

Welfare to Vote: The Effect of Government Spending on Turnout

SARA BINZER HOBOLT

University of Oxford
Department of Politics and International Relations
sara.hobolt@politics.ox.ac.uk

ROBERT KLEMMENSEN

University of Southern Denmark
Department of Political Science
rkl@sam.sdu.dk

Preliminary draft paper.

Please do not cite without permission from the authors.

Comments are very welcome.

Paper prepared for presentation at the
Comparative Study of Electoral Systems (CSES) 2005 Plenary Session
August 30-31, 2005, Washington DC, United States

Abstract Why turnout levels vary so considerably between countries remains a puzzle in the literature. In recent years, many scholars have moved beyond the exclusive focus on individual-level factors to examine how institutions affect voter participation. However, a contextual factor that has been largely overlooked in the literature is the role of the state involvement in the economy. In this paper, we attempt to redress this gap by examining the impact of welfare spending on voter participation. High levels of education tend to lower the costs associated with voting, and we therefore expect turnout to be higher in welfare states where mass education is provided freely to the citizenry and where resources in general are redistributed more equally. Further, we examine how individual-level patterns of voting vary across different levels of welfare spending. Since voting is less costly for the general population in welfare states, we argue that political information and partisanship are likely to be more important in determining an individual's likelihood to vote, relative to socio-economic factors such as income.

We test these hypotheses using data from Modules 1 and 2 of the Comparative Study of Electoral Systems (CSES), comprising of 57 democratic elections held in 34 countries. First, we look at the aggregate relationships between turnout and the economy. Thereafter, we employ a two-step hierarchical modeling approach to show that the impact of political information and partisanship on turnout vary according to the level of welfare spending. The empirical investigation demonstrates that government welfare spending has a positive effect on turnout and enhances the individual-level effects of information and partisanship.

*Since the returns from voting are often miniscule,
even low voting costs may cause many partisan citizens to abstain.
The importance of their abstention depends on the effects
it has upon the distribution of political power.
Such effects can stem from two sources:
(1) biases in the distribution of ability to bear the costs of voting, and
(2) biases in the distribution of high returns from voting.*

- Anthony Downs¹

Introduction

As Aldrich (1997) has noted, the Achilles heel of the rational choice literature is the puzzle of voting: it has yet to be shown that it is rational for individuals to overcome the costs of voting given that the probability of actually affecting the outcome is close to zero. Scholars have offered plausible evidence of the impact of factors, such as individual-level resources and contextual incentives (electoral laws and competitive elections), on turnout. However, in this paper we point to a largely overlooked factor in the literature, namely the effect of state involvement in the economy on turnout. More precisely, we are concerned with whether the level of welfare spending has any effect on patterns of voter participation. Whilst most studies on the link between the economy and voting behavior have focused on effect of economic conditions on *how* people vote, very little attention has been paid to whether the level of welfare spending has any consequence for *whether* people vote (Radcliff 1992). Examining the relationship between welfare spending and voter participation is relevant to a variety of theoretical concerns. If welfare spending does affect turnout, this has consequences for the debate on how turnout levels affect election results and policies (Pacek and Radcliff 1995; Lijphart 1997). Moreover, it may also have implications for the equality of participation and democratic responsiveness. As Lijphart (1997:1) has noted, ‘unequal participation spells unequal influence’. If lack of welfare spending depresses turnout, because it is more difficult for certain segments of the population to bear the cost of voting, then governments may be tempted to ignore exactly those non-voters who could have benefited from higher levels of spending on welfare services.

¹ Downs 1957: 265-6

In this paper, we examine how welfare spending influences the decision to vote. Empirically, it has been shown that an individual's education level is positively correlated with turnout (see Wolfinger and Rosenstone 1980). We therefore suggest that since countries with a large public sector tend to provide services that enhance education levels and even out information differentials in the population, this reduces the cost of voting and thus, in turn, encourages political participation. To test this proposition, we use data from the Comparative Study of Electoral Systems (CSES) project. First, we examine the relationship between turnout and different indicators of welfare spending at the aggregate level, where we find a clear positive and linear relationship. Second, we employ a two-step design to analyze how welfare spending conditions patterns of voting behavior across countries. We estimate a micro-level model of turnout in 51 elections, analyzing the effect of partisanship and information on the likelihood to vote. Thereafter, we employ economic variables of welfare spending to explain variation in the betas estimated in the first step of the analysis.

In the next section we review the major explanations of voter turnout before outlining our theoretical propositions.

Explaining voter turnout

The classic economic or rational choice theory of voting, pioneered by Downs (1957:260), is based on the calculus: 'if the returns outweigh the costs, he votes; if not he abstains'. This voting calculus can thus be described very simply as

$$U_i = P_i B_i - C_i \tag{1}$$

where the utility (U) of voting for an individual voter i equals the benefits of the preferred outcome to the individual voter (B) times the probability that the vote will affect the outcome (P) minus the costs associated with voting (C). Following Ordeshook (1996), we can therefore conclude that it is only rational for voter i to vote for candidate k or j in a two-candidate or two-party race if

$$|u_{ik} - u_{ij}|p_i + A_i > 0 \quad (2)$$

where the expected utility of the preferred candidate or party winning (that is, the ‘expected party differential’ in Downsian terminology) is multiplied by the probability that a person’s vote is decisive in determining whether candidate k or j is elected (p_i), and the net costs and benefits of voting (independent of the influence a vote has on who wins) is denoted by A_i . The paradox is, of course, that it is rational to vote only if the net utility of voting is positive regardless of who wins, since p_i is presumed to be close to zero.

Some scholars have attempted to salvage the rational choice theory of voting by focusing on non-material factors such as ‘civic duty’ that may explain the high net utility of voting, or emphasizing that competitive election may create a high (perceived) probability of a decisive votes. Others have focused on voting as a habit and a product of a socialization process, or a result of mobilization. The literature on turnout can thus be divided into three main explanations. The first type of explanations builds on the economic ‘calculus of voting’ and outlines how non-material benefits associated with voting may explain the utility of voting. The second line of research focuses on the learning experience of individuals, and in particular how individual resources, such as education and socio-economic status, increases the likelihood of voting. Finally, recent studies have gone beyond individual-level determinants of voting and have focused on the institutional context of elections as an explanation of variation in turnout levels.

A vast body of work has attempted to solve the rational choice paradox of voting (see Blais 2000 for an overview). Riker and Ordeshook (1968) have suggested that there might be other rewards than the purely instrumental. Voters may get cultural, or non-material, rewards from voting such as feelings of civic duty. In a review of this literature, Dhillon and Peralta (2002) highlight the emphasis in recent studies on expressive motives for voting. These expressive theories of voting argue that the benefits of voting may be related to other voters’ participation and that bandwagon effects might be important in explaining mass turnout. A second approach to turnout, that may be referred to as the ‘political culture’ approach, moves further beyond instrumental explanations of voting and focuses on voting as a habit that is learned in the formative years, and thus closely linked to social status and education of individuals. Verba et al. (1993) show that the Social Economic Status (SES) of voters is higher than the SES for non-voters. Brady et al (1995) goes beyond the SES approach and suggests

that it is resources more broadly understood which affect the level of political participation. Among these resources are the amount of time, the money and the civic skills the voter possesses. In a similar vein, Putnam (1993) argues that levels of social capital are pivotal in explaining levels of political participation. Recent studies have also focused on the role of political mobilization of individuals by parties, interest groups and candidates (see Rosenstone and Hansen 1993).

More recent studies of turnout have focused on the role of the electoral context, in particular institutions. Jackman and Miller (1995) have shown that institutional variables seem to out-perform cultural variables in an analysis of turnout. This body of literature suggests that the institutional framework of elections determines the level of competition in an election. The competitiveness of an election is an important variable because it affects the voters' perceptions of how much is at stake in an election (Blais and Dorbrzynska 1998; Franklin 2004). Jackman and Miller (1995) and Jackman (1987) argue that elections in proportional democracies are more competitive than their counterparts in majoritarian democracies. According to Jackman and Miller (1995:470) the value of the marginal vote increases in proportional democracies and hence induces higher overall turnout. This effect is, however, dampened by the degree of multipartyism, since voters are often not directly voting for a government in multiparty systems. Consequently, the elections are less decisive in the eyes of the voter because who gets into the governing coalition is determined by negotiations between the parties. The effect of multipartyism is, according to Jackman and Miller (1995), that the turnout will be depressed (see also Jusko and Shively 2005). Another institutional feature that has been argued to affect turnout is the level of decentralization of power. The expectation is that the stakes are higher in elections to unicameral legislatures (and in unitary rather than federal systems) and consequently that turnout is higher in these elections (Jackman 1987; Jackman and Miller 1995). Finally, compulsory voting requirements obviously lead to higher turnout levels (Blais and Dorbrzynska 1998). These findings are largely confirmed by Perea (2002), who further demonstrates that the institutional effects vary across individuals. Also focusing on how the institutional context influences individual motivation to vote, Franklin (2004) develops the 'electoral competition' model of voter turnout. He argues that turnout is influenced by how elections appear to people and importantly, people are more likely to vote if more electoral competition is high, since more appears to be at stake in highly competitive

elections. A key variable in Franklin's study is therefore 'closeness of the race'. Moreover, Franklin (2004) examines the role of generational replacement in turnout change.

Scholars have also examined how economic performance affects voting behavior. This body of literature only addresses the issue of turnout indirectly, but is nevertheless important to this paper since it argues that the economy plays a role in affecting the political decisions of citizens. This 'economic voting' literature focuses on the extent to which voters' decisions on who to vote for are affected by past economic performance (Lewis-Beck and Stegmaier 2000). Radcliff (1992) argues that welfare states dampen the effect of economic voting by affecting turnout. The argument is that the state of the macroeconomy will lead to changes in turnout through the mechanisms of either 'mobilization' or 'withdrawal'. But these mechanisms are conditioned, in a non-linear fashion, by the level of social security, since social security programs insulate citizens against the effects of changes in macroeconomic cycles. This suggests that the level of state involvement in the economy does have an impact on voter behavior. Radcliff does not, however, examine the direct effect of welfare spending on turnout, but only the conditioning effect on economic voting. Pacek and Radcliff (1995) are more explicit in their analysis of the role of welfare states. They test the hypotheses that welfare states insulate the electorates from fluctuations in the economy and hence that the voters are less likely to punish incumbents and that the changes in incomes are likely to mobilize the electorate.

Curiously, the literature on the economy-turnout nexus has only addressed the question of whether the level of state involvement in the economy affects the level of turnout indirectly. The theories of economic voting have mainly been preoccupied with whether changes in economy performance are important in explaining outcomes. As Radcliff has noted, 'although much is known about how economic considerations affect the decision of *how* to vote, it remains to be seen how such considerations structure the decision of *whether* to vote' (Radcliff 1992:444, emphases added). Equally, the literature has been preoccupied with examining how variations in turnout levels affect levels of welfare spending (see e.g. Lijphart 1997), but less interested in examining how social policies and welfare spending may affect turnout levels. One of the few studies to examine the effect of the economy on turnout directly is Blais and Dorbrzynska's (1998) comparative study of turnout in electoral democracies. They rightly point out that the direct effect of the economic environment on turnout has been largely overlooked in previous studies. In their study, Blais and Dorbrzynska

show that there is an effect of the economic variables on voter participation and that a moderate level of economic development is needed in order to secure a high turnout. They do not, however, focus specifically on welfare spending, but on general levels of economic development (measured as GNP).² Moreover, their use of aggregate data does not allow them to examine how patterns of voting behavior at the individual-level may vary across levels of economic development.

In this paper, we make a preliminary attempt to address the issue of the relationship between welfare spending and turnout both at the individual and at the aggregate level. In the following section we develop our theoretical propositions.

The impact of welfare spending on turnout

As described above, there is a lack of understanding of how variations in state involvement in the economy, and particularly welfare spending, may influence turnout. In this section, we argue that there are convincing reasons to believe that welfare spending will affect patterns of voter participation. We focus on the effect that welfare spending has on reducing the information costs associated with voting.

Higher levels of state involvement in the economy are often correlated with high levels economic redistribution. This redistribution of resources is usually, in part, used to fund activities that enhance mass education (OECD 2004).³ It is well-documented that higher levels of education are positively correlated with voter participation; echoing the early findings in the literature: ‘the higher a person’s socioeconomic and educational level – especially the latter – the higher his political interest, participation, and voting turnout’ (Berelson and Steiner 1964:423, see also Wolfinger and Rosenstone 1980, Rosenstone and Hansen 1993). This empirical finding is not surprising if we consider the ‘calculus of voting’ presented above. One of the primary costs of voting is the cost associated with acquiring and processing the information that enable citizens to evaluate which party or candidate yields the highest utility. Without information an individual will not be able to calculate the party differential (see

² They also include other indicators of economic development in their analysis, including average life expectancy, growth of GNP per capita and illiteracy rate. Only the latter is significantly (and negatively) correlated with turnout (Blais and Dorbrzynska 1998:243).

³ In fact, the indicator we use to measure welfare spending calculates the government’s spending on education, health and social services as a percentage of GDP.

equation 2), that is, the expected utility of the preferred candidate winning. In a recent study, Feddersen and Pesendorfer (1999) show that information levels are particularly important in situations where the electorate receives noisy signals from the elites. Furthermore, many studies of opinion formation and voting behavior have shown that people vary greatly in their attentiveness to political communication and their ability to process information, and that this variance influences the process of decision-making (see for example Alvarez and Brehm 2002; Zaller 1992; Converse 1975, 2000). These differentials in ‘political awareness’ may influence both the costs and benefits associated with voting: first, people with higher levels of political awareness will be more capable of calculating the ‘party differential’, that is the expected benefits of the preferred candidate winning. Consequently, knowledgeable voters should also be less indifferent to who wins an election (unless, of course, there are no policy differences between the available alternatives). Second, individuals with higher levels of knowledge are more capable of bearing the cost of voting, because they are better equipped to process and understand new information and to rely on information they already possess (Downs 1957; Zaller 1992). The politically aware tend to have extensive contextual knowledge and, as Downs noted, a primary source of such knowledge is education (Downs 1957:235).

These considerations about the relationship between education, political awareness and voting have important implications for the question examined in the paper. Since education is more freely available to the general public in countries with high levels of welfare spending, we would expect that contextual knowledge is higher and more equally distributed among the citizenry of these states. In other words, we argue that the ‘political awareness’ levels vary not only *within* electorates, but also *across* electorates, and that welfare spending is an important factor determining the latter. The argument is therefore that welfare spending increases the mean level of, and reduces the variance in, political awareness in an electorate. Put simply, when education is made more freely available by the state, a larger proportion of the populace is capable of assessing party differentials (increasing *B*) and has resources to cover the costs of participation (lowering *C*). Consequently, we would expect that more people vote.

On the micro (individual) level we suggest that several mechanisms are at play. If it is correct that education enhances the ability of individuals to bear the information cost of voting, we should expect the level of welfare spending to affect not only the propensity to vote, but also to condition the factors that influence this decision. In other words, we expect an interaction effect between welfare spending at the macro-level and the vote-decision at the

individual level. First, we suggest that political awareness plays a greater role in determining the likelihood to turnout in welfare states (when socio-economic variables are held constant). Second, we hypothesize that the interaction between the macro- and the micro level can be detected in the effects of partisanship. Downs (1957:273) noted that, ‘when voting is costless, every citizen who is indifferent abstains and every citizen who has a preference whatsoever votes’. Thus, if it is correct that information is cheaper in welfare states, we should expect that partisanship is more important in explaining turnout levels, relative to other factors, such as income and occupation differentials. Moreover, by making it easier for citizens to ‘calculate’ party differentials, welfare spending should contribute to making partisanship a stronger predictor of turnout in countries.

In summary, we argue that the key way in which welfare spending influences turnout is through the mechanism of ‘cost reduction’: the availability of mass education reduces the information cost of voting for the citizenry. Since the capability of absorbing the (transferable and non-transferable) information costs associated with voting is both higher and more equally distributed across the electorate, we also expect that information will play a greater role in determining the vote choice *relative* to other factors, such as income. Moreover, since information costs are low, we expect that party differentials (B) will play a greater role, all other things being equal.

Cost reduction is, however, not the only way in which one could imagine that welfare spending affects turnout. An alternative explanation is linked to the utility that individuals retrieve from voting, in particular the expected returns (B) if the preferred candidate or party wins. It can be argued that in countries with heavy state involvement more is “up for grabs”. Hence, the larger the state involvement in the economy, the larger the potential benefits of a preferred party or candidate winning (assuming that there are considerable policy differences between them). This line of reasoning departs from parts of the political economy literature. In this literature it is generally assumed that elected elites use their control over the economy to further their re-elections chances. However, Franzese (2002), in his recent review of this literature, argues that the purely instrumental power seeking models of public consumption fair less well in explaining macro-economic outcomes compared to partisan models. Hence, it can be argued that as public spending increases, more individuals are mobilized as voters since they are included in the welfare pool and thus gain vested interest in particular public policy programs. The higher the level of government spending, the more people are affected by the

actions of the elected elites. As such they are stakeholders and have a direct interest in affecting who gets elected, thereby securing that their interests are represented. This argument thus echoes the rent-seeking literature, but suggests that rent seeking is done by the voters and not by the elites. This ‘stakeholder’ argument is intuitively plausible, yet following the simple rational choice model presented in equations 1 and 2, we can argue that since the probability of a decisive vote (P_i) is miniscule, so are the benefits of the voting, almost regardless of the size of the state. Hence, when P_i is close to zero, it is the cost of voting that is the decisive factor, rather than the perceived benefits. Moreover, on the basis of this model, we would expect that individuals who could potentially benefit from services provided by the state (e.g. individuals employed in the public sector, students or the unemployed) are more likely to vote than people who are in full-time (private) employment. However, an empirical analysis of data from the CSES project (described below) found no such relationship.

In the following, we therefore focus on evaluating the way in which welfare spending affects turnout through ‘cost reduction’, since this seems the most plausible theoretical explanation.

Data and methods

The aim of this paper is to explain and evaluate the relationship between welfare spending and turnout. The aggregate level-results presented in the following section illustrate a strong relationship between government spending and turnout. Yet, these aggregate data do not allow us to control for individual-level factors, such as socio-economic status, that have been shown in the literature to be important, nor do they provide us with the opportunity to examine some of the micro-mechanisms that bring about these macro-level patterns. Hence, cross-national individual-level survey data, such as the CSES data, allow us to answer the questions posed in this paper more adequately. The CSES Modules are cross-national surveys designed to address the effect of institutional variation on the mass electorate. Individual-level data from each country are based on a random sample of eligible voters. The battery of questions asked in each country is the same, allowing for a valid comparison and pooling of measures at both individual and contextual levels. The CSES dataset thus provide an invaluable data source for analyzing the relationship between turnout and contextual variables, such as government

spending. Our study includes elections from both Modules 1 and 2 of the CSES conducted between 1996 and 2004. We exclude all non-democratic elections from the analysis, since patterns of voting behavior are likely to be different in regimes with limited political rights. We rely on Freedom House data to determine whether a country is democratic or not, using the ratings of ‘political rights’ in each country⁴ (see Bollen 1993; Blais and Dobrzynska 1998). This dataset thus includes 57 democratic elections held in 34 countries in Asia, Australasia, North and South America, and Europe. Hence, although these cases do not represent a random sample of elections, they do provide us with data on a very large and broadly representative sample of democratic elections conducted during the last decade. Rather than choosing a sub-sample of these cases, we have chosen to include all of the democratic elections in the analyses where possible, in order to have as many cases at the macro level as possible.⁵ Previous studies of the impact of contextual factors on individual-level patterns of voting behavior have often suffered from having very few cases (under 25) at the macro-level (see for example Perea 2002; Huber et al. 2005; Kedar 2005). In the empirical investigation, we firstly examine the relationship between turnout and government spending at the aggregate level. Then we estimate a two-step hierarchical model to evaluate the impact of information and partisanship across economic contexts.

Variables in models

The dependent variable in the models is turnout. To estimate aggregate-level turnout, we use the Institute for Democracy and Electoral Assistance’s (IDEA) data on the percentage of registered individuals that voted.⁶ In the individual-level models, we use the survey item on self-reported turnout⁷ in the CSES dataset.⁸

⁴ Freedom House gives every country a ranking from 1 to 7 on political and civil liberties, where 1 corresponds to maximum degree of freedom (see <http://www.freedomhouse.org/ratings/index>). We only use the ‘political rights’ scale because it focuses on the fairness of elections. All countries with a rating of 1 and 2 are included in the analyses, whereas countries with higher rankings (less freedom) are excluded (see also Blais and Dobrzynska 1998). We therefore exclude elections in Belarus, Hong Kong, Russia and Ukraine from the CSES data.

⁵ Unfortunately, it has not been possible to include all 57 cases at each step over our analysis due to lack of questions items in individual surveys or inadequate macro-level data.

⁶ Turnout data can be found at IDEA’s website: <http://www.idea.int>. The CSES dataset itself includes a different measure of actual turnout: the *percentage of the eligible population who cast a vote*, and many studies employ this measure. We have opted for the ‘percentage of registered voters’ measure, because it is often difficult to find reliable data on the size of the eligible population (see Powell 1986: 40; Blais and Dobrzynska 1998:241). Our measure, however, raises serious problems for elections in the US, because of the voter registration procedures, and we have therefore opted to include figures for ‘eligible voters’ in the US case (Blais and Dobrzynska 1998, for example, exclude the USA from their analyses for this reason). The aggregate-level analyses have also been

To examine the impact of state involvement in the economy, we use three economic indicators: tax revenue, government expenditure and welfare spending. Data from the International Monetary Fund's International Financial Statistics (IMF/IFS) are employed in order to have a valid cross-national measure. Tax revenue and government expenditure (in PPP prices) are measured as a percentage of GDP. The measure of welfare spending is constructed by calculating government spending on health, education and other social services as a percentage of GDP. We use the log transformation of each of these variables. We also want to control for the effect of other contextual variables. As discussed above, electoral institutions and electoral competitiveness have been highlighted in recent studies as factors that influence turnout. To examine – and control for – the effect of the institutional context of an election, we include a dummy variable for *compulsory voting*, which is expected to generate higher turnout (Lijphart 1997; Blais and Dobrzynska 1998; Franklin 2004). We also include a measure of the *electoral system*, coded as a scale from proportional representation (PR) to plurality system.⁹ A common suggestion is that turnout tends to be higher in PR systems, since they are fairer, more competitive and more parties are represented (Blais and Dobrzynska 1998; Brockington 2004). Moreover, we examine the effect of the *competitiveness of elections*, following the very plausible suggestion that people to turn out in greater numbers in highly competitive elections than elections whose outcome is perceived to be a foregone conclusion (Powell 1986; Franklin 2004). An appropriate indicator of the closeness of the race is the 'margin of victory' of the executive (governing party/ies or president). This is operationalised as the percentage point difference in seat shares between the government and the opposition (see Kostadinova 2003; Franklin 2004).¹⁰ The expectation is that the higher the win margin, the lower the turnout, because the competitiveness of the election is low.

estimated with 'eligible vote' data for all cases and the significance and magnitude of the 'welfare spending' parameters are very similar.

⁷ Reliance on self-reported turnout as a dependent variable is a necessary choice in this study when we examine micro-mechanisms, but it is not without potential limitations, as it is typical to find that the proportion of respondents who report voting exceeds the estimates of actual voter turnout. When comparing reported turnout with actual turnout, we found an average of 11 percentage points over-reporting of turnout in the CSES data, where 81 percent of respondents reported that they had cast a ballot compared with an actual average turnout rate of 70 percent. To alleviate the problem associated with the degree of over-reporting we have weighted the data accordingly in our analyses.

⁸ We only use consistent answers of turnout in the analyses and missing values are not included.

⁹ We use a 3-point scale for the electoral system: 1 for full PR and corrective mixed systems; 2 for non-corrective mixed systems and majoritarian systems; and 3 for plurality systems.

¹⁰ Win margin is measured as the difference in seat shares between the government and the opposition. Most studies (see Blais and Dobrzynska 1998; Kostadinova 2003) measure 'closeness of the race' as the difference in vote shares obtained by the two strongest parties. Yet, we believe that this measurement suffers from two

In the following section, we examine the relationship between welfare spending at the aggregate level, and thereafter we present the two-step approach to estimating the interaction between micro-mechanisms and welfare spending.

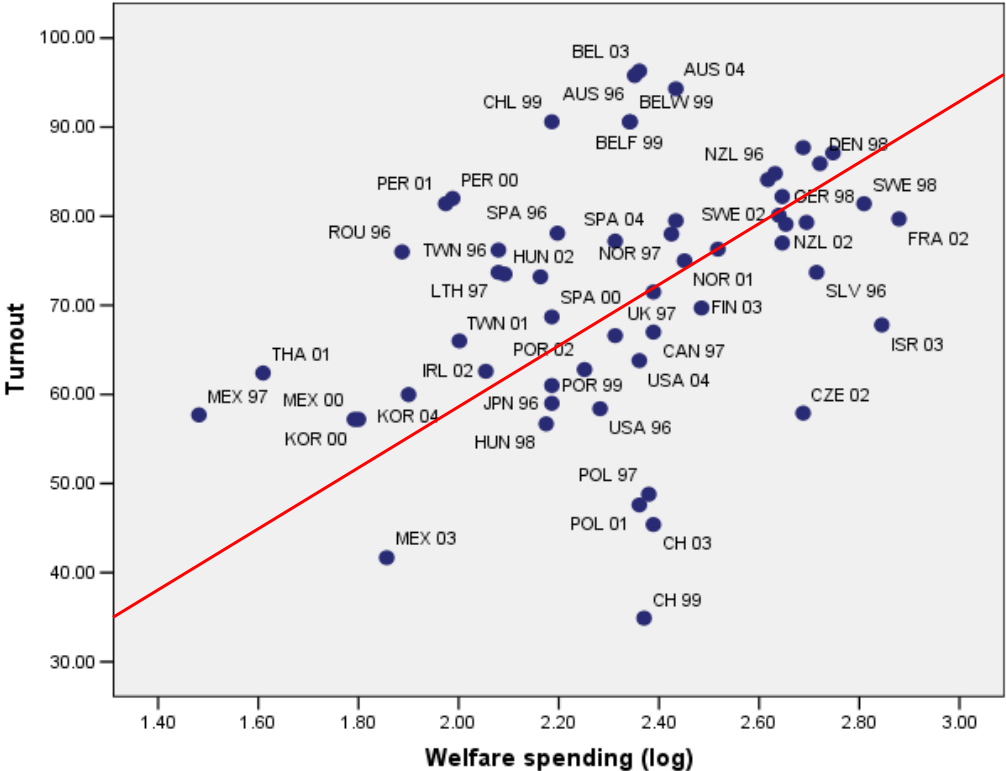
Government spending and turnout: aggregate results

Figure 1 plots the relationship between turnout and welfare spending, using aggregate data from 57 elections. This graphical illustration suggests a positive relationship between these two factors, although with considerable variance. We also notice some clear outliers, notably the two Swiss elections. But this is not surprising, because as noted by Blais and Dobrzynska (1998:243), ‘Switzerland is clearly a deviant case that has been treated as such in all previous studies’.¹¹ The impact of compulsory voting is also clear from this figure, since elections in countries with compulsory voting such as Belgium, Australia and Chile, have noticeably higher levels of turnout than we would expect from looking solely at their level of welfare spending.

problems. First of all, vote shares will not adequately capture ‘competitiveness’ in highly disproportionate systems. For example, commentators agree that Labour’s General Election victory in 1997 was a landslide election. Yet, if we measure this in terms of *vote* shares rather than *seat* shares, it was in fact a very close election, and Labour did not win a majority of votes. Second, the difference between the two largest parties may be an appropriate measure in two-party systems. Yet, most countries do in fact have coalition governments, and in this case, we are more interested in examining the difference between the two government alternatives. Hence, in our analysis, we measure the seat share of all parties included in the government minus the seat share of the remaining parties, to arrive at what we believe is a more appropriate measure of ‘closeness of the race’. This measure does, however, present us with problems in countries where the legislature does not appoint the executive (e.g. Taiwan) or in countries with a collective executive (e.g. Switzerland). Since less is at stake in these elections, where the parliament has no power to elect the executive, we have given these cases the maximum value (i.e. the lowest level of electoral competition).

¹¹ But we do not exclude Switzerland from our analysis.

Figure 1 Turnout and welfare spending



Note: Turnout: Percentage of registered voters (IDEA). Welfare spending: government spending on education, health and social services (IMF/IFS)

To examine whether this relationship holds when we control for the institutional factors outlined above, we estimate linear regressions with each of our indicators of welfare spending as the independent variables and institutional variables as controls. Given that the economic variables are so closely correlated, we estimate their effects in separate models to avoid problems of multicollinearity. The results are presented in Table 1.

Table 1: **Explaining turnout with aggregate data**

	<u>Model A</u>	<u>Model B</u>	<u>Model C</u>
<i>Independent variables</i>	<i>coeff. (S.E)</i>	<i>Coeff. (S.E)</i>	<i>Coeff. (S.E)</i>
Compulsory voting	21.13** (4.69)	21.56** (4.38)	21.52** (4.41)
Electoral system (plurality)	- 0.59 (1.98)	0.32 (1.86)	-0.55 (1.79)
Established democracy	0.69 (3.70)	0.62 (3.17)	0.03 (3.45)
Executive's win margin	-0.05 (0.05)	-0.08* (0.04)	-0.07 (0.04)
Tax revenue (log)	11.93* (5.14)	-	-
Government expenditure (log)	-	20.88** (5.66)	-
Welfare spending (log)	-	-	17.52** (4.28)
Constant	29.20 (18.98)	10.42 (17.72)	30.95 (12.72)
R squared	0.37	0.44	0.45
N	57	57	57

Note: Dependent variable is turnout in 57 elections (percentage of registered voters).

Source: IDEA turnout, CSES Modules 1 & 2 and IMF/IFS data

The only variables that are consistently significant in all three models are compulsory voting and the indicators of state involvement in the economy. Curiously, neither electoral systems nor established democracy has a significant impact on turnout in the 57 elections examined, when we control for other factors. Lack of competitiveness in the election – operationalised as the size of the win margin of the executive – appears to have a weak negative impact on turnout, as expected. Each of the government spending variables is significant and has a positive impact on the turnout level, as we expected.¹² There is no considerable difference between the explanatory power of each of our three indicators. Hence, in the following analyses we only use the ‘welfare spending’ estimators, which is the most precise measure of the theoretical construct of interest, namely the provision of welfare services and redistribution by the state.

¹² As expected, we also find a significant (but weak) and negative relationship between the variance of political awareness (a summated scale of three factual information questions) and welfare spending, with a correlation of -0.29. In other words, in countries with higher levels of welfare spending, citizens vary less in their level of political knowledge. There are some outliers: in Sweden, the variance is higher than predicted by the high level of welfare spending and in Japan the variance is lower than predicted by the relatively low level of welfare spending.

As indicated above, we are not only interested in the direct effect of welfare spending on turnout, but also on the mediating impact, that is, how patterns of individual-level behavior varies across countries with different levels of welfare spending. To examine these effects, we adopt a two-step hierarchical modeling approach described below.

A two-step evaluation of welfare spending effects

We adopt a two-step approach to examine the interaction between the effect of information on turnout at the individual level (level 1) and welfare spending in the country in each election year (level 2).¹³ The two-step approach is a variant of hierarchical linear modeling, but because it breaks the analysis into two steps, it is more transparent and allows for more flexibility, for example by making it possible to estimate a non-linear model at Step 1 and a linear model at Step 2 (see Huber et al. 2005; Jusko et al. 2005; Jusko and Shively 2005; Kedar and Shively 2005). Moreover, Hanushek (1974) and Jusko and Shively (2005) have shown that such a two-stage does not lose efficiency of estimation compared with the more common pooling strategies (see also Franzese 2005, for a comparison of two-step and pooled-sample strategies). Using this strategy, we firstly estimate the impact of political information and partisanship on the likelihood of voting for each election cluster. Then, in a second step, we use these β estimates of political information and partisanship as dependent variables across the election units, predicted from our macro-level economic variable: welfare expenditure.

The first step involves running a separate logit model¹⁴ for each election that estimates the effects of individual-level attributes on the likelihood of voting. Following our theoretical propositions, our main variables of interest are political information and partisanship. Since partisanship is a very strong predictor of turnout in all countries, we have estimated two separate models for each election to assess the impact of information independent of partisanship. We have included a number of control variables in each of these models in order to estimate the impact of information and partisanship when demographic and socio-economic

¹³ The 'Level 2' unit of analysis in studies of voting behavior usually refers to the country, but in this analysis 'election' is a more appropriate unit of analysis, given the available data. The models have also been estimated with unique country results (only one election per country) and the results were not significantly different from the ones reported in Table 2.

¹⁴ These models were also estimated with probit and the results were almost indistinguishable. We have also used OLS to estimate the coefficients (see Jusko and Shively 2005) and the macro-level relationships reported in this paper are also significant with OLS estimates at Step 1.

characteristics of the individual are held constant. Unfortunately, not all variables of interest are asked consistently across the countries in our sample, but we include the following variables: age, age squared, gender, income and employment status.¹⁵ The ‘information’ variable is constructed as a summated rating scale of each respondents correct responses to three factual political information questions about the elections, elites and the political system more generally (hence, the scale ranges from 0 to 3). We have chosen not to use education as a measure, because we fear that the measurement of this variable may be endogenous to our welfare spending variable and moreover, the categories of education may be difficult to compare cross-nationally. Hence, we use the factual information scale as a more direct measure of political awareness. The measure of party attachments is based on responses to two questions: First, the CSES survey asks respondents in each country, “Do you usually think of yourself as close to any particular political party?”. Second, a follow-up questions asks, “What party is that?”. We code ‘partisanship’ as a dummy variable, where partisans are those respondents who feel close to party *and* can name the party.

For each election we estimate the following two logit models:

Model 1:

$$VOTE_{ij} = \text{logit} \left(\beta_{1j} + \beta_{2j} INFORMATION_{ij} + \sum_k \beta_{3jk} x_{ijk} + \varepsilon_{ij} \right) \quad (3)$$

Model 2:

$$VOTE_{ij} = \text{logit} \left(\beta'_{1j} + \beta'_{2j} PARTISANSHIP_{ij} + \sum_k \beta'_{3jk} x_{ijk} + \varepsilon'_{ij} \right) \quad (4)$$

where the dependent variable is the likelihood of voting for each individual i in country j . The constants are denoted by β_{1j} (in model 1) and β'_{1j} (in model 2) and the parameter estimates of information and partisanship are β_{2j} and β'_{2j} respectively. These models also include a number of control variables k described above and a stochastic component. The Appendix

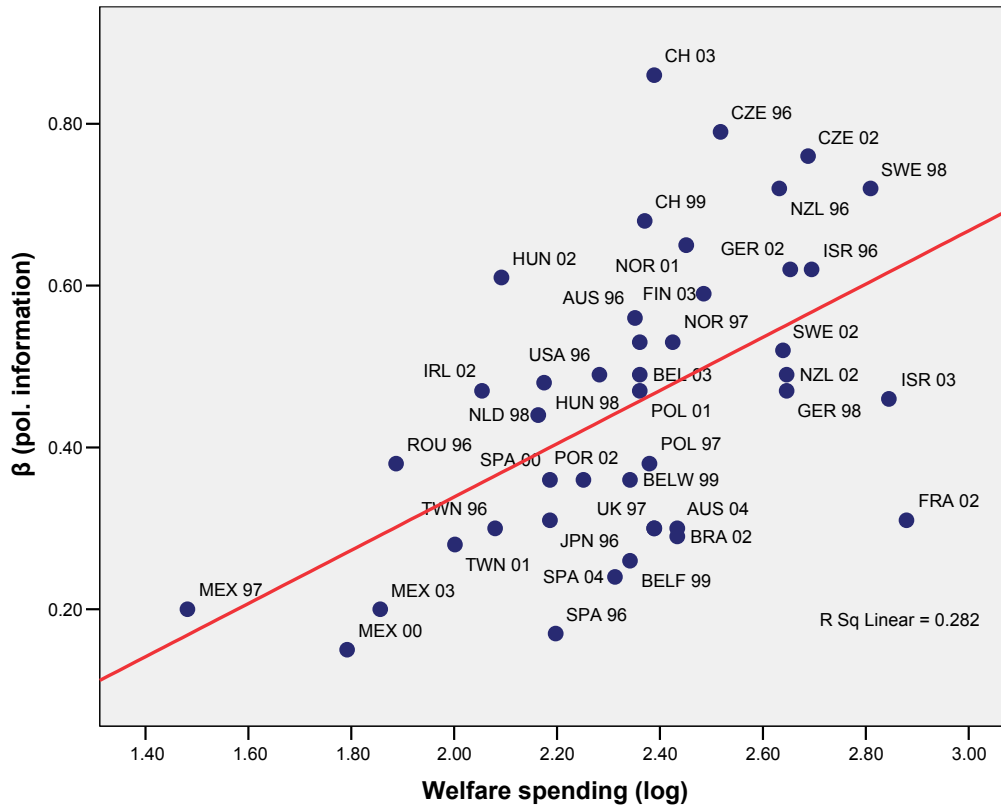
¹⁵ Employment status is a 4-point scale created on the basis of the individual’s attachment to the labor market, where the highest values is given to individual’s in full-time employment and the lowest value to individuals who are unemployed. The income variable constructed on the basis of a question on household income, where respondents are divided into quintiles.

lists the estimates of β_{2j} and β'_{2j} and their standard errors for each country.¹⁶ The relationship between political information and turnout is positive and statistically significant (at the .05) in each country. The effect of partisanship on turnout is also positive and precisely estimated in all but one of the cases (the 2000 Peru election). Since the number of observations in each election is large (see Appendix), under standard assumptions each of the beta estimates is consistent and asymptotically normal. Hence, the first-level results show that political awareness and partisanship have a consistently positive impact on the likelihood of voting (when controlling for other individual-level characteristics). This is, however, not the main interest of this paper. Rather, we are interested in estimating how patterns of voting vary across levels of welfare spending. Recall our expectation that, all other things being equal, information and partisanship will have a greater effect in countries with a larger welfare state. Since welfare states provides higher levels of education freely to the general population, the socio-economic status of individuals will matter less whereas differentials in partisanship (does it matter who gets elected?) and information will matter relatively more.

To examine this proposition, we firstly plot the Step 1 estimates of β_{2j} and β'_{2j} against welfare spending for each country. Figure 2 shows the beta estimates of the effect of information on turnout plotted against the log of welfare spending.

¹⁶ We have only included the beta estimates of information and partisanship in the Appendix, and not the estimates of the country intercepts or the betas of the control variables, since these are the main focus of this paper.

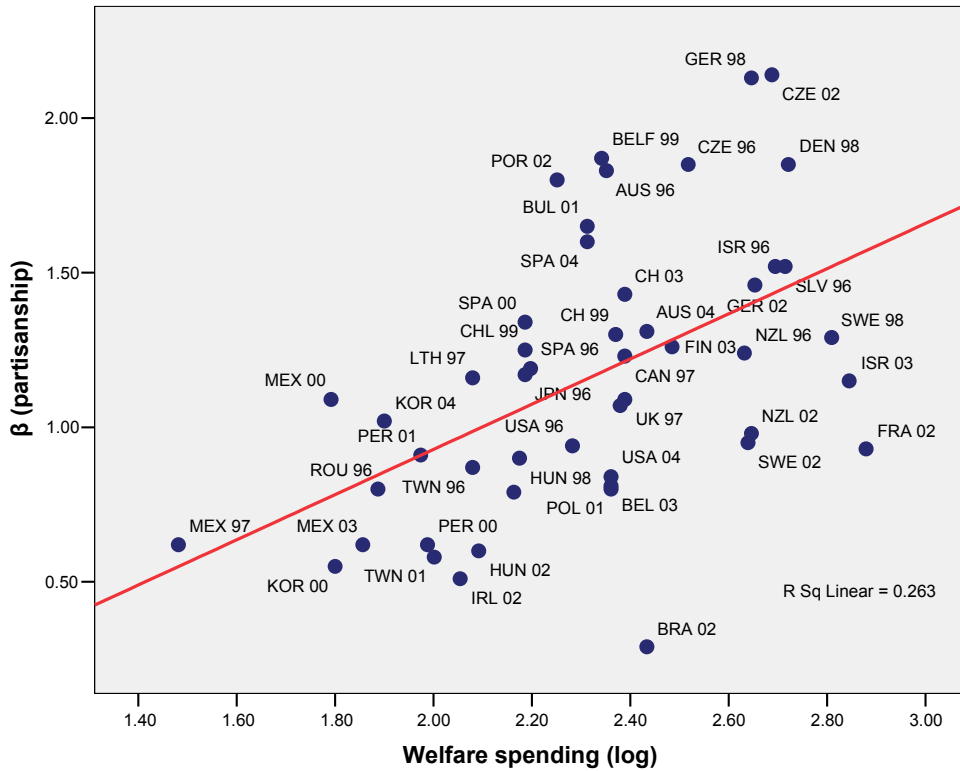
Figure 2 **Welfare spending and the effect of information on turnout**



Note: The vertical axis reports the beta estimates from Model 1 at Step 1 (political information).
Sources: CSES Modules 1& 2.

As expected, Figure 2 illustrates a positive and approximately linear relationship between the information effect on turnout and (the log of) welfare spending. Again, Switzerland appears to be an outlier, since information has a greater impact that expected. In France, where welfare spending is very high, information has a lower effect than expected. However, in general it appears that information has a greater impact of turnout (controlling for other socio-demographic variables) in countries with higher levels of welfare spending. Figure 3 plots the relationship between the partisanship effect and welfare spending.

Figure 3 **Welfare spending and the effect of partisanship on turnout**



Note: The vertical axis reports the beta estimates from Model 2 at step 1 (partisanship).
Sources: CSES Modules 1& 2.

Figure 3 shows a similar positive and approximately linear relationship between (the log of) welfare spending and the effect of partisanship on turnout. In this case, the Brazilian 2002 election is a clear outlier, since partisanship appears to have had a minimal effect. But the overall all relationship between welfare spending and the relative impact of partisanship is as expected. However, while these plots are very suggestive, they do not provide us with estimates of the precise estimates of the relationship between welfare and the individual-level betas or their robustness. Nor do they tell us whether this relationship is present when we control for other macro-variables, such as electoral institutions. To get such estimates, the second step of this model uses a linear regression to test the impact of welfare spending on the Step 1 beta estimates. Since we have estimated the betas for both information and partisanship separately at Step 1, we also estimate two models at Step 2, with each of these beta estimates as the dependent variables. Hence, the models can be estimated as follows:

Model 1:

$$\beta_{2j} = \gamma_{1j} + \gamma_{2j}WELFARE_j + \sum_m \gamma_{3jk}z_{jk} + \mu_j \quad (5)$$

Model 2:

$$\beta'_{2j} = \gamma'_{1j} + \gamma'_{2j}WELFARE_j + \sum_m \gamma'_{3jk}z_{jk} + \mu'_j \quad (6)$$

where the dependent variables are the parameter estimates of information and partisanship: β_{2j} and β'_{2j} respectively. The constants are denoted by γ_{1j} (in model 1) and γ'_{1j} (in model 2) and the parameter estimates of welfare spending are γ_{2j} and γ'_{2j} in each of the models. These models also include a number of macro-level control variables m and an error term.

Since the dependent variables are continuous, we can use a linear regression to estimate these models. However, as our dependent variables are estimated and thus not known with certainty, an additional level of uncertainty should be incorporated into the analysis. When the dependent variable is estimated, ordinary OLS estimates may be less precise than is optimal and, under some conditions, will produce badly inconsistent standard error estimates (see Borjas and Sueyoshi 1993; Huber et al. 2005; Lewis and Linz 2005). There are several different ways of dealing with the stochastic component in an estimated dependent variable, and a common approach is to use Weighted Least Squares (see Lewis and Linz 2005). In this paper, we follow the recommendation of Lewis and Linz (2005) and use the Feasible Generalized Least Squares (FGLS) with known variance method (see also Jusko and Shively 2005). Using Monte Carlo experiments, Lewis and Linz (2005) show that this method yields the most efficient estimations and consistent standard error estimates for models with estimated dependent variables.¹⁷

In the Step 2 analyses, we also include several control variables at the macro-level: established democracy, electoral system and the executive's win margin. The results are shown in Table 2.

¹⁷ We also tested the models using simply OLS with and without robust standard errors and, as pointed out by Lewis and Linz (2005), the results were very similar to the FGLS estimates.

Table 2 **Second-stage estimates: the impact of macro variables on information and partisanship effect**

	β	β
	(information)	(partisanship)
	<u>Model 1</u>	<u>Model 2</u>
<i>Independent variables</i>	<i>coeff. (s.e.)</i>	<i>coeff. (s.e.)</i>
	0.35**	0.72**
Welfare spending	(0.09)	(0.19)
Established democracy (0/1)	-0.05	-0.05
	(0.06)	(0.11)
Electoral system	-0.02	-0.01
	(0.03)	(0.06)
Government's win margin	-0.00	-0.00
	(0.00)	(0.00)
Constant	-0.30	-0.43
	(0.22)	(0.46)
<i>N</i>	44	51

Note: Dependent variables are Step 1 estimates of information and partisanship coefficients. Models have been estimated with FGLS with known variance.

Source: CSES Modules 1& 2

The Step 2 estimations show that welfare spending levels are positively and significantly associated both with the effect of political information and the effect of partisanship on turnout, even when we control for various institutional factors. In fact, the economic variables are the only significant variables in the two models. This suggests that people in welfare states rely more on their knowledge of and preferences about parties and candidates when deciding whether to vote, all other things being equal, than voters in countries where the economy is less involved.

Conclusions

In this paper we have shown that welfare spending has a significant positive impact on voter turnout. A plausible explanation for this relationship centers on the redistribution of resources and the provision of mass education in countries with high levels of welfare spending, since better educated people are more likely to vote. Thus, by lowering the cost of voting for a wider spectrum of the population, welfare states stimulate higher levels of turnout. Our two-step approach to analyzing the interaction between micro-mechanisms and welfare spending in 51

elections lends some support to this proposition. The findings show that political information matters more, relative to socio-economic and demographic variables, in countries with a larger welfare state. Moreover, partisanship is a stronger explanatory variable in these countries. This makes sense given that education is likely to lower the information cost associated with voting and increase the understanding of, and in turn, perceived benefits of ‘party differentials’.

The findings in this paper are important not only because they represent, to the best of our knowledge, the first comparative study of the impact of welfare spending on turnout that considers both aggregate and individual-level effects and their interaction, but also because they may contribute to more general debates on voter participation. If welfare spending does in fact induce higher turnout, this implies that welfare spending diminishes not only economic inequality, but also inequality in political participation. Hence, rather than focusing exclusively on institutional mechanisms that could maximize turnout (see Lijphart 1997), scholars and politicians could also look at how government policies in areas that are not directly targeted at elections may affect turnout levels and the equality of political participation. We know from the literature that lower turnout implies a higher degree of inequality in participation. It is thus noteworthy, that many of the abstainers in low-turnout, low-welfare spending countries may be exactly the type of people who would benefit from a larger welfare state, but ‘if you don’t vote, you don’t count’ (Burnham 1987:99). It is beyond the scope of this article to investigate whether welfare policies would be more generous if turnout levels were higher, but it does seem as though the reverse is the case: more welfare leads to higher levels of participation.

Further research is necessary to disentangle and clarify some of the causal micro-mechanisms proposed in this paper. It is very likely that ‘cost-reduction’ is not the only effect of welfare states. As suggested, welfare states may generate higher turnout because more is at stake when the state redistributes a larger proportion of a country’s resources. Moreover, non-material factors, such as civic duty, may also play a role in generating variations in turnout levels. It could be argued that higher levels of equality create a stronger adherence to social norms and greater trust in the political system. Hence, further work is needed to test which of these mechanisms provide the best account of the empirical patterns. It may also be interesting to employ a longitudinal design to evaluate whether the same patterns can be detected over time (although we expect the impact of welfare spending to have long-term rather than short-term effects on turnout, since contextual knowledge is something acquired over a lifetime rather than in between budgetary cycles). In conclusion, we therefore suggest that comparative

studies of voter participation should consider the impact of variations in welfare spending across countries, rather than focusing exclusively on institutional factors, as this may generate important insights into the factors that determine people's likelihood to vote.

References

Aldrich, J. (1997). 'When is it rational to vote?' in D. Muller (ed) *Perspectives on rational choice*, Cambridge, Cambridge University Press.

Alvarez, M.R. and J. Brehm (2002) *Hard Choices, Easy Answers*. Princeton: Princeton University Press.

Berelson, B. and G.A. Steiner (1964) *Human Behavior: An Inventory of Scientific Findings*. New York: Harcourt, Brace.

Blais, A. (2000) *To Vote or Not to Vote? The Merits and Limits of Rational Choice Theory*. Pittsburgh: University of Pittsburgh Press.

Blais, A. and A. Dobryzynska (1998). Turnout in electoral democracies, *European Journal of Political Research*, 33(4), 239-261.

Bollen, K.A. (1993) 'Liberal Democracy: Validity and Source Biases in Cross-National Measures'. *American Journal of Political Science*, 37:1207-30

Borjas, G. J. and G. T. Sueyoshi (1993) 'A Two-Stage Estimator for Probit Models with Structural Group Effect'. Technical Working Paper No. 146. National Bureau of Economic Research.

Brady et al (1995). Beyond SES – A resource model of political participation. *American Political Science Review*, 89(2): 271-294.

Brockington, D. (2004) 'The paradox of proportional representation: The effect of party systems and coalitions on individuals' electoral participation'. *Political Studies*, 52 (3): 469-490.

Burnham, W. D. (1987) 'The Turnout Problem' in A. J. Reichley (ed.) *Elections American Style*, Washington, DC: Brookings Institution.

Converse, P.E. (2000) 'Assessing the Capacity of Mass Electorates', *Annual Review of Political Science* 3:331-353.

Converse, P.E. (1975) 'Public Opinion And Voting Behavior.' In F. Greenstein and N. Polsby (eds.) *Handbook of Political Science* (vol. 4) Reading, Mass.: Addison-Wesley.

Converse, P.E. (1964) 'The nature of belief systems in mass publics' in D. Apter (ed.) *Ideology and discontent*, New York: Free Press.

Dhillon, A. and S. Peralta (2002). 'Economic theories of voter turnout'. *The Economic Journal*, 112, F332-F352.

- Downs, A. (1957). *An Economic Theory of Democracy*. New York: Harper Collins.
- Franklin, M. (1996) 'Electoral Participation', L. Leduc, R. and P. Norris (eds.) *Elections and Voting in Global Perspective*. Thousand Oaks CA: Sage.
- Franklin, M. (2004). *Voter Turnout and the Dynamics of Electoral Competition in Established Democracies since 1945*. Cambridge: Cambridge University Press.
- Franzese, R. J. (2005) 'Empirical Strategies for Various Manifestations of Multilevel Data', *Political Analysis*, forthcoming.
- Franzese, R. J. (2002) 'Electoral and Partisan Cycles in Economic Policies and Outcomes', *Annual Review of Political Science*, 5:369-421.
- Hanushek, E. A. (1974) 'Efficient Estimators for Regressing Regression Coefficients.' *American Statistician*, 28:66-67.
- Huber, J. D, G. Kernell and E. L. Leoni (2005) 'Institutional Context, Cognitive Resources and Party Attachments Across Democracies', *Political Analysis*, forthcoming.
- Jackman, R (1987) 'Political institutions and voter turnout in the industrial democracies'. *American Political Science Review*, 81(2):405-424.
- Jackman, R and Miller, R (1995) 'Voter turnout in the industrial democracies during the 1980s', *Comparative Political Studies*, 27(4): 467-492.
- Jusko, K.L., O. Kedar and W.P. Shively (2005) 'Strategies for Analysis of Multi-Country Individual-Level Data', *Comparative Politics Newsletter*, Summer 2005.
- Jusko, K. L. and W. P. Shively (2005) 'Applying a Two-Step Strategy to the Analysis of Cross-National Public Opinion Data', *Political Analysis*, forthcoming.
- Kedar, O. (2005) 'How Diffusion of Power in Parliaments Affects Voter Choice'. Paper presented at the Political Parties Conference, University of Michigan, May 2005
- Kedar, O. and W.P. Shively (2005) 'Introduction to Special Issue', *Political Analysis*, forthcoming.
- Kahn, K and P. Kenney (1999) 'Do negative campaigns mobilize or suppress turnout? Clarifying the relationship between negativity and participation', *American Political Science Review*, 93(4): 877-889.
- Kostadinova, Tatiana (2003) 'Voter turnout dynamics in post-Communist Europe', *European Journal of Political Research*, 42, 741-759.

Lewis, Jeffrey B. and Drew A. Linzer (2005) 'Estimating Regression Models in Which the Dependent Variable Is Based on Estimates', *Political Analysis*, forthcoming.

Lewis-Beck, M. and M. Stegmaier (2000). 'Economic determinants of electoral outcomes', *Annual Review of Political Science*, 3:183-219.

Lijphart, A. (1997) 'Unequal Participation: Democracy's Unresolved Dilemma', *American Political Science Review*, 91(1).

OECD (2004) *Education at a Glance 2004*. OECD Publishing.

Ordeshook, P.C. (1996) 'Engineering or Science: What is the Study of Politics?' in J. Friedman (ed.) *The Rational Choice Controversy: Economic Models of Politics*, New Haven: Yale University Press.

Pacek, A. and Radcliff, B. (1995). 'Economic voting and the welfare state: A cross-national analysis', *The Journal of Politics* 57(1): 41-61.

Perea, E.A. (2002) 'Individual characteristics, institutional incentives and electoral abstention in Western Europe.' *European Journal of Political Research*. 41(4): 643-673.

Powell, G.B, Jr. (1986). American Voter Turnout in Comparative Perspective. *American Political Science Review* 80:17-43.

Powell, G.B. and G. Whitten (1993). 'A cross-national analysis of economic voting – taking account of the political context'. *American Political Science Review*, 37:319-414.

Putnam, R. D. (1993) 'The prosperous community: social capital and public life', in the *American Prospect*, 4:13.

Radcliff, B. (1992) 'The welfare state, turnout and the economy: A comparative analysis', *American Political Science Review*, 86 (2): 444-454.

Riker, W. and Ordeshook, P (1968). 'A theory of the calculus of voting.' *American Political Science Review*. 62: 25-42.

Rosenstone, S., and Hansen, J.M. (1993). *Mobilization, Participation, and Democracy in America*. New York: MacMillan.

Smith, A (2004) *Election Timing*. Cambridge: Cambridge University Press

Wolfinger, R., and Rosenstone, S. (1980). *Who Votes?* New Haven: Yale University Press

Zaller, J. (1992) *The nature and origins of mass opinion*, Cambridge: Cambridge University Press.

Zaller, John (1991) 'Information, Values and Opinion', *American Political Science Review* 85(4): 1215-1237.