A joint Initiative of Ludwig-Maximilians-Universität and Ifo Institute for Economic Research

Working Papers

THE ECONOMIC EFFECTS OF DEMOCRATIC PARTICIPATION

DENNIS C. MUELLER
THOMAS STRATMANN*

CESifo Working Paper No. 656 (2)

January 2002

Category 2: Public Choice

CESifo
Center for Economic Studies & Ifo Institute for Economic Research
Poschingerstr. 5, 81679 Munich, Germany
Phone: +49 (89) 9224-1410 - Fax: +49 (89) 9224-1409
e-mail: office@CESifo.de
ISSN 1617-9595

* Thomas Stratmann would like to thank the Center for Economic Studies for financial support.

CESifo *Working Paper No. 656*
January 2002

THE ECONOMIC EFFECTS OF DEMOCRATIC PARTICIPATION

Abstract

Considerable concern has been expressed in recent years about declines in voter participation rates in the United States and in several other major democratic countries. Some feel low participation rates introduce a "class bias" into the political process and thereby worsen the outcomes from it. Little empirical work exists, however, that measures the effects of lower participation on the welfare of a country. This paper begins to fill this void. It presents cross-national evidence that high levels of democratic participation are associated with more equal distributions of income. The paper's results also imply, however, that this reduction in income inequality comes at a cost. High participation rates are related to larger government sectors which in turn lead to slower economic growth. We also present evidence of the "capture" of government by upper income groups in Latin and Central American countries.

JEL Classification: D70, H0.

Dennis C. Mueller
Department of Economics
University of Vienna
BWZ-Brüner Straße 72
1210 Wien
Austria

Thomas Stratmann
Department of Economics
George Mason University
1D3 – Carow Hall
4400 University Drive
Fairfax, VA 22030-4444
U.S.A.
tstratma@gmu.edu

Introduction

Participation in the democratic process as measured by turnouts in major elections has declined in the United States and in several other major democratic countries. This decline has led to considerable interest in explaining its cause and concern about its consequences. With respect to the first question, a vast literature already exists that seeks to explain differences in participation rates both within and across countries.[1] Little empirical work exists, however, that measures the effects of lower participation on the welfare of a country. It is this void which we begin to fill.

Not only is there little evidence regarding the effects of low participation in politics, there is even disagreement among observers as to what these effects should be, and whether higher participation improves the quality of the democratic process. John Stuart Mill (1861, 1958, p. 114), for example, opposed the broadening of the franchise on the grounds that it would "place the principal power in the hands of classes more and more below the highest level of instruction in the community," and thus lead "toward collective mediocrity."[2] Arend Lijphart (1997, p. 1) in his presidential address to the American Political Science Association, on the other hand, sees a greater danger from low participation in elections, because it leads to "inequality of representation and influence [that] are not randomly distributed but systematically biased in favor of more privileged citizens – those with higher incomes, greater wealth, and better education – and against less advantaged citizens." Both Mill and Lijphart see widespread suffrage and citizen participation as having similar consequences in terms of their effects on the composition of the active electorate, but they

[1] The major international comparative studies would include Jackman (1987), Powell (1980), and Verba, Nie and Kim (1978). See, also references to the earlier literature in these works in Lijphart (1997).

[2] See also Beer (1982).

draw exactly opposite inferences about the desirability of greater citizen participation. Indeed, while Mill wished to discourage poorly educated and property-less citizens from voting,[3] Lijphart (1997) goes so far as to advocate compelling these and all other citizens to vote.

Mill feared that the participation of the uneducated and poor would worsen the *quality* of the inputs into the political process and thereby the quality of the policies coming out of it. Lijphart, on the other hand, fears that low participation rates for the uneducated and poor give rise to a class bias in the political process and thus to social injustices. Neither prediction excludes the other, so we must allow for the possibility that both are correct.

One way to test for the existence of class bias in the political process is to compare the distributions of income across countries. If low participation by the low income and poorly educated classes favors the rich and highly educated, we should see greater income disparities in countries with low political participation by the lower classes. We test this hypothesis by relating voter participation rates to a standard measure of income inequality — the Gini coefficient.

Mill's concerns are more difficult to formulate as a testable hypothesis. We make a

[3] Mill generally favored a system of weighted voting with the votes of poorly-educated citizens getting lower weights. However, he advocated the outright disenfranchisement of people who did not pay taxes, which would at that time have meant all of the poor.

> It is also important that the assembly which votes the taxes, either general or local, should be elected exclusively by those who pay something toward the taxes imposed. Those who pay no taxes, disposing by their votes of other people's money, have every motive to be lavish and none to economize. As far as money matters are concerned, any power of voting possessed by them is a violation of the fundamental principle of free government – a severance of the power of control from the interest in its beneficial exercise. It amounts to allowing them to put their hands into other people's pockets for any purpose which they think fit to call a public one;
>
> John Stuart Mill (1865, p. 133)

first attempt to do so by estimating the effects of citizen participation on economic growth. We focus on this economic effect of citizen participation, because country growth rates are widely accepted measures of economic performance. Moreover, to achieve high levels of growth governments must adopt intelligent economic policies, or at least refrain from foolish ones. Thus, if high participation by low income and uneducated classes leads to poor government policies of one sort or another, misguided economic policies causing slow growth are likely to be among them. A second reason to choose economic growth to test for the consequences of low participation is because of the popular belief in a trade-off between efficiency and equity (Okun, 1975). If participation in elections does affect the distribution of income, it is likely to affect the efficiency of the economy and the rate of growth.

Both Lijphart and Mill implicitly assume that government policies are directly responsive to the preferences of the citizens as expressed in elections. If the fraction of voters with low incomes increases, government policies shift in favor of lower-income groups. If the fraction of uniformed or uneducated voters increases, government policies worsen. Where such direct links between voter preferences and government policies exist we shall say that a country has *strong* democratic institutions.

Li, Squire and Zou (1998) have recently hypothesized that in some countries, where democratic institutions are *weak*, the more privileged classes are able to "capture the government" and bend its policies to advance their interests at the expense of the larger electorate. The privileged classes govern both the private sector and the public sector, and use the latter to maintain and enhance their economic status. In these countries, government programs are expected to be less sensitive to the composition of the electorate than in countries with strong democratic institutions. Li, Squire and Zou presented evidence in support of their hypothesis using cross-national data on income inequality. Given that we

also try to explain cross-national differences in income inequality, we shall also allow for the possibility that government policies are not solely determined by the composition of the electorate in countries with weak democratic institutions. We test this "government capture" hypothesis by dividing our sample into countries with strong and weak democratic institutions, and estimating separate effects of government policies for the different subsamples.

We proceed as follows: In Section I various hypotheses about the possible consequences of low voter turnouts and government policies are reviewed, and the specific models that we test are presented. Section II describes the data, and in Section III we discuss our findings. Possible biases from the simultaneous nature of the model are tested for in Section IV. Conclusions are drawn in the final section.

I. Modeling the Economic Consequences of Voter Participation

A. Distribution of income

The class-bias hypothesis regarding the economic consequences of low participation rates has the following chain of logic: (1) the upper classes have higher participation rates than the lower classes, (2) the upper classes favor right of center parties, the lower classes left of center parties, and (3) right of center parties adopt policies that benefit the upper classes, while left of center parties adopt policies that favor the lower classes.

Of the three, the first premise has the most empirical support. Countless studies using survey data within countries have found a positive correlation between participation and various measures of economic status like education and income.[4] Although both variables are

[4] See, for example, Powell (1980), Verba and Nie (1972), Verba, Nie and Kim (1978) among many others.

usually positively related to participation rates, the impact of income sometimes disappears once education is controlled for,[5] and Chapman and Palda (1983) even obtained a negative and significant coefficient on income in an equation to explain voting, once education was included. One explanation for the strong association between education and voting is that better educated people gather more information about government policies and candidates in the course of their work and leisure time activities. Thus, the costs of becoming informed and voting are lower for better educated citizens (Filer, Kenny, and Morton, 1993). This explanation for the correlation between education and participation reinforces the prediction that government policies will worsen, if high fractions of low income/low education citizens vote, because they tend to be less-well informed about government programs.

The second premise posits that voter choices are driven by class identifications. This once popular view has been challenged by many. Recent studies of the United States even suggest that nonvoters lean toward the Republican Party (Texeira, 1992; Gant and Lyons, 1993). Even the defenders of this hypothesis regard it as more complicated today than the original working-class-left-of-center versus upper-class-right-of-center dichotomy implied.[6]

Premise three has found support in the many studies that have detected systematic differences in the economic policies of parties (e.g., Hibbs, 1977, 1987; Tufte, 1978). Logically, however, if premise two is false, premise three should also fall, as there would be no incentive for parties to slant their policies toward particular class interests if voter behavior was not in part determined by these interests.

---

[5] See, Lipset (1960), Ashenfelter and Kelley (1975), and Powell (1986). Parry, Moser and Day (1992, Ch. 4) are one of the few studies to observe a *negative* relationship between education and voting using data for Great Britain.

[6] For discussion and references to this literature, see Fiorina (1997, pp. 391-97), Lijphart (1997, p. 4), Evans (1999) and Grofman, Owen, and Collet (1999).

Our goal here is not to establish the empirical support for each of the three premises, but rather to test their joint implications with respect to the effects of voter participation. If the three premises are accepted, then voter participation rates across countries should be associated with differences in the economic policies that affect the distribution of income (Hibbs and Dennis, 1988).[7]

Governments can affect the distribution of income in several ways. Perhaps the most obvious of these is through taxation and transfers. In our empirical analysis, we thus include total governmental transfers (GovTr) to explain the distribution of income in a country, as measured by the Gini coefficient (Gini).[8] Expenditures on education, housing, health care and the like can also affect the distribution of income. As an alternative to government transfers, we include total government size (GovS), which includes both expenditures and transfers in the Gini equation.

The "government capture" hypothesis is tested by dividing the sample into countries with strong and weak democratic institutions and estimating separate coefficients on the government size and transfer variables for the different subsamples. A country is classified as having strong democratic institutions, if it receives the highest score (1.0) in the Freedom House evaluation of its political rights. All countries receiving lower scores are classified as weak democracies.[9] If the government capture hypothesis is valid, government expenditures

[7] Premises two and three could simply be replaced by the median voter theorem, if we make the assumption that rich-to-poor redistribution is a single dimensional issue, as in Meltzer and Richard (1981). The first premise – that low voter participation rates imply disproportionately low participation by the poor – is still needed, of course.

[8] We were not able to find another measure of income inequality with as broad a coverage as our data for Gini coefficients exhibit. The standard measures of income inequality tend to be highly correlated, so we do not expect a bias from this choice.

[9] Freedom House gives countries scores from 1 to 7 for political rights based on 8 questions that include questions like, "Are the legislative representatives elected through free

and transfers should favor the rich in countries with weak democratic institutions.[10]

Many government policies other than expenditures and transfers can affect the distribution of income. Holding expenditures fixed, the distribution of income will be more equal, the more progressive the tax system. Government programs to encourage the hiring of disadvantaged minorities may reduce income inequality. In many countries governments are directly involved in determining private sector wages. Thus, we also include the voter participation rate (Partic) in the equation to capture its effects of non expenditure/transfer policies favoring the poor in the Gini equation.

Li, Squire and Zou (1998) argue that the poor fare better in countries with more highly developed financial institutions, since these afford them better access to capital and thus increase their chances of escaping poverty. We retest this hypothesis using their measure of financial development namely, M2 divided by GDP (M2).

Extreme deprivation is most prevalent in countries with rapidly growing populations and high illiteracy (low education) levels. To control for these factors, and better isolate the effects of participation and government programs, we include enrollment in secondary education (SecEd), and population growth (PopGr).[11] Adding an intercept (Inter) gives us

$$Gini = Inter + \beta_1 Partic + \beta_2 M2 + \beta_3 SecEd + \beta_4 PopGr + \beta_5 GovTr + \mu \qquad (1)$$

---

and fair elections? Are the voters able to endow their freely elected representatives with real power?" "Yes" answers to these questions should make a country's democratic institutions strong by our definition. Freedom House data start in 1972 for most countries. If a country is in our data set prior to 1972 we assigned the 1972 Freedom House score to the country prior to 1972.

[10] The breakdown of the countries which we used is given in the appendix.

[11] We also estimated the equation including the average GDP per capita in a country to test whether redistribution is a form of luxury good of which richer countries consume more. But the variable was never statistically significant, and so we have dropped it from the equation.

or

$$Gini = Inter + \beta_1 Partic + \beta_2 M2 + \beta_3 SecEd + \beta_4 PopGr + \beta_5 GovS + \mu \qquad (2)^{12}$$

B. Government size

The logic of the class-bias hypothesis is that high voter participation rates affect government policies, which in turn affect the distribution of income. Thus, voter turnouts should also be positively related to our two measures of government size, GovTr and GovS.[13] Given the potential importance of education on the distribution of income, we shall also test to see whether participation rates can explain governmental education expenditures (GovEd).

A variety of hypotheses about the determinants of government size have been proposed in a vast number of studies.[14] Among the most venerable of these is "Wagner's Law" linking the relative size of the government sector to national income. We test this by including GDP per capita (GDP) in each governmental expenditure equation.

We include the fractions of the population, which are under 14 (Pop14-) and over 65

[12] Institutional changes like the Voting Rights Act of 1965, which lowered the costs of voting for blacks in the Southern United States, can also affect the composition of the electorate and governmental redistribution policies. In principal, such events could be accounted for by adding a dummy variable. Since our focus is not on the impacts of these events, we have not combed the histories of every country in our sample to isolate similar events. This strategy has the advantage of not cluttering up our tables with a host of country specific variables. It has the disadvantage of lowering the explanatory power of the models.

[13] Direct evidence in support of this part of the class bias hypothesis has recently been presented by Husted and Kenny (1997) and Lott and Kenny (1999). Husted and Kenny find that the enfranchisement of low-income voters in the South following the repeal of literacy tests and poll taxes led to an increase in transfers in the affected states. Lott and Kenny relate the introduction of women into the electorate to increases in state budget sizes.

[14] For surveys of this literature see, Mueller (1989, Ch. 17), and Holsey and Borcherding (1997).

(Pop65+) in both the GovTr and GovS equations, since these are two major groups that are particularly dependent on government transfers and outlays. We exclude the Pop65+ variable from the GovEd equation. If governments respond to demands for education and retirement spending, then the size of these clientele groups should be related to the scale of the governmental programs that benefit them. If, on the other hand, governments tend to serve the interests of the upper classes in countries with weak democratic institutions, there may be no relationship between the scale of governmental activity, and the size of these clientele groups. We test this hypothesis by estimating the GovS, GovTr and GovEd equations separately for each subsample of countries.

Cameron (1978) and Rodrik (1998) present evidence linking a country's dependency on international trade to the size of its government. The hypothesis here is that in countries with large amounts of international trade incomes are exposed to greater shocks because of exchange rate fluctuations, large capital movements, etc. In these countries, government activity expands to cushion incomes from these risks. This activity may consist of direct transfers, targeted expenditures or, particularly in countries with poorly developed tax and transfer systems, employment in the public sector. We test this hypothesis by including the ratio of imports plus exports to GDP (Open) in the government outlays equations.

The variables discussed so far may all be regarded as factors that might affect the demand for government programs. The size of the relative government sector can also be expected to depend on supply factors. Important among these is simply the government's capability of raising tax revenue. Following Kau and Rubin (1982, 1999) the fraction of the labor force that is female (Female) is included as a index of the level of economic sophistication of a country, and thus as a proxy for its capability of raising tax revenue.

As additional variables to control for either demand or supply factors that might be

related to the characteristics of the economy or its stage of development, we include the fraction of the workforce engaged in agriculture (Agr), and the fraction of the population living in urban areas (Urban). This gives us as our basic governmental outlay models

$$GovS = Inter + \beta_1 GDP + \beta_2 Pop14- + \beta_3 Pop65+ + \beta_4 Partic + \beta_5 Open + \beta_6 Female + \beta_7 Agr + \beta_8 Urban + \mu \quad (3)$$

$$GovTr = Inter + \beta_1 GDP + \beta_2 Pop14- + \beta_3 Pop65+ + \beta_4 Partic + \beta_5 Open + \beta_6 Female + \beta_7 Agr + \beta_8 Urban + \mu \quad (4)$$

$$GovEd = Inter + \beta_1 GDP + \beta_2 Pop14- + \beta_3 Partic + \beta_4 Open + \beta_5 Female + \beta_6 Agr + \beta_7 Urban + \mu \quad (5)$$

C. Growth

In addition to affecting the distribution of income, high participation rates may introduce "white noise" into the democratic process. Uneducated voters may be less capable of evaluating the consequences of the economic policies of different parties, or make systematic errors. For example, lower educated voters might be more myopic, and vote for parties that promise large transfers and reductions in unemployment, even though these policies will result in large government deficits, inflation, and long run damage to the economy that eventually harms the lower income classes. We use the growth in income per capita of a country (GDPGR) as an index of the quality of a its collective decisions, and test to see whether it is negatively related to its voter participation rate.

Expenditures on roads and other infrastructure, and education and research outlays can all increase a country's growth rate. The taxes to finance these outlays and to finance transfers may, on the other hand, have disincentive effects which retard growth. We test for these effects by including both GovS and GovTr in the equation to explain GDPGR (Barro,

1990, 1991). Rather than measure education's effect on growth by including government expenditures on education, we follow other studies and include only the fraction of the population that has completed a secondary education (SecEd).

Differences in country growth rates are directly related to their stages of economic development. Less-developed countries are often able to grow very rapidly by adopting the technologies of the developed countries. This "catch-up" hypothesis is usually tested by regressing the growth in GDP per capita on to some initial level of income (Barro, 1991). We test this hypothesis by including lagged GDP (LGDP) in the equation. As an additional control for differences in country levels of development, we include population growth (PopGr). This gives us

$$GDPGR = Inter + \beta_1 LGDP + \beta_2 SecEd + \beta_3 PopGr + \beta_4 Partic + \beta_5 GovS + \mu \quad (6)$$

$$GDPGR = Inter + \beta_1 LGDP + \beta_2 SecEd + \beta_3 PopGr + \beta_4 Partic + \beta_5 GovTr + \mu \quad (7)$$

D. Participation

Although this study's focus is not on the determinants of participation rates, but rather on their effects, we estimate a participation equation to test whether participation is endogenous in regressions 1 to 7. Participation is endogenous in the regression equations if, for example, unobserved or unmeasured variables determine both participation and, for example, a country's economic growth. In this case the Ordinary Least Squares (OLS) estimates are biased and a Two Stage Least Square (2SLS) estimation method is required. Our participation equation includes the main variables used in cross-national comparison studies. As noted above, income and education have generally been found to be positively correlated with voter participation rates. The logic of the Downsian voter model would predict a negative coefficient on income per capita, however, if income captures a voter's

opportunity costs of time. To measure the opportunity costs of working voters, a country's GDP divided by its working age population (GDP/WA) is included in the equation. Two measures of education attainment are employed, the fractions of the population completing secondary (SecEd), and primary schools (PrimEd).

As additional instruments to help identify the effect of participation on our dependent variables, we include several variables to capture the efficacy of a citizen's vote, or the costs of voting. The bigger a country's population, the less impact a citizen's vote has. We include the population of a country (Pop) and predict a negative coefficient for it. Countries with rapidly growing populations (PopGr) have relatively young populations, and are expected therefore to have lower voter turnouts. The fraction of the total vote captured by the largest party (Larg%) is included as an inverse measure of the closeness of an election,[15] and is predicted to have a negative sign. An indicator variable which takes the value of one if a country uses an electoral rule that allows more than one representative to be elected from an electoral district (Multi) is included to identify countries with proportional representation systems, and is predicted to have a positive coefficient based on previous empirical work (Powell, 1980, 1986). A second indicator variable which takes the value of one if a country has a mixed electoral system that combines elements of proportional representation and single-member-district representation (Mixed) is also included. The costs of voting should be lower in urbanized communities than in rural areas, because voters do not have to travel as far to vote. We, thus, include *Urban* in the participation equation and predict a positive coefficient. Finally, *Comp* is an indicator variable which takes the value of one, if a country *compels* people to vote in some way (usually by imposing a small fine for not voting). This

[15]An alternative measure for closeness of the election is the difference in the percentage received by the top two parties. Due to data limitations we were unable to examine whether this measure produces significantly different results from our measure of closeness.

gives us the following equation to explain voter participation.

$$\text{Partic} = \text{Inter} + \beta_1\text{GDP/WA} + \beta_2\text{SecEd} + \beta_3\text{PrimEd} + \beta_4\text{Pop} + \beta_5\text{Popgr} + \beta_6\text{Larg\%} + \beta_7\text{Multi} + \beta_8\text{Mixd} + \beta_9\text{Urban} + \beta_{10}\text{Comp} + \mu \quad (8)$$

II. Data Description

Table 1 presents the means, standard deviations, and numbers of observations for the variables used in this study. The variables are described in more detail in Table A1 of the Appendix. Our data set spans from 1960 to 1990 and the unit of observation is the average value of a given variable in the five-year periods 1960-65, 1965-70, etc. period. Table A2 in the Appendix shows which countries are included in the data set. The first three columns of Table 1 contain the statistics for the full sample. As can readily be seen, the number of observations available differs across the variables leading to different sized samples for many of the models tested.

All of the countries in our sample have been classified by our data source for voter turnouts and other electoral data (the Institute for Democracy and Electoral Assistance) as democracies during the years in which they are in our sample. Democracy is not a 0/1 variable, however, but comes in different strengths. We have, therefore, divided our sample into strong and weak democratic systems using Freedom House's scale of the strength of a country's political rights (Freedom House score of 1 = strong democratic, > 1 = weak democratic). Under this division, the strong democratic category contains a fairly homogeneous set of mostly high income countries like the United States, EU members, Canada and so on. The set of weak democratic countries is quite heterogeneous, however, spanning the continents of Africa, Asia and North and South America. We thus experimented with additional subdivisions of the weak democratic subsample and found, as

we shall see, sometimes rather dramatic differences between the weak-democratic Latin American countries and rest of the subsample. The Latin American countries have many common features, which make this a reasonable grouping, e.g., they are Catholic countries with populations consisting of a mixture of people of European and native ancestry, the Europeans come predominantly from the Iberian peninsula, and they mostly employ presidential systems of government. Although the remaining group of weak-democratic countries remains somewhat heterogeneous, further subdivision of the sample (e.g., Africa/Asia) was precluded by the small number of observations available for each group. The last nine columns in Table 1 present the summary statistics for each of the three subsamples.

Many countries hold separate elections for their legislative assemblies and presidents. Since government policies must always be approved by the legislature, but not necessarily by the president in every country, we believe that the most relevant turnout figures are for elections to the legislatures and have used these figures. This choice implies for the United States, that figures for turnouts in Congressional elections in years when the president is not elected are used.

The average participation rate across the full sample was nearly 68 percent of the voting age population. The mean in the strong-democratic countries (hereafter, SD countries) was 77 percent, which was much higher than the 65 percent observed in the weak-democratic, non Latin American countries (hereafter, WDNLA countries), and the 59 percent in the weak-democratic, Latin American countries (hereafter, WDLA countries). Compulsory voting is most popular among the WDLA countries with 71 percent of them having it, and least popular in the WDNLA countries (10 percent). As noted above, the strong-democratic countries have much higher incomes than the weak-democratic countries.

GDP per capita is $8,733 in the SD countries, $2,881 in the WDNLA countries, and $2,764 in the WDLA countries.

The weak-democratic Latin American countries have the most unequal distributions of income (mean Gini = 48.7), followed by the WDNLA countries (mean Gini = 40.2), with the SD countries having the most evenly distributed incomes (mean Gini = 35.4).[16]

The WDNLA countries had the fastest growth on average (3.1 percent), while the WDLA countries had the slowest growth with a mean of only 1.3 percent. On average the government sector accounted for 21 percent of GDP in the Latin and Central American countries, 29 percent of GDP in the WDNLA countries and 39 percent in the SD countries.

[16] In this study we use the after-tax Gini coefficient.

Table 1

Means and Standard Deviations of All Variables

	Full Sample			Strong Democracy			Weak Democracy/ Non Latin America			Weak Democracy/Latin America		
Variable	**Mean**	**S.D.**	**n**	**Mean**	**S.D.**	**n**	**Mean**	**S.D.**	**n**	**Mean**	**S.D.**	**n**
Gini	40.24	9.37	247	35.36	7.20	106	40.20	8.99	79	48.65	6.90	62
GDPPR	0.023	0.027	312	.025	0.019	131	0.032	0.031	92	0.013	0.030	89
Partic	0.679	0.176	342	0.774	0.125	133	0.649	0.164	111	0.586	0.188	98
GovTr	0.095	0.073	217	0.158	0.060	90	0.056	0.046	74	0.046	0.039	53
GovS	0.312	0.134	399	0.387	0.114	127	0.290	0.124	97	0.213	0.101	75
GovEd	0.033	0.018	222	0.034	0.020	91	0.036	0.017	78	0.027	0.015	53
GDP	5212	3915	329	8733	3369	133	2881	2390	99	2764	1538	97
SecEd	20.63	16.13	342	31.68	17.18	133	14.83	13.12	111	12.19	6.33	98
PrimEd	49.26	19.87	341	55.18	20.35	133	38.53	19.55	110	53.28	14.03	98
Larg %	0.485	0.160	304	0.427	0.103	133	0.501	0.174	75	0.553	0.184	96
Pop	34,353	90,320	304	26,888	46,425	133	71,842	163,235	75	15,407	26,790	96
PopGr	0.018	0.011	336	0.010	0.009	131	0.022	0.010	110	0.025	0.009	95
Comp	0.357	0.480	342	0.308	0.464	133	0.099	0.300	111	0.714	0.454	98
Multi	0.720	0.450	304	0.684	0.467	133	0.600	0.493	75	0.865	0.344	96
Mixed	0.056	0.230	304	0.015	0.122	131	0.120	0.327	75	0.063	0.243	96

LGDP	4,673	3,608	312	7,794	3,170	131	2,308	1,985	92	2,525	1,442	89
Open	0.687	0.533	242	0.661	0.343	101	0.851	0.761	83	0.497	0.287	58
Female	30.86	8.72	299	34.39	6.75	127	33.00	8.21	97	22.12	6.00	75
Urban	57.60	23.29	299	71.31	16.41	127	42.89	25.86	97	53.41	15.32	75
Pop65+	0.071	0.043	340	0.113	0.033	133	0.050	0.029	111	0.041	0.018	98
Pop14-	0.338	0.098	340	0.254	0.069	133	0.368	0.081	111	0.415	0.057	98
M2/GDP	38.59	24.32	313	53.17	25.07	115	37.90	22.60	103	21.68	9.83	95

III. The Results

A. Income Distribution

Table 2 presents the results for five income distribution regressions, which test the class bias and government capture hypotheses. We have sought to include as many countries and observations in each regression as we could. This strategy causes the number of observations to vary across the models depending on which variables are included, and thus which countries had to be dropped because of missing observations.

The results with respect to the voter participation variable offer strong support for the class bias hypothesis. In all five specifications of the model, Partic has a negative and significant coefficient. Moreover, the sizes of its coefficients imply a potentially large reduction in income inequality from an increase in voter participation. An increase in the participation rate from 40 percent to 80 percent, values towards the ends of the range of voter participation rates, is estimated to reduce the Gini coefficient by around 4.0, about 10 percent of its mean value for the full sample of countries.[17]

For the full sample, the coefficients on both total governmental outlays (eq. 2) and governmental transfers (eq. 3) have the predicted negative signs, but neither is statistically significant. The impact of government size and government transfers on the Gini coefficient differs dramatically across the three subsets of countries, however. Although the coefficient on GovS remains negative and statistically insignificant for both the SD and WDNLA countries, it becomes positive and highly significant for the WDLA countries (eq. 4). This result supports the prediction that government serves the interests of the upper classes in

[17] We also estimated separate regressions including either GovS or GovTr for each of the three subsamples. All coefficients on Partic fell in the range of -8 to -12 and were highly significant. Since no additional insights were gained from the six regressions over what is implied by eqs. 4 and 5 of Table 2, we have chosen the simpler presentation of the results.

countries with weak democratic institutions, at least in Latin and Central America.

The difference across the three samples of countries is even more dramatic for government transfers (eq. 5). Government transfers in both the SD and the WDNLA countries have negative coefficients that are significant at the 10 and 5 percent levels respectively. An increase in government transfers by five percent of GDP in the SD countries is predicted to reduce the Gini coefficient by 0.85 of a point. The same increase in the WDNLA countries — which would amount to a doubling of the mean value of transfers for these countries — reduces income inequality by twice as much.

The coefficient on GovTr for the WDLA countries is, on the other hand, positive, large in absolute value, and significant at the one percent level. An increase of government transfers by five percent of GDP, i.e., a doubling of the mean value of transfers for these countries, would *increase* the Gini coefficient by some 3 points, 7.5 percent of its mean in the WDLA countries. Thus, government's impact on income inequality is seen to be quite different across the three groups of countries.

The measure of financial development (M2/GDP) has the predicted negative sign and is significant in all five specifications. All coefficients on SecEd and PopGr also have the predicted signs, with nine of the ten being statistically significant. Countries with higher levels of financial development and secondary education have lower Gini coefficients, while countries with rapidly growing populations tend to have more unequal distributions of income.[18]

Table 2
OLS Regression Results Explaining Differences in Income Distribution Across Countries

[18]The results for the Gini equations are robust to including female labor participation, the country's age distribution, and urbanization.

Dependent Variable is Gini Coefficient

Variable	1	2	3	4	5
Intercept	52.41 6.21	56.05 15.83	51.17 13.78	49.59 13.82	48.32 13.81
Participation	-9.66 3.10	-12.08 3.52	-9.93 2.94	-8.89 2.69	-8.58 2.73
M2	-0.12 4.38	-0.12 4.25	-0.11 3.75	-0.068 2.36	-0.066 2.29
Sec. Educ.	-0.13 3.96	-0.14 4.23	-0.11 3.41	-0.13 3.89	-0.089 2.91
Pop. Gr.	137.81 2.27	98.31 1.51	187.58 2.60	141.48 2.25	185.61 2.77
Gov. Size		-3.71 0.76			
Gov. Transfers			-7.16 0.69		
Gov.Size/SD				-3.49 0.75	
Gov. Size/ WDNLA				-6.03 1.12	
Gov. Size/ WDLA				21.92 3.08	
Gov. Transf./SD					-17.29 1.76
Gov.Transf./ WDNLA					-32.68 1.96
Gov.Transf./ WDLA					60.54 3.37
n	225	199	147	199	147
	.415	0.461	0.550	0.521	0.632

The results reported in Table 2 offer support for both the class bias and government capture hypothesis. The participation variable has a negative and statistically significant

coefficient in all five specifications of the model indicating that non expenditure policies favoring the poor seem to be helped by higher voter turnouts in all countries. Further support for the class bias hypothesis is found in countries with strong democratic institutions and in the non Latin American countries with weak democratic institutions, where government transfer programs have a significant negative impact on income inequality. In the WDLA countries, on the other hand, government transfers appear to go to the higher income groups and actually increase income inequality lending support to the government capture hypothesis.[19]

B. Governmental Size

Table 3 shows the effect of participation on various categories of government spending. Because the results differ in several respects across the three subsamples, we

[19]An alternative estimation technique to the one presented here is to include country indicators in each regression equation. This method effectively estimates the effect of changes in participation on changes in the dependent variable. We chose not to employ this estimation technique for several reasons. Given data limitations, often countries occur in our data set only a few times. For example, depending on the specification, we have on average 200 observations and about 65 countries for the entire sample. Given that we lose one observation per country when we examine changes in variables, we would have effectively only two observations per country and thus would lose many degrees of freedom, if we included country indicators. Moreover, some countries have data gaps in their time series, so we would have to drop these countries because time periods are not adjoining, exacerbating the reduction in the degrees of freedom that is associated with the inclusion of country indicators. Lastly, changes in participation rates within a country occur slowly over time and thus we believe that given the current data limitations, our analysis of differences in rates across countries rather than changes within a country is the more promising way to proceed.

present separate regressions for each.

The voter participation rate has a positive coefficient in 11 of the 12 government outlays equations, and is statistically significant in eight of them. The voter turnout coefficient is statistically significant in all three government outlays equations across the full sample, and for the three equations estimated over the SD countries. The latter result adds further support for the class bias hypothesis in these countries. In Table 2 we saw that government size (weakly) and government transfers (significantly) reduce income inequality in the SD countries. Equations 4 and 5 of Table 3 indicate that higher participation rates lead to higher government spending and transfers in these countries. Thus, higher voter participation in the SD countries appears to reduce income inequality by affecting both governmental outlays and non expenditure programs in these countries. Since education levels also have a significant negative effect on the size of the Gini coefficient (Table 2), and voter participation has a significant positive impact on government spending on education in the SD countries (eq. 6), this combination of results also supports the class bias hypothesis for the SD countries.

In contrast to the SD countries, only two of the coefficients on Partic are significant in the six equations for the weak-democratic countries. In both cases this occurs for the government size equation. The fact that higher participation rates do not lead to significantly higher transfers and expenditures on education in countries with weak democratic institutions supports the capture hypothesis. Greater participation by the poor in the political process does not lead to expansions of those governmental programs that can potentially affect them the most in countries with weak democratic institutions.

The hypothesis that the upper classes can capture the government in countries with weak-democratic institutions receives further support for the Central and Latin American

countries, when we examine the coefficients on the fractions of the population 65 and older and 14 and under. The level of government transfers in WDLA countries is unrelated to the

Table 3

OLS Regression Results Explaining Different Measures of Government Size Across Countries (t-statistics are below the estimated coefficients)

Eq	Sample	Depend. Variable	Interc	Partic	Pop14-	Pop65+	Open	Female	Agr	Urban	GDP	n	
1	All	GovS	-0.29 2.54	0.15 3.32	0.92 4.66	2.86 7.33	0.036 2.85	0.001 1.08	-0.35 4.15	-0.0005 1.01	3.4×10^{-6} 1.01	205	.540
2	All	GovTr	-0.050 1.11	0.038 2.23	0.11 1.48	1.61 10.86	0.013 2.50	-0.001 3.30	-0.044 1.16	-0.0001 0.51	-4.1×10^{-7} 0.32	183	.791
3	All	GovEd	-0.032 2.06	0.033 4.21	0.089 3.72		0.014 6.40	0.0005 2.84	-0.043 2.52	-0.0001 1.33	2.4×10^{-7} 0.42	188	.276
4	Strong Democracy	GovS	-0.21 1.24	0.22 2.63	0.60 1.70	2.73 4.54	0.066 2.81	-0.004 2.14	-0.20 1.37	-0.0001 0.11	9.9×10^{-6} 2.11	80	.599
5	Strong Democracy	GovTr	0.13 1.29	0.081 1.85	-0.24 1.11	1.12 3.36	0.031 2.49	-0.003 3.52	-0.045 0.59	-0.0003 1.01	7.9×10^{-7} 0.30	72	.679
6	Strong Democracy	GovEd	-0.030 1.19	0.062 3.56	0.061 1.47		0.023 4.66	0.0001 0.28	-0.023 0.78	-0.0001 1.11	-4.8×10^{-7} 1.19	73	.471
7	Weak Democracy Non L. A.	GovS	-0.68 3.74	0.14 1.85	2.05 6.63	3.64 5.05	0.013 0.75	-0.002 1.57	-0.31 2.61	-0.0002 0.01	3.1×10^{-5} 3.14	72	.524
8	Weak Democracy Non L. A.	GovTr	-0.074 1.19	0.001 0.04	0.23 2.29	1.68 7.11	0.012 1.75	-0.001 2.59	-0.035 0.66	-0.0002 0.92	1.8×10^{-6} 0.59	63	.672
9	Weak Democracy Non L.A.	GovEd	-0.048 2.18	0.002 0.24	0.20 5.54		0.005 2.02	0.0003 1.25	-0.063 2.71	-0,0001 1.32	5.4×10^{-6} 4.16	67	.487

10	Weak Democracy Lat. Am.	GovS	-0.010 0.04	0.18 2.41	-0.19 0.41	-2.38 1.82	0.17 2.92	0.008 3.39	-0.32 1.59	0.003 1.60	-2.3×10^{-5} 2.09	53	.482
11	Weak Democracy Lat. Am.	GovTr	-0.10 1.05	0.53 1.57	0.012 0.07	0.38 0.79	0.41 1.89	0.002 1.59	-0.045 0.60	0.001 1.91	-8.7×10^{-6} 1.77	48	.505
12	Weak Democracy Lat. Am.	GovEd	-.060 1.64	-0.010 0.74	0.11 2.17		0.049 5.41	0.001 1.35	-0.048 1.60	0.0004 1.25	-1.0×10^{-6} 0.51	48	.458

fraction of the population over 65, and total government expenditures are significantly *negatively* related to this variable. This result is consistent with that observed in eq. 5 of Table 2, where government transfers had a positive impact on the Gini coefficient, and thus seemed targeted toward the rich. Eq. 11 of Table 3 tells us government transfers in the WDLA countries are not targeted to two major low-income groups, children and the elderly. Spending on education is positively related to the fraction of the population under 14 in the Central and Latin American countries, however.

Among the control variables, the openness of a country to trade has the most consistent and strongest relationship to government size. Its coefficient is positive in all 12 government outlays equations in Table 3, and significant in 11 of them. Thus, the hypothesis that exposure to international risk leads to an expansion of the government sector receives considerable support in our data. The only other control variable that performs consistently across the different samples is the fraction of a country's population engaged in agriculture. Its coefficient is negative in all 12 equations in Table 3, and significant in four of them. [20]

C. Growth

Table 4 presents the results for the growth regressions. As was true for the Gini coefficient equations, the main differences across the three subsamples occur with respect to the GovS and GovTr variables, so we have only estimated separate coefficients for these, while constraining the coefficients on all other variables to be the same across the full

[20] We also tried including the fraction of the population working in the service sector as another proxy for a country's state of development and thus ability to raise tax revenue, but it performed more poorly than the other control variables and thus was dropped.

sample.

Table 4

OLS Regression Results Explaining the Growth in Income per Capita Across Countries

Variable	1	2	3	4
Intercept	0.06 5.67	0.06 4.48	0.07 6.95	0.06 4.92
Participation	0.01 0.76	-0.01 0.47	0.00 0.01	-0.01 0.73
Lag GDP	-2.9×10^{-6} 4.12	-2.5×10^{-6} 3.03	-2.8×10^{-6} 3.81	2.6×10^{-6} 3.14
Sec. Educ.	0.0003 2.07	0.0002 1.05	0.0002 1.81	0.0002 0.85
Pop. Gr.	-0.94 4.87	-1.04 3.73	-0.93 4.85	-0.99 3.67
Gov. Size	-0.04 2.69			
Gov. Transfers		-0.04 0.97		
Gov.Size/SD			-0.05 2.93	
Gov. Size/ WDNLA			-0.03 1.96	
Gov.Size/ WDLA			-0.12 5.82	
Gov.Transf./ SD				-0.04 0.84
Gov.Transf./ WDNLA				0.04 0.52
Gov.Transf./ WDLA				-0.30 3.44
n	272	192	272	192
	0.117	0.074	0.206	0.170

The relationship between government size and growth is negative and significant for the full sample, and for each of the three subsamples. Moreover, GovS's coefficients are

quite large. In the full sample an increase in the size of government by 20 percent of GDP shaves nearly a full point off a country's growth rate. For the Latin and Central American subsample, each increase in government size of *ten* percent of GDP is predicted to reduce a country's growth rate by a full percentage point. These findings are inconsistent with the hypothesis of a positive association between government size and growth in low-income countries, where the government sectors tend to be small, and a negative relationship in the high-income countries, where government sectors have perhaps grown too large (Karras, 1996). Our results show that the impact of increases in government size is negative in both the SD countries, which generally have high incomes, and in countries with weak-democratic institutions, which generally have low incomes.[21]

While government size has a negative and statistically significant coefficient for the full sample and all three subsamples in our growth regressions, government transfers are significantly related to economic growth only with respect to the WDLA countries, although the other three coefficients are of the correct sign. Government transfers average about 40 percent of total government outlays in the SD countries, and about 25 percent in the other two samples. Their lack of significance in explaining growth relative to total government spending suggests that it is the disincentive effects of high tax rates, government crowding out of private investment and so on, and not characteristics of the transfer programs per se that slows growth in the SD and WDNLA countries. Once again, the interpretation is somewhat different for the WDLA countries. The coefficient on transfers for these countries is almost three times larger than for GovS. Where an increase in total government size of ten percent of GDP is predicted to reduce a Latin American country's growth rate by one

[21] We tested directly for a nonlinear relationship between government size and growth by including quadratic terms in each regression, but they did not improve the fit to the data, nor change the interpretation of government size's impact on growth.

percentage point, the same increase in transfers reduces the growth rate by three percentage points. Since growth averages only 1.2 percent in the Latin/Central American countries, the negative impact of transfer programs on growth is quite substantial. When one takes into account that transfers in these countries also increase income inequality, their overall impact must be judged to be quite negative.

The voter participation variable is statistically insignificant in all four equations. Thus, any non expenditure programs that are brought about because of higher voter turnouts do not appear to impact economic growth adversely. The only adverse effect of voter participation on growth comes through participation's positive effect on government size, and government size's negative effect on growth.

Most of the other results are consistent with the previous findings in the cross-country growth literature. The catch-up hypothesis finds support in the statistically significant negative coefficients on lagged GDP per capita in all four equations. Population growth has a consistent negative relationship with growth, and secondary education's effect is weakly positive.

D. Participation

Table 5 reports results for the voter participation equation. As was the case for the government outlays, there are several differences in the estimates across the different subsamples, and so we present separate estimates for each. Our main purpose in estimating these equations is not to test different hypotheses about voter participation using cross-

national data, but to specify an equation, which we can use to instrument participation in our other equations to determine whether our results are sensitive to the possible endogeneity of this variable.

The best fit to the data and the closest match to our predictions occur for countries with strong-democratic institutions. All coefficients are statistically significant except for the education variables and the dummy variable for mixed electoral systems, and even these have the predicted positive coefficients. That the best fit to the data comes for the SD countries is reassuring, since our choice of variables and predictions are largely based on the assumption that the democratic process responds to the demands of the voters, and that the voters are rational actors. Where democratic institutions are weak, and government policies are less closely related to voter preferences, the act of voting is more random.

GDP/WA has a negative and significant coefficient for the SD countries subsample. This result is rather strong support for the rational actor model of voting, if one assumes that voters in high income countries generally have higher opportunity costs of voting.[22, 23]

[22]This finding does not necessarily undermine the basic premise underlying the class-bias hypothesis. It is perfectly possible that income and voter participation rates are positively correlated *within* countries, as countless survey studies have established, and negatively correlated *across* countries.

[23] We used GDP per working age person (GDP/WA) in this equation, but the results are very similar if we use GDP per capita.

Table 5

OLS Regression Results Explaining Differences in Voter Participation in National Elections Across Countries
Dependent Variable is Voter Turnout as a Fraction of the Voting Age Population

	Sample	Inter	GDP/WA	SecEd	PrimEd	Larg %	Pop	PopGr	Comp	Urban	Multi	Mixed	n	
1	All	0.59 7.75	-7.5×10^{-7} 0.27	0.002 1.77	0.002 2.33	-0.092 1.41	8.3×10^{-8} 0.77	-4.10 3.39	-0.010 0.50	0.001 1.50	0.080 3.07	-0.010 0.22	262	0.28
2	Strong Democracy	0.31 2.58	-6.9×10^{-6} 2.81	0.001 1.27	0.001 1.44	0.33 3.34	-8.4×10^{-7} 4.19	-2.35 2.13	0.038 2.10	0.004 7.01	0.079 4.04	0.050 0.81	123	0.52
3	Weak Democracy Non L.A.	0.72 6.14	6.1×10^{-6} 0.72	0.001 0.39	0.001 0.62	-0.31 2.38	1.2×10^{-7} 0.97	-1.93 0.92	0.001 0.17	7.9×10^{-6} 0.01	0.130 2.10	0.139 1.62	68	0.28
4	Weak Democracy Lat.Am.	0.30 1.27	2.8×10^{-5} 2.45	-0.004 0.91	6.5×10^{-4} 0.34	0.17 1.53	-1.8×10^{-6} 2.22	-9.31 2.62	0.089 1.73	-1.9×10^{-4} 0.08	0.30 2.47	0.050 0.32	71	0.28

t-statistics are below the estimated coefficients.

The negative and significant coefficient on population size for the SD countries can be interpreted as support for the Downsian voter model, under the assumption that the efficacy of one's vote declines with population size. Rapid population growth leads to younger populations and, since the young vote with lower frequencies, to lower turnouts. Countries which elect more than one candidate from each electoral district are found to have higher turnouts as in other studies, a result generally attributed to the stronger ties between voters and parties and thus lower voter alienation than characterizes multiparty systems. The coefficient on the dummy variable for mixed systems is positive as expected, but statistically insignificant.

Compulsory voting has a positive and significant coefficient. Raising the cost of not voting increases voter turnouts. The predicted increase in the participation rate is rather small, however, 3.8 percent. High urbanization is expected to reduce the cost of voting and increase turnouts, and this prediction is confirmed by the positive coefficient on Urban.

The results for the other two subsamples and a fortiori for the full sample are weaker statistically and less consistent with our predictions, and we shall not devote considerable space to try and account for these anomalies. Starting with Larg*%,* we see that it has a positive and statistically insignificant coefficient in the WDLA countries sample, but has a negative and significant coefficient in the WDNLA countries, where dominant-party states are relatively common. Compulsory voting has a positive and significant impact on turnouts in the WDLA countries, where it is frequently used, an insignificant coefficient in the WDNLA countries, where it is seldom used. Introducing compulsory voting in a Latin American country increases the predicted turnout by nine percentage points. Multiparty systems are positively related to participation rates in both weak-democratic subsamples, but significantly so only for the WDLA countries.

IV. Simultaneous Equations Issues

We have developed several equations to test the different hypotheses regarding the consequences of low voter participation in elections. However, our OLS results may suffer from biases, if participation rates are endogenous in the regression equations. The standard test for such endogeneity is the Wu-Hausman test (Wu, 1973; Hausman, 1978). It examines whether the 2SLS estimates are sufficiently different from the OLS estimates to warrant estimating a simultaneous equations model. If participation is not endogenous, OLS results in more efficient parameter estimates and thus is preferable. To implement this test we estimate a 2SLS regression, with the electoral rule variables, closeness of the election, and population size as instruments. 2SLS estimation will result in consistent estimates, if at least one of the instruments is correlated with participation but not with inequality, growth, or the size of government. We perform the Wu-Hausman test for each equation in Tables 2, 3, and 4. The null hypothesis of this test is that participation is exogenous and that therefore OLS is the correct estimation procedure.

The results of these tests are summarized in Table 6.[24] The first 3 columns pertain to the results in Table 2, where the Gini coefficient is the dependent variable. The null hypothesis cannot be rejected at the 10 percent level for all five equations.

[24]We report only the estimates for the participation variable, because the coefficients and standard errors for the remaining variables remained similar to those in the previously reported OLS results.

Table 6

Wu-Hausman Tests and Two Stage Least Squares Estimates

Gini coefficient regressions			Government size regressions			Growth regressions		
matching rows in Table 2	t-stat. for endogenity	2SLS coeff. (t-stat.)	matching rows in Table 3	t- stat. for endogenity	2SLS coef. (t-stat.)	matching rows in Table 4	t-stat. for endogenity	2SLS coeff. (t-stat.)
1	-0.79		1	1.61		1	0.01	
2	-1.19		2	-0.09		2	1.29	
3	-1.26		3	-4.23	0.109 (4.58)	3	-2.29	0.054 (2.05)
4	0.21		4	1.28		4	0.62	
5	-0.88		5	0.81				
			6	0.09				
			7	-0.26				
			8	0.86				
			9	-0.66				
			10	1.22				
			11	-0.14				
			12	-5.42	0.101 (4.58)			

The cells for the 2SLS coefficient is left blank when the Wu-Hausman test statistic does not allow the rejection of the null hypothesis that participation is endogenous.

In two of the 12 equations from Table 3, the null hypothesis of no endogeneity had to be rejected. In both cases (eqs. 3, and 12) education expenditures were the dependent variables. For the full sample, the coefficient on participation remained positive and increased in absolute size. In the Latin American subsample, however, the coefficient on participation changes from insignificantly negative to significantly positive. Thus, combining

the OLS results from Table 3 for eqs. 10 and 11 with the 2SLS estimates for eq. 12 we find that higher voter participation rates in WDLA countries countries significantly increase both total government expenditures and expenditures on education.

The null hypothesis was rejected in one of the four equations of Table 4. Re-estimating equation 3 of Table 4 using 2SLS produced a positive and significant coefficient on participation. This result is inconsistent with the hypothesis that high voter participation rates lower the quality of the outcomes of the political process, at least in so far as this quality is measured by economic growth. Once account is taken of the possible endogeneity of voter turnouts, higher turnouts are associated with higher rates of growth.

VI. Conclusions

Of the three hypotheses tested in this paper, the class bias hypothesis receives the most support. Citizen participation has a direct negative impact on income inequality in our full sample and across the three subsamples. Citizen participation also has an indirect effect on income inequality through its effect on government size or transfers in each of the three subsamples. In the subsamples of strong democratic and weak democratic non Latin American countries, this indirect impact is negative. Participation increases government size and/or transfers, and these in turn further reduce income inequality. In the weak democratic, Latin American countries, however, the indirect impact is positive. Participation increases government size and (weakly) government transfers, but both of these lead to greater income inequality. This result is consistent with the government capture hypothesis in the weak democratic, Latin American countries. In these countries, the upper income classes appear to influence government policies to benefit themselves. The government capture hypothesis found further support in the Latin American subsample in the lack of a relationship between

both total government expenditures and government transfers and the sizes of the main clientele groups in these countries – the aged and the young.

On the other hand, we did not find support the government capture hypothesis in the weak democratic, non Latin American countries. In these countries as in the countries with strong democratic institutions, government transfers significantly reduced income inequality. Weak democratic institutions are clearly not a sufficient condition for government capture by the upper class elites.

The third hypothesis, which we tested, received little support. In the OLS regressions voter participation had no impact on economic growth, and in one 2SLS regression it had a positive impact. This regression implied that increasing participation by the poor and uneducated actually improved the outcomes of the political process as measured by economic growth.

All of the consequences of higher voter participation rates are not so benign, however. An indirect, negative effect of participation on income growth exists, because high voter participation increases the size of the government sector, and greater government size or transfers reduce the growth of GDP. This negative effect of government size on economic growth was observed across the full sample of countries and in each of the three country subsamples.

We conclude that the degree of voter participation in elections is an important determinant of a country's economic policies. For those who favor greater income equality, high participation rates can be said to have beneficial effects. For those who are concerned about the increase in the size of the government sector over the last forty years, however, greater voter participation rates can be seen to have some costs. An additional finding of our study that warrants further research is that where democratic institutions are weak, the

outcomes of government policies may not be solely determined by the preferences of the voting electorate. Within Latin and Central American countries with weak democratic institutions, the upper income classes appear to exert a disproportionate impact on government policies.

References

Abramson, P.R. and John H. Aldrich, "The Decline of Electoral Participation in America," *American Political Science Review*, September 1982, 76, pp. 502-21.

Alesina, Alberto and Dani Rodrik, "Distributive Politics and Economic Growth," *Quarterly Journal of Economics*, 109, May 1994, pp. 465-90.

Ashenfelter, Orley and Stanley Kelley Jr., "Determinants of Participation in Presidential Elections," *Journal of Law and Economics*, December 1975, 18, pp. 695-733.

Barro, Robert J., "Government Spending in a Simple Model of Endogenous Growth" *Journal of Political Economy*, 98, 1990, pp. S103-25.

Barro, Robert J., "Economic Growth in a Cross Section of Countries," *Quarterly Journal of Economics*, 106, May 1991, pp. 407-43.

Barro, Robert H., "Determinants of Democracy," *Journal of Political Economy*, 107, December 1999, pp. S158-83.

Barro, Robert J. and Jong-Wha Lee, "Data Set for a Panel of 138 Countries," NBER database, 1994.

Beer, Samuel, *Britain against Itself*, London: Faber and Faber, 1982.

Cameron, D.R. , "The Expansion of the Public Economy: A Comparative Analysis," *American Political Science Review*, December 1978, 72, pp. 1243-61.

Chapman, R.G. and K.S. Palda, "Electoral Turnout in Rational Voting and Consumption Perspectives," *Journal of Consumer Research*, March 1983, 9, pp. 337-46.

Deininger, Klaus and Lyn Squire, "A New Data Set Measuring Income Inequality," *World Bank Economic Review*, 10, September 1996, pp. 565_91.

Economist, "Under Examination," June 5, 1999, pp. 62-64.

Evans, Geoffrey, ed., *The End of Class Politics? Class Voting in Comparative Context*, Oxford: Oxford University Press, 1999.

Filer, John E., Lawrence W. Kenny and Rebecca B. Morton, "Redistribution, Income and Voting," *American Journal of Political Science,* 37, Feb. 1993, pp. 63-87.

Fiorina, Morris P., "Voting Behavior," in: Dennis C. Mueller (ed.), *Perspectives on Public Choice*, Cambridge: Cambridge University Press, 1997, pp. 391-414.

Gant, Michael M. and William Lyons, "Democratic Theory, Nonvoting, and Public Policy – the 1972-1988 Presidential Elections," *American Politics Quarterly*, 21, April 1993, pp. 185-204.

Grofman, Bernard, Guillermo Owen and Christian Collet, "Rethinking the Partisan Effects of Higher Turnout: So What's the Question?" *Public Choice,* 99, June 1999, pp.357-76.

Hausman, J.D., "Specification Tests in Econometrics," *Econometrica,* 46, 1978, pp. 1251-71.

Hibbs, Douglas A. Jr., "Political Parties and Macroeconomic Policy", *American Political Science Review*, 71, December 1977, pp. 1467-87.

Hibbs, Douglas A. Jr., *The Political Economy of Industrial Democracies*, Cambridge, Mass.:

Harvard University Press, 1987.

Hibbs, Douglas, Jr. and C. Dennis, "Income Distribution in the United States," *American Political Science Review* 82, 1988, 467-89.

Holsey, Cheryl M. and Thomas E. Borcherding, "Why does Government's Share of National Income Grow? An Assessment of the Recent Literature on the U.S. Experience," in: Dennis C. Mueller (ed.), *Perspectives on Public Choice*, Cambridge: Cambridge University Press, 1997, pp. 562-89.

Husted, Thomas and Lawrence W. Kenny, "The Effect of the Expansion of the Voting Franchise on the Size of Government," *Journal of Political Economy*, 105(1), February 1997, pp. 54-82.

Institute for Democracy and Electoral Assistance, IDEA, "Voter Turnout from 1945 to 1998: A Global Report on Political Participation", 1998.

Jackman, Robert W., "Political Institutions and Voter Turnout in the Industrial Democracies," *American Political Science Review*, 81, June 1987, pp. 405-23.

Karras, Georgios, "The Optimal Government Size: Further International Evidence on the Productivity of Government Services," *Economic Inquiry,* 34, April 1996, pp. 193-203.

Kau, James B. and Paul H. Rubin, *Congressmen, Constituents, and Contributors*, Boston: Martinus Nijhoff, 1982.

Kau, James B. and Paul H. Rubin, "*The Growth of Government: Sources and Limits*," paper presented at the Public Choice Meetings in New Orleans, March 1999.

Li, Hongyi, Lyn Squire and Heng-fu Zou, "Explaining International and Intertemporal Variations in Income Inequality," *Economic Journal*, 108, January 1998, pp. 26-43.

Lijphart Arend, "Unequal Participation: Democracy's Unresolved Dilemma," *American Political Science Review*, 91(1), March 1997, pp. 1-14.

Lipset, Seymour M., *Political Man. The Social Bases of Politics*, Garden City, NY: Doubleday, 1960.

Lott, John R., Jr. and Lawrence W. Kenny, "How Dramatically Did Women's Suffrage Change the Size and Scope of Government?", *Journal of Political Economy*, 107(6), December 1999, pp. 1163-98.

Meltzer, Alan H. and Scott F. Richard, "A Rational Theory of the Size of Government," *Journal of Political Economy*, 89, October 1981, pp. 914-27.

Mill, John Stuart, *Considerations on Representative Government*, New York: Bobbs-Merrill, 1958 (first publication, 1861).

Mueller, Dennis C., *Public Choice II*, Cambridge: Cambridge University Press, 1989.

Okun, Arthur M., *Equality and Efficiency: The Big Tradeoff,* Washington, D.C.: Brookings Institution, 1975.

Parry, Geraint, George Moyser and Neil Day, *Political Participation and Democracy in Britain,* Cambridge: Cambridge University Press, 1992.

Penn World Tables, Mark 5.6a, Robert Summers, Alan Heston, Bettina Aten, and Daniel

Nuxoll.

Powell, G. Bingham Jr., "Voting Turnout in Thirty Democracies: Partisan, Legal, and Socio-Economic Influences," in: *Electoral Participation: A Comparative Analysis*, ed. Richard Rose, Beverly Hills, CA: Sage, 1980.

Powell, G. Bingham Jr., "American Voter Turnout in Comparative Perspective," *American Political Science Review*, 80, March 1986, pp. 17-43.

Rodrik, Dani, "Why Do More Open Economies Have Bigger Governments?" *Journal of Political Economy*, 106(5), October 1998, pp.997-1032.

Texeira, Ruy A., *The Disappearing American Voter,* Washington, D.C.: Brookings Institution, 1992.

Tufte, Edward R., *Political Control of the Economy*, Princeton: Princeton University Press, 1978.

Verba, Sidney and Norman H. Nie, *Participation in America*, New York: Harper & Row, 1972.

Verba, Sidney, Norman H. Nie and Jae-on Kim, *Participation and Political Equality: A Seven Nation Comparison*, Cambridge: Cambridge University Press, 1978.

Wu, D., "Alternative Tests of Independence between Stochastic Regressors and Disturbances," *Econometrica,* 41, 1973, pp. 733-50.

World Data 1995, CD-Rom, World Bank, 1995.

Yearbook of National Account Statistics, United Nations, 1977

Data Appendix
Table 1A

Variable Name	Variable Source	Variable Description
Gini	Deininger and Squire, 1996	Gini coefficient
Partic	IDEA, 1998	turnout as percent of voting age population
GovEd	Barro and Lee, 1994	government expenditure on education as percent of GDP
Pop14	World Bank	percent of population under 15 years
Pop65+	World Bank	percent of population above 64 years
Open	World Bank, 1995	Exports and Imports as percent of GDP
Female	World Bank, 1995	percent female in labor force
Agr	World Bank, 1995	value added in agriculture as percent of GDP
Serv	World Bank, 1995	value added in services as percent of GDP
Urban	World Bank, 1995	percent of population living in urban areas
GDPGR	Barro and Lee, 1994	growth rate of GDP
GovS	World Bank, 1995 and United Nations, 1977	government size as percent of GDP
PopGr	Barro and Lee, 1994	population growth
GovTr	World Bank, 1995	government transfers as percent of GDP
GDP	Barro and Lee, 1994	GDP
SecEd	Barro and Lee, 1994	percent of population with primary education
PrimEd	Barro and Lee, 1994	percent of population with primary education
Pop	Penn World Tables, Mark 5.6a	population size
Popgr	Penn World Tables, Mark 5.6a	population growth rate
Larg%	IDEA, 1998	percentage vote share of largest party in parliamentary elections, or vote share of first placed candidate in presidential elections
Comp	IDEA, 1998	indicator for compulsory voting law
Multi	IDEA, 1998	electoral rule that allows more than one representative to be elected from an electoral district
Mixed	IDEA, 1998	indicator for electoral rule that is a mixture of a multi- and single-representative per district electoral rule
FH	Freedom House	measure of political rights

Table 2A
Countries and Number of Elections

Country	N	Classification	Country	N	Classification
Argentina	15	WDLA	Jordan	6	WDNLA
Australia	17	SD	Korea	13	WDNAL
Austria	7	SD	Lesotho	13	WDNAL
Bangladesh	12	WDNLA	Malaysia	10	WDNAL
Barbados	10	WDNLA	Malta	6	SD/WDNAL
Belgium	10	SD	Mauritius	7	WDNLA
Bolivia	7	WDLA	Mexico	8	WDLA
Botswana	10	WDNLA	Nepal	5	WDNLA
Brazil	10	WDLA	Netherlands	8	SD
Cameroon	6	WDNLA	New Zealand	4	SD
Canada	9	SD	Nicaragua	8	WDLA
Chile	11	WDLA	Norway	9	SD
Columbia	7	WDLA	Pakistan	13	WDNLA
Costa Rica	3	SD	Panama	8	WDLA
Cyprus	9	WDNLA	Papua New Gunea	11	WDNLA
Denmark	19	SD	Paraguay	8	WDLA
Dominican Republic	4	WDNLA	Peru	10	WDLA
Ecuador	7	WDLA	Philippines	8	WDNLA
El Salvador	6	WSLA	Poland	12	WDNLA
Finland	7	SD, WDNLA	Portugal	17	SD/WDNLA
France	12	SD	Senegal	7	WDNLA
Gambia	11	WDNLA	Sierra Leone	11	WDNLA
Germany	4	SD	Singapore	8	WDNLA
Ghana	14	WDNLA	Spain	3	SD/WDNLA
Greece	16	SD, SDNLA	Sri Lanka	9	WDNLA
Guatemala	15	WDLA	Sweden	6	SD
Guyana	14	WDLA	Switzerland	6	SD
Haiti	4	WDLA	Thailand	8	WDNLA
Honduras	11	WDLA	Togo	7	WDNLA
Hungary	3	WDNLA	Trinidad + Tobago	4	SD/WDLA
Iceland	14	SD	Tunisia	7	WDNLA
India	12	WDNLA	Turkey	7	WDNLA
Indonesia	10	WDNLA	United Kingdom	6	SD
Ireland	9	SD	Uruguay	7	WDLA
Israel	14	WDNLA	USA	9	SD
Italy	9	SD	Venezuela	12	SD/WDNLA
Jamaica	3	SD/WDNLA	Zambia	9	WDNLA
Japan	4	SD/WDNLA	Zimbabwe	6	WDNLA

When more than one category is listed for a given country, the country was in one of the categories for some time periods and the other category in other time periods.