
(Democratic mortgage default rate) × (Below median default difference?)				23.523	29.494	
				(18.520)	(21.380)	
Below median default difference?				−0.107	−0.125	
				(0.185)	(0.000)	
Competitive district						−0.010
						(0.018)
Competitive district × Republican default rate						−0.509
						(0.378)
Competitive district × Democratic default rate						0.698*
						(0.394)

Empirical Results - 2.1

- Special Interests and Voting Patterns on the EESA of 2008

Empirical Results - 2.1

- Special Interests and Voting Patterns on the EESA of 2008

TABLE 9. PANEL A—SPECIAL INTERESTS AND VOTING PATTERNS ON THE EESA OF 2008
Dependent variable: voted in favor of EESA 2008 (October 3, 2008)

			State fixed effects	With political, census controls	2008 cycle measures of campaign contributions		Other measures of constituent interests, (8) with census and political controls		Retiring politician interaction
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mortgage default rate (2007:IV)	0.447	0.438	0.137	0.656	0.179	0.413	1.141	1.170	1.378
	(0.814)	(0.823)	(1.004)	(1.407)	(0.837)	(0.841)	(0.874)	(1.415)	(0.970)
DW-Nominate ideology score	−0.316***	−0.447***	−0.298***	−0.253***	−0.307***	−0.368***	−0.296***	−0.257***	−0.305***
	(0.045)	(0.124)	(0.054)	(0.051)	(0.045)	(0.045)	(0.045)	(0.050)	(0.047)
ln(finance contributions per cycle)	0.063***	0.068***	0.067**	0.129***			0.046*	0.124***	0.122***
	(0.023)	(0.023)	(0.026)	(0.028)			(0.024)	(0.028)	(0.029)
Republican indicator		0.140							
		(0.128)							
ln(finance contributions, 2008 cycle)					0.061**	0.118***			
					(0.025)	(0.028)			
ln(all nonfinance contributions, 2008 cycle)						0.009			
						(0.033)			
Fraction constituents working in finance							0.032***	0.035***	0.034***
							(0.010)	(0.012)	(0.010)
Fraction constituents with >$200K income							2.537***	1.947	1.997**
							(0.955)	(1.793)	(0.936)
Retiring representative									1.897**
									(0.775)
Retiring representative × ln(financial industry contributions per cycle)									−0.129*
									(0.067)
Observations	434	434	434	434	434	398	434	434	434

Empirical Results - 2.2

- Special Interests and Vote Switch on the EESA of 2008

Empirical Results - 2.2

- Special Interests and Vote Switch on the EESA of 2008

TABLE 9. PANEL B—WHAT DETERMINES WHICH POLITICIANS SWITCH VOTES ON EESA OF 2008?

	Full sample			Condition sample on those that vote against bill on September 29, 2008		
Dependent variable	Voted in favor of EESA 2008 (September 29)			Voted in favor of EESA 2008 (October 3) after voting against (September 29)		
			With political and census controls	Full	Democrats	Republicans
	(1)	(2)	(3)	(4)	(5)	(6)
Mortgage default rate (2007:IV)	−0.961	−0.483	0.747	2.038*	3.272**	0.688
	(0.850)	(0.904)	(1.462)	(1.080)	(1.515)	(1.493)
DW-Nominate ideology score	−0.314***	−0.301***	−0.271***	−0.188***	−0.219	−0.282*
	(0.045)	(0.045)	(0.049)	(0.057)	(0.202)	(0.146)
ln(financial industry contributions per cycle)	0.057**	0.046*	0.154***	0.035	0.063	0.023
	(0.024)	(0.024)	(0.029)	(0.026)	(0.050)	(0.034)
Fraction constituents working in finance		0.013	0.022	0.057***	0.040	0.071***
		(0.012)	(0.013)	(0.020)	(0.031)	(0.024)
Fraction constituents with >$200K income		2.147*	0.488	3.720	10.726**	1.236
		(1.146)	(1.946)	(2.305)	(4.847)	(2.619)
Observations	433	433	433	228	95	133
R^2	0.10	0.11	0.21	0.16	0.16	0.14

Notes: Columns 1 through 3 present coefficient estimates relating voting patterns on the 674 vote (September 29, 2008, passage of EESA of 2008) to campaign contributions by the financial services industry. The specifications reported in columns 4 through 6 isolate the sample to those that voted against the EESA of 2008 on September 29 (674 vote) and examine the determinants of politicians who switched their vote on October 3, 2008 (681 vote). All regressions include a constant. Political controls include financial committee indicator variable, terms served, and margin of victory in 2006 election. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median

References I

Mian, Atif, Amir Sufi, and Francesco Trebbi. 2010. "The Political Economy of the US Mortgage Default Crisis." *American Economic Review* 100 (5): 1967–98.