

Public Choice and the Modern Welfare State, On the Growth of Social Insurance Programs

in the Twentieth Century

Overview

In the 25 year period between 1960 and 1985, there was a great expansion of social insurance and transfer programs in all Western countries. The fraction of GDP accounted for by government expenditures approximately doubled in much of Europe and grew by 40%-50% in most other OECD nations. After 1985, there has been relatively little growth in the scope of the welfare state relative to other parts of the economy. This chapter surveys public choice and related research on the political economy of the welfare state.

There are two main public choice explanations for this explanation. One stresses the extent to which institutions, voter interests, and ideological shifts account for the period of rapid growth. The other emphasizes the importance of interest groups, who lobby for extensions of the welfare state in order to profit from larger budgets, more generous transfers, or new spending by those receiving the transfers. This lecture illustrates how an electoral model of the demand for social insurance can be constructed.

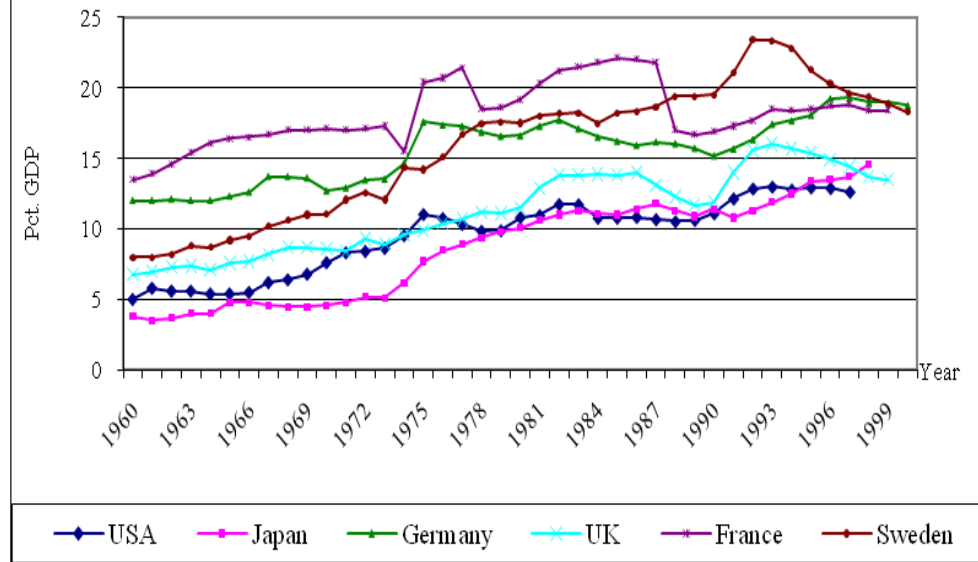
I. Introduction: Origins and Development of the Welfare State

A National social insurance programs are roughly as old as Western democracy. In much of Europe, national social insurance programs were adopted shortly before broadly elected parliaments began to dominate policy formation.

- i. Germany's social security program began in 1889, Sweden's in 1909, and the United Kingdom's in 1911.
- ii. The social security programs of the United States and Switzerland were adopted somewhat later, in 1935 and 1947, respectively.

The term "liberal" is used in its older European sense throughout this lecture. In 1900 European liberals tended to favor (nearly) universal suffrage, free trade, and modest social safety nets. Before World War I, there was not very much difference between European and U.S. usage, although significant differences exist today.

**Figure 1:
Social insurance as a fraction of GDP
1960-2000**



- iii. These early programs were usually adopted by conservative or liberal coalitions and so, initially, could be said to be "liberal" in their general structure and benefit levels.
- B Before the national income security programs were adopted, income insurance had been provided by families, private organizations (such as friendly societies and churches), and by local governments.
- i. National programs were often associated with industrialization and its associated business cycles which often swamped (bankrupted) the traditional sources of social insurance.

- ii. The initial programs were relatively small, but included in kind and money transfers and often medical insurance.
 - iii. (Of course medicine in 1910 was not especially effective or expensive.)
- C If the welfare state is a “nanny” state with a relatively high “safety net” with very broad coverage, it emerged after World War II.
- i. Between 1950 and 1980, social insurance programs increased from 4% to 13.4% of GDP in Japan, from 7% to 15% in the United Kingdom, from 12% to 18% in Germany, and from 13% to 18% in France.
 - ii. Similar programs in the United States rose from 5% of GDP in 1960 to 11% in 1980.
 - iii. (See figure 1.)
- D The rapid expansion of those programs after World War II is more difficult to explain than their beginning, and this weeks lectures will explore alternative public choice explanations.
- E There are essentially three different explanations:
- i. The electoral demand for social insurance
 - ii. The rent-seeeking / interest group / electoral demand for transfers
 - iii. Combined models
- F The electoral demands suggests that the median voter demands social insurance because it is cheaper for her than private insurance. This might be because of problems with private insurance markets, because of public subsidies, or because of the type of coverage provided.
- G The “demand for transfers,” explanation of the welfare state which argues that recipients of social insurance lobby for and receive these funds as transfers from taxpayers who “lose” the lobbying contest.
- i. The level of social insurance provided in this case would reflect the relative lobbying or bargaining power of those receiving the transfers.
 - ii. The size of the transfers would vary as the relative influence of those paying and receiving the transfers varied through time.
 - iii. (An alternative transfer explanation is that the median voter is a transfer recipient, which has not historically been the case.)
- H A non-economic factor which can affect predictions of the two pure models and combined models is that altruism or ideology (in addition to narrow self interest) affects demands for social insurance and transfers.
- i. An altruistic median voter simply gives money to those who receive it, because she/he is benevolent and wishes to make a gift to make recipients better off.
 - ii. An ideologically motivated median voter’s ideology may include a vision of the “good society” that requires some level of social insurance.
 - iii. In these cases, the level of social insurance will vary with the ideology, the relative strength of altruistic/ideological impulses and narrow self interest, and with the income of the median voter.
- I Public choice models can be combined and augmented in various ways to make a rich continuum of policy explanations.
- II. The essential geometry of median voter models of transfers and social insurance.**
- A Lets begin with an “**electoral transfer model**,” in which voters vote for a transfer simply to get the money.
- i. The easiest case to represent is that when the tax and transfer system has no deadweight loss, as with “lump sum” taxes and transfers.
 - ii. The simplest transfer is a “demogrant” of amount G received by all voter-taxpayers. $I_i = (1-t) Y_i + G$
 - iii. If Y is GNP and there are N persons receiving a transfer of amount G , then the required tax rate is NG/Y , and the individual i ’s contribution for government grant G is $(NG/Y) I_i$, where I_i is the individual voter i ’s income.

- iv. Her/His marginal cost is $(N/Y)Y_i$ or $N(Y_i/Y)$
- v. (Note that N/Y is the same as $1/(Y/N)$ so this can be written as (Y_i/Y^{ave}))
- vi. The marginal cost of a transfer is the tax rate times the voter's own personal income or consumption--which generates a horizontal line, because it is assumed that the tax schedule is flat, as with a VAT.
- vii. The marginal benefit of the transfer is the dollar or euro amount of the "extra" transfer provided. This tends to be a horizontal line at 1 euro or 1 dollar.

B Note that **a voter's demand transfers in this case will be either zero or infinite, depending on the voter's income relative to average income.**

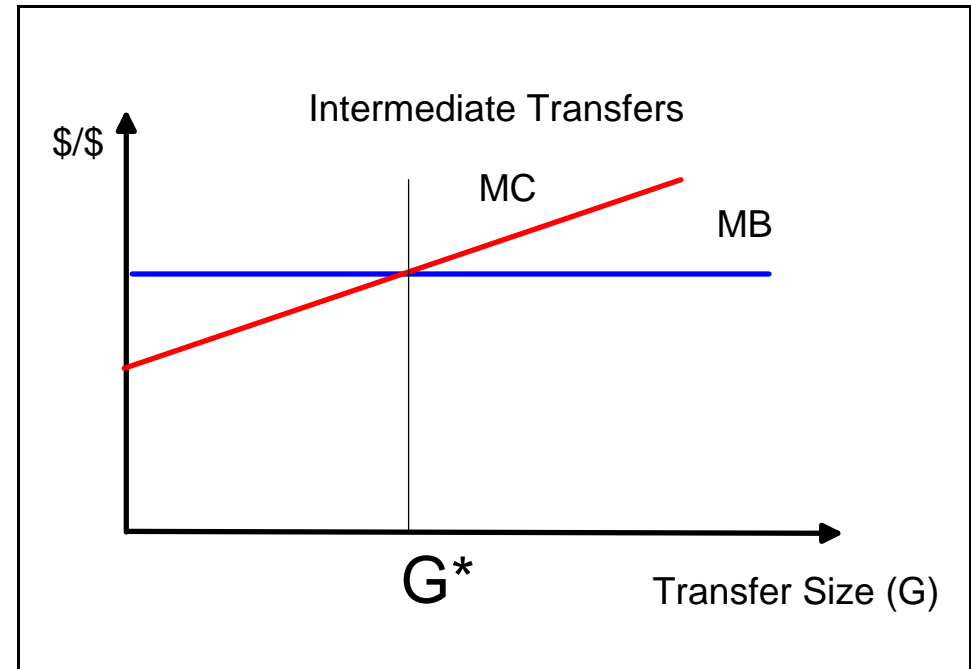
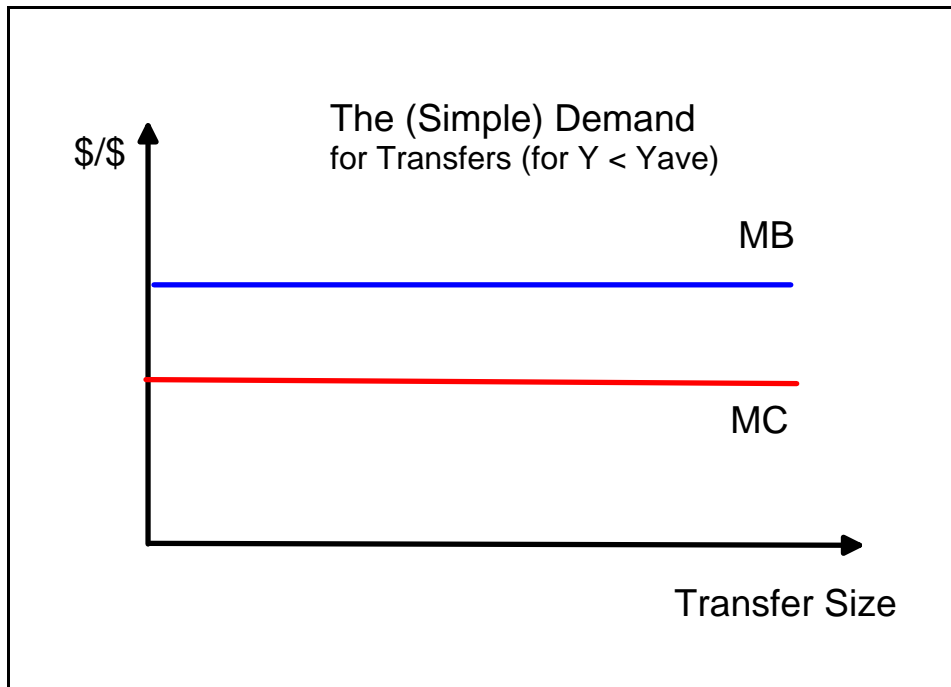
- i. Voters with below average income will prefer "infinite" transfers, because their MB from transfers is greater than their MC.

- ii. Of course the upper bound on transfers in this program is $G^* = GNP/N$, rather than infinity. At this point taxes equal 100 percent.

- iii. So, the result is a perfectly egalitarian society, if the median voter has below average income. [Explain why.](#)

C A more interesting and more realistic case is one in which the tax rates affect income and output, perhaps because they have a deadweight loss. As a consequence, the tax base, GDP, shrinks as tax rates go up

- i. This model was developed by Meltzer and Richards in 1981.
- ii. In this case, the marginal cost of transfers rises with the size of the transfer and it is possible that intermediate solutions will be preferred by the median voter (although there is no guarantee of this).



iii. A voters marginal cost curve now slopes upward because as taxes increase his/her income falls because (i) of the taxes paid and (ii) because he/she works a bit less or less hard each day.

D These geometric models can be used to think about how changes in income and changes in relative income will affect demand for transfers (by shifting the MC curve).

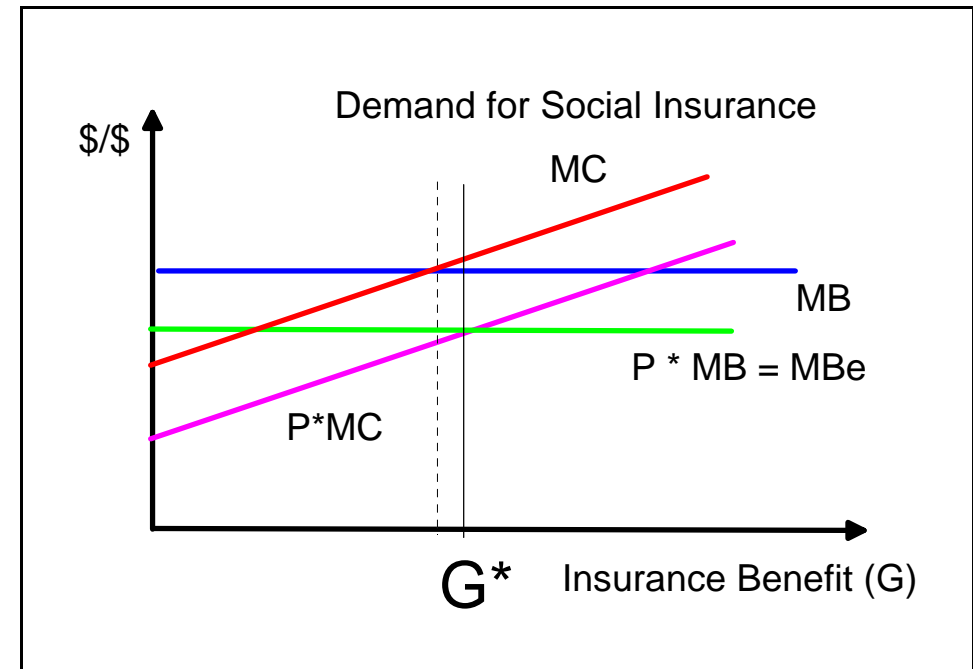
- i. As income rises, MB tends to rise and so does MC. Their relative shifts determine whether programs expand or contract as income rises.
- ii. If transfers are a normal good, demand for it will tend to increase as income increases under a flat tax system such as a VAT or proportionate income tax.
- iii. Also, the greater is the deadweight loss of the tax system the steeper MC rises and the smaller G^* tends to be.
- iv. The model can also be made a bit more realistic by assuming MB slopes a bit downward because of the diminishing marginal utility of income.

E A very similar geometry can be used to think about the median voter's **demand for social insurance**.

- i. Social insurance differs from a pure transfer in that one has to qualify for the "transfer" in some way, just as one does to receive payouts from a private insurance policy.
- ii. Under a social insurance program, benefits (transfers?) are paid only to those who qualify--those who are unemployed, old, sick, etc.--rather than to everyone.
- iii. The insurance benefits (partly) offset losses associated with the "condition" being insured (e.g. being unemployed, sick, or old).

F If the loss "L" is a random event, the median voter has a chance "P" that he or she will qualify for the program, if the probability of loss, L, is P.

- i. A typical voter's income is $I_i = (1-t) Y_i$ when he or she does not qualify and $I_i = (1-t) Y_i + - L+ G$



- ii. Her expected income is $I^e = (1-P) [(1-t) Y_i] + (P) [(1-t) Y_i + - L+ G]$
- iii. She pays a tax price for the program whether she qualifies or not, but only receives the payout (G) if she qualifies (if she also has loss L).

G The cost of providing an insurance payout is also reduced because not everyone will receive it. On average only $P*N$ voter taxpayers will receive the payout. S

- i. The tax rate will now be set so that $tY = PNG$, so the tax rate is $t = PNG/Y$.
- ii. A typical voter's payment for program benefit G is $t*Y_i$, which is now $(PNG/Y)*Y_i$.
- iii. The voter i's expected marginal benefit from the program is $P*(1)$ rather than (1) and her marginal cost is $PN (Y/Y_i)$ rather than $N(Y_i/Y)$.

- iv. Both MC and MB shift downward as result of “P,” the probability of being in the insured “state.”
- v. In the case drawn, this somewhat increases the desired payout G.
- H In contrast with the demand for transfers, the demand for insurance is also influenced by risk and risk aversion.
- i. Note that the fact that one has to qualify for benefits in a somewhat unpleasant way makes the extreme “infinite” program sizes less likely for social insurance than for transfer programs. (Why?)
 - ii. The “transfer” associated with social insurance is the (implicit) subsidy that low income persons receive regarding the prices of their income and health “insurance policies.” (This occurs through the tax system, explain why?)
 - iii. The standard risk aversion - risk premium diagrams with indifference curves can also be used to analyze a typical voter’s demand for insurance.
- I Note that altruism and or ideological effect can be included in the above diagrams by adding marginal altruistic or ideological marginal benefits (or costs) to the private (narrow) benefits of the transfer or insurance programs.
- i. Shifts of income in the latter case may affect MB as well as MC, because altruistic and/or ideologically motivated voters are in principle willing to pay to advance their altruistic or ideological interests.
 - ii. (Altruists are willing to pay more to advance their altruistic interests as their income rises, and less as it falls, assuming that “altruistic” goals are normal goods.)
 - iii. Shifts in the intensity of ideological demands or in the voter’s ideology will shift the MB (or Mbe) curves of the “typical” voter and therefore also that of the median voter.
- III. Empirical evidence of electoral forces behind a welfare state.**
- A Several economists have attempted to estimate electoral models of the demand (and supply) of social insurance.
 - B There are a variety of puzzles to try to solve with such empirical research. For example, which variables one should focus on change as one shifts across the models developed above.
 - C The results, in turn, shed some indirect light on which model one should use to think about the size of the welfare state.
 - i. That evidence provides somewhat stronger support for the social insurance model of the welfare states.
 - ii. The programs are often called social insurance programs and operate in a manner similar to insurance programs. (That is how the programs are “sold” to voters.)
 - iii. The social insurance rationale for both small and large welfare states is also broadly consistent with empirical evidence developed by Tanzi and Schuknecht’s (2000), which suggests that only modest changes in the income distributions of OECD countries can be attributed to the size of national social insurance programs during the twentieth century.
 - D The private demand for insurance tends to increase with income and with perceived risks.
 - i. But these two factors, alone, are not sufficient to explain all the variation among OECD countries.
 - ii. Income growth after World War II clearly accounts for part of the increase in government-provided income insurance.
 - However, unless social insurance is a luxury good, its income elasticity should be closer to one than three.
 - The doubling and tripling of the size of these programs during the 1960s and 1970s relative to GDP requires much greater income elasticity.

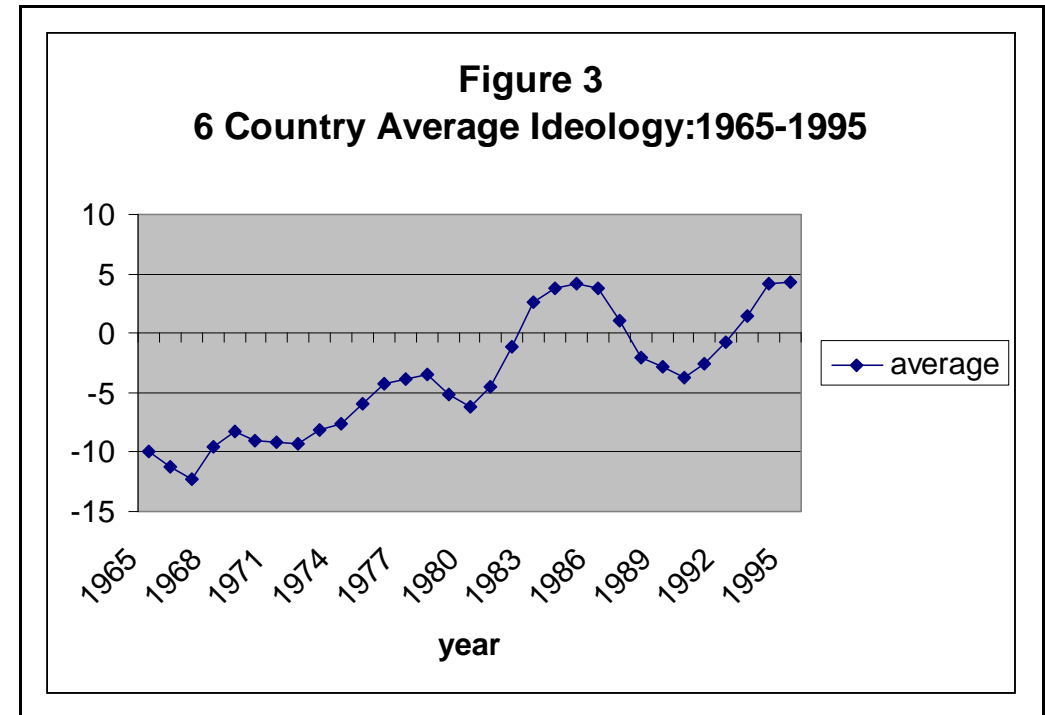
See, for example, Mantis and Farmer (1968) or Gruber and Poterba (1994) for estimates of insurance demand. Both report positive coefficients for income that are

- iii. In the early postwar years, changes in perceived risks are also likely to have played a role. Subjective assessments of risks are likely to have increased by the great depression and World War II.
- In most OECD countries, this increase in demand could be not expressed until after World War II was over and democratic governments were reestablished.
 - Such increases in perceived risks, thus, would partially explain expansions in many national safety nets during the 1950s.
- iv. As peace and prosperity replaced war and sacrifice, however, subjective risk assessments would tend to decrease and reduce the rate of expansion of social insurance programs.
- v. By the late 1960s, one would have expected perceived risks to have stabilized or been reduced by peace and prosperity.
- vi. Any downward trend in risk assessments would have been offset to some extent by increases in the average and median age of the electorate, because economic and health risks tend to increase with age.

E Additional factors were evidently important.

- Congleton and Bose (2010) suggest that rise of the modern welfare state occurred in partly because of ideological and institutional changes that took place after World War II.
- In general, ideology shifted in a leftward direction. P
- Political institutions were often modified in a manner that tended to make governments more responsive to short term changes in voter preferences by weakening or eliminating second chambers in bicameral governments.

F The remainder of this lecture focuses on a recent study undertaken by Roger Congleton and Feler Bose a few years ago.



- Congleton and Bose (2010) develop a series of estimates of ideologically and institutionally augmented electoral model of the size of social insurance programs in OECD countries.
- Their estimates are consistent with an electoral model of social insurance demand.
- Welfare state programs tend to expand with average age, income, and as ideology drifted to the left.
- The responsiveness of governments to changes in voter demand tends to decrease (or increase less) as the number of veto players in a nation's political institutions increased.

consistent with a less-than unitary income elasticity for the demand for insurance.

v. They conclude that the modern welfare state rose, because voter income increased and because ideological norms shifted in directions that favored larger social insurance programs.

vi. The growth of social insurance programs in specific countries was also affected by the political institutions under which program reforms were adopted, with less expansion of the welfare state taking place in countries with more political veto players.

G Although the Congleton and Bose estimates do not include separate medical R&D expenditures, similar effects are likely to exist for health-care R&D subsidies, which have been increasing through time as income and median age (risk) increase.

Table 1: Descriptive Statistics

Number of Observations, Mean, Standard Deviation,

Minimum and Maximum for the key variables

	Mean	Standard Deviation	Minimum	Maximum
Ideology (right-left)	-3.85	12.89	-39.94	42.88
Bicameralism	0.68	0.81	0	2
Presidential	0.22	0.42	0	1
Single Member District	0.6	0.82	0	2
Federalism	0.58	0.84	0	2
Social Insurance (sstran)	13.33	4.95	3.5	28.8
Real GDP/capita (WDI, 1960-2000)	17,302.88	6,615.57	4,987.67	37,164.6
Real GDP/capita (WB Penn 6.1, 1950-2000)	14,862.44	5,794.26	2,417.02	33,308.4
Gov. Share (WDI, 1960-2000)	18.46	4.19	7.66	29.94
Gov. Share (WB)	18.72	5.87	7.86	32.06

	Static		Dynamic	
	OLS	OLS	OLS	OLS
C	6.857 (11.93)***	8.634 (14.84)***	7.140 (12.12)***	8.561 (14.51)***
SStran (1960)	0.867 (14.64)***	0.829 (14.65)***	0.844 (14.07)***	0.850 (14.90)***
Ideology	0.034 (2.37)**	0.014 (5.79)***	0.058 (3.12)***	0.060 (3.44)***
Bicameral	-0.733 (-3.32)***	-0.341 (-1.37)	-0.783 (-3.39)***	-0.601 (-2.32)**
Presidential	-0.101 (0.24)	0.540 (0.38)	0.144 (0.32)	0.684 (1.62)*
Single Member Districts		-1.63 (7.85)***		-1.40 (-6.08)***
Federalism		-1.219 (-4.90)***		-1.363 (5.28)***
Ideo x Bicam			-0.039 (-2.11)**	-0.035 (-1.67)*
Ideo x Pres			0.007 (0.22)	0.075 (2.15)**
Ideo x Singmem				0.087 (4.22)***
Ideo x Fed				-0.023 (-0.84)
R ²	0.28	0.39	0.28	0.41
F-Statistic	63.72***	69.81***	43.37***	46.19***
nobs	301	301	301	301

Notes: T-statistics appear in the parentheses, *** denotes statistical significance at the 1% level, ** at the 5% level, and * at the 10% level.