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INVESTIGATING ECONOMIC INEQUALITY AND VOTER
TURNOUT IN THE INDUSTRIALIZED DEMOCRACIES

by

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INTRODUCTION

The idea that economic conditions influence the electoral process is far from novel. In fact social scientists have been exploring this interplay for more than three decades, beginning with the works of Goodhart and Bhansali (1970), Mueller (1970), and Kramer (1971), which illustrate the link between the economy and voting behavior in US presidential and congressional elections. Since the time of these initial studies the economic voting literature has become immense and expanded rapidly beyond single country temporal models to analyze international variations in the impact of the economy on turnout and the support given to different parties, with the latter receiving the vast majority of attention. While the field of economic turnout research can trace its roots back to Anthony Downs (1957) there remains a substantial void in our understanding of how the economy affects turnout as evidenced by the paucity of relevant research. Though it has been shown that aggregate macroeconomic performance affects turnout rates (Radcliff 1992; Radcliff 1994; Pacek and Radcliff 1995b, 1995c; Aguilar and Pacek 2000) the impact of economic distribution has yet to be analyzed. “What are the electoral effects of rising income inequality and insecurity? We can cite no published scientific paper on that exciting question” (Lewis-Beck and Stegmaier 2000, 212).

In this paper I seek to answer the question posed by Lewis-Beck and Stegmaier by analyzing the effect of changes in economic inequality on changes in voter turnout. While it is evident that the state of the macroeconomy has an impact on turnout, this is only one measure of economic performance. Another option is to employ a measure of economic distribution alongside macroeconomic performance measures such as gross domestic product (GDP) that measure the overall growth or decline in the economy. Though it is

true that GDP growth must benefit some or all socioeconomic groups, without a measure of economic distribution it is impossible to tell who benefits from this growth. Theories of electoral mobilization and withdrawal are predicated on the assumption that the consequences of economic decline are felt primarily by the lower classes, however it is quite possible that economic decline could come as the result of losses incurred primarily by the upper classes. Thus, previous studies that have found changes in GDP or similar figures to be statistically significant predictors of turnout can offer no empirical explanation as to how or why this change occurs.

This analysis will seek to remove part of this mystery by accounting for the way in which the overall economic ‘pie’ is sliced. Fluctuations in economic inequality can affect turnout in two ways. First, as in the case of GDP, voters may turnout to vote based upon their preferences for equality, which are independent of the economy’s impact on their personal finances. While this effect has not been empirically supported Mutz and Mondak (1997) find support for what they call ‘sociotropic fairness’, “Our respondents were substantially more likely to judge the president favorably if they felt that class groups had experienced similar rather than dissimilar changes in economic performance” (304). It is important to note that the findings of Mutz and Mondak apply to presidential popularity and not the propensity to turnout, nonetheless their work shows the importance of equality in shaping political preferences. On the other hand, the second way in which inequality can affect turnout has been readily documented. There exists a socioeconomic bias in electorates wherein the propensity to vote is higher in the upper socioeconomic groups than it is in the lower socioeconomic groups. When economic inequality increases more voters may fall into socioeconomic groups where their propensity to vote

is reduced. Thus, fluctuations in the level of economic distribution combined with the socioeconomic bias should reveal an inverse relationship between the level of inequality and the level of electoral participation.

In the next section this possibility will be investigated in greater detail along with other plausible alternative explanations of turnout. It will be noted that the institutional and political contexts have been shown to be stronger predictors of turnout in cross-national perspective than have socioeconomic factors. However, it will also be argued that socioeconomic factors are significant, particularly economic inequality, and that the socioeconomic bias is a recognized phenomenon in the industrialized democracies. Additionally, an argument will be made that studies which have found the level of welfare state development to be an important intervening variable in determining the economy's impact on voter turnout are actually capturing the effects of economic distribution on turnout.

The data and methods section will discuss the coding of the variables used to test these conjectures, and the pooled model used to investigate these relationships. The results section will clearly show that socioeconomic explanations of turnout are significant, even when controlling for institutional and political explanations of turnout. Specifically, it will be unambiguously shown that economic distribution is more important in determining voter turnout in cross-national perspective than is economic growth. Finally, it will be shown that economic inequality is a significant explanation of turnout regardless of the level of welfare state development. When accounting for inequality, the effects of welfare state development on turnout are contrary to those found in previous studies.

I will analyze these findings in the discussion section and the implications for democratic accountability and responsiveness will be addressed. In the conclusions section an agenda for future research will be presented and it will be argued that measures of economic distribution should be included in future studies of turnout, particularly in regions of the world beyond the industrialized sample utilized here. Furthermore, it will be necessary to investigate the effect of fluctuations in economic distribution on vote choice, while being aware of the effects of these fluctuations on electoral participation. It will also be argued that further analysis is needed to determine if higher turnout does in fact lead to reductions in inequality.

LITERATURE REVIEW

Though the literature investigating the relationship between the economy and turnout is somewhat sparse there is a plethora of research investigating turnout from other perspectives. The different approaches can be summarized into three groups. The first approach advocates the importance of political institutions in determining turnout. The second approach contends that the political context of individual elections is a significant predictor of voter turnout, while a third approach argues for the value of socioeconomic variables.

Institutional Explanations

Democracies come in a multiplicity of forms. While all democracies guarantee some level of political participation for at least some citizens a variety of variables have been shown to have a significant influence on the level of turnout across countries.

Registration laws that require even the most limited amount of effort have been found to depress turnout during the 20th century (Gosnell 1930; Rosenstone and Hansen 1993). Registration laws represent an additional cost of voting and from a rational choice perspective where the benefits of voting are already low even a small added cost could create a significant reduction in aggregate levels of turnout.

Further, the electoral system can have a strong impact on voter turnout. In proportional representation (PR) systems fewer votes are wasted than in plurality systems. Under PR systems there is a greater probability that a vote is worth more and thus the perceived benefits of voting are increased. Lijphart (1994a) finds that the average number of parties is 2.0 in plurality, 2.8 in majority, and 3.6 in PR systems, thus under PR voters have more available options. PR systems also encourage the political parties to implement mobilization efforts in all geographical areas, including those that would likely be ignored by parties in plurality systems (Lijphart 1997). Not surprisingly it has been shown that in PR systems turnout is approximately ten percentage points higher than in plurality systems (Blais and Carty 1990; Franklin 2002; Lijphart 1994b). Within PR systems there are also varying degrees of proportional representation due to decisions about districting, formulas, tiers, and thresholds. Thus, institutionalists also feel that as the degree of disproportionality between the share of votes and the share of seats rises voter turnout will fall (Jackman 1987).

Even under PR systems turnout might still be depressed if voters are called to the polls too often. This appears to correspond with governments in which there is a separation of powers or widespread use of referendums (i.e. Switzerland and the United States). These two factors together serve to reduce the importance of any one electoral

contest and increase costs by repeatedly calling voters to the polls. Not surprisingly, Franklin (2002) finds that salient elections (as measured by these two criteria) have turnout rates almost 30 percent higher than non-salient elections.

Throughout the literature the most consistent and strongest stimulus to voter turnout is compulsory voting. If the decision to vote is a rational choice for voters (and a very precarious one at that) then it follows that the best way to overcome a problem of collective action is to adopt legal sanctions to ensure participation (Olson 1965). Perhaps the most striking aspect of research on compulsory voting is that it has such a profound effect even though the penalties for non-compliance are often negligible and enforcement is limited or non-existent. According to Lijphart's (1997) review of the literature compulsory voting increases turnout by seven to sixteen percentage points.

Political Explanations

While institutional variables account for a large amount of between country differences there is also considerable variance in the political context within countries from one election to the next. The most obvious of these factors is the competitiveness of elections. In one election an incumbent party that has performed well while in office in the eyes of voters may win in a landslide while in the very next election a strong opposition party may rise up to defeat the incumbent party by the slimmest of margins. In both cases the costs of voting remain equal while the benefits are very different. In the former, the benefit of voting for either the incumbent or an opposition party is low because the gulf between the two is so great, whereas in the latter, voters perceive that there is a higher benefit for voting (Blais 2000). Therefore, the more competitive an

election is the more likely it is that turnout will increase. Franklin (2002) finds that competitive elections give rise to turnout differences of four to eight percent.

The same argument for competitiveness also applies to the leading party or coalition's proximity to majority status. A party with majority control of government has much greater control of policy outputs than do leading parties that control less than a majority of the government. Therefore the benefit of voting increases with the perceived proximity of the leading parties vote share to 50 percent. Regardless of party preference it becomes logical for an individual to vote because the stakes of the contest are high. Franklin (2002) was the first to utilize this variable and he found that it led to turnout differences between four and eight percent.

Socioeconomic Explanations

Socioeconomic explanations of turnout contend that social and economic variables affect turnout at both the individual and aggregate levels. If voters are affluent, educated, and literate the likelihood that they will actually vote is increased (Filer, Kenny, and Morton, 1993). At the individual level researchers utilize surveys to ascertain the socioeconomic characteristics of voters and non-voters, while at the aggregate level researchers utilize literacy, education, economic growth, unemployment, and inflation rates. Often the greatest trouble is that the socioeconomic characteristics are highly correlated with one another. For instance, higher wealth often comes as the result of higher education and thus it can be difficult to determine which variable is having the most influence. Moreover, in comparative studies it can be taxing to attempt to make comparisons regarding levels of educational attainment due to the diversity of

educational systems found throughout the world. Much of the comparative literature has relied upon measures of economic development or economic growth such as GDP per capita or similar measures as the principal independent variable. One pioneering work, conducted by Radcliff (1992) shows that the election year proportion change in real per capita national income did have a significant influence on turnout. The effect was dependent upon the level of welfare state development and the relationship was found to be curvilinear, where mobilization (higher turnout) occurred at low and high levels of welfare state development while withdrawal (lower turnout) was found in moderate welfare states during periods of economic decline. This work, which was later supported by Pacek and Radcliff (1995b), might have captured an effect that it was not intended to. Welfare spending is the principal means of government control over economic distribution; incidentally welfare spending is also the quickest and most effective control of economic inequality. Thus, what matters most might not be changes in the level of welfare state development or economic growth, but changes in the level of economic inequality.

Governments can modify welfare and taxation systems to suit the interests of their supporters or constituents. For instance, conservative parties can opt to reduce the tax burden on the upper class and consequently reduce the amount of government funds available for redistribution. Egalitarian parties may opt to increase taxation and spread the resultant public income amongst the lower classes. Most importantly, this legislation can be enacted, realized, and experienced within the short time span between elections. It is therefore quite probable that partisan politicians advocate alteration of welfare spending because of the effect that it has on changes in the level of economic distribution,

which in turn leads to fluctuations in turnout and consequently party support. What is most disturbing is that as Radcliff (1994) has shown governments are able to avoid punishment during times of recession thanks in part to voter abstention, presumably amongst those most disadvantaged by the economic decline. In terms of economic distribution, governments that pursue inegalitarian policies might not be punished because the people most adversely affected by the new policies just so happen to be the same groups that are now less likely to vote. This possibility will be discussed in greater detail later in this paper.

The Importance of Inequality

The central thesis of this research is that economic distribution is a significant predictor of voter turnout. When inequality rises it is assumed that turnout will fall, because a large portion of the electorate will fall into socioeconomic classes that are less inclined to vote. On the other hand, when inequality falls turnout will rise as a greater portion of the electorate move into socioeconomic classes where the mean probability of voting is higher. But, why should changes in economic distribution matter? After all, one person's loss is another's gain and the overall financial well-being of the country is unchanged. It is apparent that inequality is a complex phenomenon that requires further elaboration in order to understand its electoral ramifications.

To begin, when inequality rises it does so unequally (Wade 2004). While this may seem redundant it is important to know that inequality is much more than the rich getting richer while the poor become poorer. The direct economic exchange that this theoretical notion implies is simply not found in the empirical data. There is no rich

group that extracts an equal amount of money from a group of poor people and then divides it up amongst an equal number of rich individuals. Inequality is just as apparent within classes as it is between classes. Though the rich may get richer while the poor become poorer there are rich individuals who gain significantly more so than other rich individuals.

Most importantly, the sizes of socioeconomic groups are unequal. As of 2000 the combined wealth of the 200 most affluent individuals in the world was equal to the combined annual income of the poorest 2.5 billion people in the world (Gates 2000). While this statistic is on the global level, the same basic fact holds true in individual countries. As of 1990 35.5 percent of all US households had gross incomes below \$20,000 while only 3.9 percent had incomes above \$100,000 (Levy 1993). If the lower class bound is increased to \$40,000 then 66.7 percent, or roughly two-thirds, of all households are considered lower class. Thus, for every upper class household there are two lower class households. Similar statistics show this finding to be consistent among all the industrialized nations under study here.

Compound this with the aforementioned notion that inequality is unequal within classes and it becomes obvious that increases in inequality punish far more people than they reward (Wade, 2004). In a democracy where there is perfect equality of the vote, when a poor man's vote has the same weight as a rich man's, pursuing policies that further inequality might seem to be political suicide. Yet conservative parties all over the world advocate, either directly or indirectly, such policies and have been rewarded for their efforts (i.e. President Ronald Reagan in the US and Prime Minister Margaret Thatcher in the United Kingdom). One possible explanation for this is the upper class

bias inherent in electorates. According to this argument, which has been empirically illustrated in nearly all industrialized democracies, there is a direct correlation between affluence and the probability of voting or otherwise participating in politics. According to a recent American Political Science Association (APSA) Task Force Report US survey respondents with incomes over \$75,000 were 34 percent more likely to vote than were individuals with incomes below \$15,000 (APSA Task Force 2004). When inequality rises the income of the more affluent who are more likely to vote rises which in turn makes them more likely to vote, whereas the income of the less affluent falls (relatively) which in turn makes them less likely to vote. Thus, it is quite probable that those who would punish the incumbent party abstain at a much higher rate than those rewarded by inegalitarian policies (Radcliff 1994).

Considering that the socioeconomic bias is the principal theoretical mechanism that links fluctuations in economic inequality to voter turnout a review of the literature documenting the socioeconomic bias and its implications for this research follows.

The Socioeconomic Bias

Ironically, the generally accepted belief at the close of the 19th century was that the socioeconomic bias would work in favor of the economically disadvantaged. It was believed that a rational individual would opt to abstain rather than have his vote “drown among the votes of the great crowd” (cited in Tingsten 1937, 184). Studies of the socioeconomic link with turnout in Chicago (Gosnell 1927) and a small town in Ohio (Arneson 1925) soon showed that the turnout bias was in fact in favor of the upper class. Tingsten (1937) in a review of turnout studies across several nations came to the

conclusion that turnout rises with socioeconomic status. Since that time there has been little debate about the direction of socioeconomic bias in political participation.

Socioeconomically biased turnout has been documented repeatedly in the United States and the APSA Task Force Report on American Democracy in an Age of Rising Inequality is the latest contribution to research on the socioeconomic bias inherent in the American electorate. In addition this work also provides documentation of the rising rate of inequality over the same time period that turnout fell steadily. According to the task force's analysis the most affluent fifth of the American electorate received 47.7 percent of family income in 2001 (APSA Task Force 2004, 652), but this is not shocking considering that the top quintile has always held a great proportion of overall income in the US. "What stands out over the past three decades is the sharp and unmistakable increase in the concentration of income at the top" (APSA Task Force 2004, 652). Critical to this analysis is the observation that the number of Americans who have attained upward mobility does not even begin to counter the rise in economic disparities among the masses.

Of equal importance is the task force's conclusion that unequal economic resources lead to unequal political participation rates. This is also supported by the argument of Richard Freeman (2004) that increased levels of economic inequality lead to lower turnout rates among the lower classes. Additionally, the task force finds that American government is much more responsive to the desires of the affluent minority than to the needs of the masses (i.e. Schattschneider 1960). Within campaigns and political parties this is also true. Though the work of Rosenstone and Hansen (1993) shows that mobilization is important in encouraging citizens to vote, the task force finds

that party mobilization efforts are biased towards the more affluent constituents in both parties (i.e. Verba 1996). The work of Rosenstone and Hansen does have important relevance for the analysis presented here however. The authors find that as the number of participants in a political activity (voting or otherwise) decreases inequality in participation rises (1993, 238). Furthermore, Rosenstone's (1982) previous work illustrates that the probability of electoral participation decreases not just because of poverty, but also because of a decline in financial well being, which is precisely the effect hypothesized here.

While the United States appears to display the strongest evidence of an upper class bias in political participation, so strong in fact that some analysts have regarded it as exclusively American (Abramson 1995; Piven and Cloward 1998), the same phenomenon has been observed in other democracies. Similar to the findings of Rosenstone and Hanson in the United States, studies by Verba, Nie and Kim (1978) and Marsh and Kaase (1979) have shown that the socioeconomic bias in political participation is also evident in other countries.

The socioeconomic bias is more pronounced in countries with lower levels of voter turnout. Not surprisingly there is a great deal of evidence documenting the socioeconomic bias in Switzerland, which, along with the US has turnout rates that routinely fail to reach fifty percent of the voting age population. The participation gap between the least and most educated classes averaged nearly 25 percentage points in referenda voting between 1981 and 1991 (Mottier, 1993). In 1991 the gap was 37 percentage points and Linder (1994, 95-96) refers to this as a "typical profile of a popular vote."

Conversely, the class bias is less pronounced in countries with high levels of voter turnout. Topf (1995) actually finds several instances in which the socioeconomic bias works in the opposite direction as would be expected, with the less educated being more likely to vote than the higher educated. Overall though for every deviant case such as this Topf finds four more with the expected pattern, and studies by Oppenhuis (1995) and Dalton (1996) reach approximately the same conclusion. When countries that adopt compulsory voting measures, and consequently have very high turnout rates, are excluded from analyses such as these the upper class bias becomes even more apparent. Yet even in countries that adopt compulsory voting the socioeconomic bias is still apparent. McAllister (1986) finds that fluctuations in turnout correspond to fluctuations in party support in Australia. In a cross national analysis of 19 industrialized democracies that included several countries that had adopted compulsory voting Pacek and Radcliff (1995a) discover a similar pattern. “The results imply that the left share of the vote increases by about one-third of a point for every percentage point increase in turnout” (139). It is interesting to note that the authors also included a dummy variable for mandatory voting, which was found to be insignificant.

Not only is the socioeconomic bias still apparent in countries where compulsory voting is adopted, though much less so, it also appears that if compulsory voting laws are abolished a strong socioeconomic bias will be reintroduced. In countries that have done away with compulsory voting, such as the Netherlands, it has been shown that the class bias increased significantly (Verba, Nie and Kim 1978). In 1967 under compulsory voting turnout rates were above 90 percent for all five educational classes in the Netherlands. Whereas in the 1970 election when the country was no longer under

compulsory voting the turnout gap between the lowest and highest educational groups was 21 percent (Verba, Nie and Kim 1978, 7). Studies of the potential abolishment of compulsory voting in other countries also reveal that a strong class bias would result. For instance, Ackaert and De Winter (1993; De Winter and Ackaert 1994) find that abolishment of compulsory voting in Belgium would reduce turnout by more than 30 points, which would result in a very strong upper class bias in the electorate. Baloyra and Martz (1979) reach a similar conclusion in the case of Venezuela.

The Socioeconomic Bias and Fluctuations in Economic Distribution

It is apparent that the socioeconomic bias in political participation is a real phenomenon in the US and in democracies around the world. The propensity to turnout increases with the level of education and income (which not surprisingly are highly correlated). It is important to note that the level of education and income are relative values within countries. The top quintile in Venezuela is much less affluent than the top quintile in the US, yet socioeconomic bias has been identified in both countries. In short, what matters in understanding the socioeconomic bias and consequently turnout is relative deprivation and not absolute deprivation. Though absolute deprivation undoubtedly matters in explaining turnout the socioeconomic bias does not explicitly speak to this and a lengthy discussion of absolute deprivation related to turnout is beyond the scope of this paper.

If relative income is positively correlated with turnout then it should follow that when economic distribution becomes more unequal, with the top quintile accruing a higher share of total income, voter turnout will fall. The rationale for this is that the

upper classes are already predisposed to vote, while turnout among the lower classes is largely dependent on their level of income. Thus, when economic inequality increases it places a greater portion of the population into socioeconomic groups where the probability of voting is lower.

This implicitly assumes that the number of voters resulting from a heightened socioeconomic status change does not offset the number of abstainers resulting from a lower socioeconomic status change. Simply, the relationship between income and propensity to turnout cannot be linear. If it were then fluctuations in economic distribution would have no recognizable impact on turnout. The change in the probability of turnout must be larger at lower levels of income than at higher levels or vice versa in order to discern any recognizable change in turnout as the result of fluctuations in the distribution of income. The literature supports the former pattern. As previously stated it is clear that the socioeconomic bias is reduced as turnout rises, accordingly turnout increases tend to stem from the less affluent classes. Additionally, Pacek and Radcliff (1995a) clearly show that increases in turnout benefit leftist parties that tend to favor egalitarian policies and it is unlikely that increases in turnout stemming from the upper classes would lead to a higher vote share for more egalitarian parties. From a theoretical perspective then it is expected that any turnout fluctuations resulting from fluctuations in the level of economic distribution are the consequence of higher changes in the probability of turnout among the lower socioeconomic groups compared to the upper socioeconomic groups.

In summation, it is expected that rising income inequality will result in lower turnout because more potential voters are falling into socioeconomic groups where the

probability of voting is significantly diminished. This effect will not be offset by the increased probability of voting resulting from upward mobility, because the change in voting propensity is greatest at the lower levels of the economic distribution. This proposition is far from novel; in fact for almost a century political scientists have found that “voting frequency rises with rising social standard” (Tingsten 1937, 155).

Welfare State Development

Powell and Whitten (1993) find that clarity of government responsibility for the economy is a significant determinant of the economy’s impact on voter preferences, which is supported by Anderson (2000) and Palmer and Whitten (2002). Thus, it follows that those aspects of the economy that governments have greater control over during their tenure should be the most salient in determining the level of voter turnout. Governments have control over the level of economic distribution through taxation and redistributive programs. Taxation, and particularly progressive taxation, pulls money directly from the most economically advantaged and through welfare spending governments are able to give that money to more disadvantaged sectors of the population. Radcliff (1992) and Pacek and Radcliff (1995b) document this connection between welfare spending and economic voting. In the latter piece the authors find that high levels of welfare spending serve to mitigate the effect of economic conditions on the vote and in countries with mid to low level welfare systems there is a strong “positivity bias”, meaning that governments are rewarded for good economic performance but not punished for poor economic performance. Considering that welfare spending has an impact on economic inequality it is possible that the welfare state effects observed by

Radcliff (1992) and Pacek and Radcliff (1995b) were actually the result of the welfare state altering the level of inequality and subsequently voter turnout. I believe that when welfare spending is high economic inequality will be low and because inequality is low voter turnout will be high because of the socioeconomic bias mechanism previously mentioned.

Furthermore, it is generally recognized that the level of welfare state development is fairly constant over time as Pacek and Radcliff observe. Yet, individual governments (those that serve from one election to the next) are capable of enacting changes in welfare spending that alter the level of inequality during the short time span between elections. In short, Radcliff (1992) and Pacek and Radcliff (1995b) have shown that welfare state development matters when analyzing voter turnout in comparative perspective; this analysis will attempt to explain why.

DATA AND METHODS

To test these conjectures the analysis presented below uses a pooled time-series dataset of elections for 20 countries from 1970-1999. The countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom, and the United States.¹ Countries were chosen based upon the availability of inequality data and consequently the sample is composed exclusively of Western democracies. The elections analyzed are all parliamentary elections during the period under study with the exception of the United States. United States vote totals are for presidential elections, due to the high salience of presidential elections in that country. Due to inequality data

¹ For a list of the elections analyzed see Appendix B

limitations this provides a pool of 157 elections. The analysis is conducted using standard linear regression. I also tested a cross sectional time series random effects regression model and the results were not significantly different.²

The dependent variable is voter turnout. There are several options for measuring it; the actual number of voters can be divided by the: number of registered voters; voting age population (VAP); voting age citizens; population eligible to vote. Adopting the first approach overestimates the actual turnout because registering is itself an act of participation, and thus participation is being measured strictly among those that are already inclined to participate. The third and fourth measures also overestimate voter turnout, though not as dramatically as the first, because estimates of the citizen population and the number of eligible voters are notoriously inaccurate and a significant amount of those removed from the denominator actually do cast ballots, regardless of the legality of that action. Measuring turnout using voting age population is also flawed, because not all of the voting age population is entitled to vote. Varying amounts of non-citizens and other disenfranchised individuals such as convicted criminals are included in the denominator (Franklin 2002). However, of the four measures VAP is the only conservative measure and for the purposes of this research an underestimation is more appropriate than an overestimation because the effects exhibited on turnout using VAP would also be significant using the other measures of turnout.

² For an explanation of appropriate methods for working with time series cross sectional data see Beck and Katz (1995)

Economic Variables

The principal independent variables to be evaluated in this analysis are economic, and they include: *GDP change*, *unemployment change*, *inflation*, and *inequality change*. GDP is measured in constant 1995 US dollars, gathered from The World Bank's Development Data Group. Using constant US dollars allows for reliable spatial and temporal comparisons, and measuring on a per capita basis controls for population effects. *GDP change* is measured as the percentage change in GDP. Calculating this figure as a percentage change controls for the different sizes of the economies under study. For example, between 1978 and 1979 Portugal's GDP per capita in constant dollars rose by \$285.90 while Luxembourg's rose by \$541.10, thus if overall GDP change were used it would appear that Luxembourg's economy grew much more than Portugal's, while in actuality the percentage change in growth is almost two percent higher for Portugal. In line with the aforementioned notion that individual governments have difficulty making meaningful changes to the economy in the short run the change in GDP is measured from the year preceding the election as opposed to the year of the last election. This captures election year changes, which are the most proximate and prominent during campaigns and when the electorate actually votes. All of the economic variables are measured using change from the year preceding the election. I hypothesize that when GDP falls turnout will fall, corresponding to the findings of Radcliff (1992) who also studies a set of industrialized nations. The principal hypothesis regarding GDP is that it will attain significance when not accounting for inequality (as it has in prior analyses), but when the effects in the change of inequality are accounted for it will lose its explanatory power.

Unemployment change is calculated as the percentage change in the unemployment rate from the preceding year. Adopting a percentage measure is also valuable for unemployment data because there is high variance in the average unemployment rate between countries. Between 1982 and 1983 the unemployment rate rose by a mere .3 in Iceland, which was five times less than the rate increase in Ireland, yet the percentage change in unemployment was 43 percent in Iceland and only 16 percent in Ireland. The purpose of using a percentage measure here, just as in GDP, is to account for the economic context. Countries with higher unemployment rates such as Ireland might celebrate miniscule unemployment rate hikes that would infuriate Icelandic voters. I hypothesize that when controlling for economic growth and distribution, increased unemployment will lead to higher turnout because of a grievance asymmetry or a ‘negativity bias’ in the electorate.

The inclusion of *unemployment change* in this analysis also serves the substantive purpose of demonstrating that unemployment cannot be used as a surrogate measure of economic inequality. The unemployment rate is purely a measure of the percentage of the population that would like to work but cannot, which is only one aspect of the level of economic distribution. While it might be argued that the unemployment rate is a good determinant of the level of inequality and that the two are highly correlated the analysis presented below reveals that this is not the case. In fact, the correlation between inequality change and unemployment change in the industrialized sample utilized here is miniscule.³

Inflation is simply the inflation rate during the election year in each case. Inflation is ordinarily calculated as the percentage change in the consumer price index

³ See Appendix A

from one year to the next, so without any further computation the current inflation rate conforms to the coding of the other economic variables. As with unemployment, I hypothesize that when controlling for economic growth and distribution, increased inflation will lead to higher turnout because of a grievance asymmetry in the electorate.

For the purposes of this analysis it is important to control for inflation because fluctuations in economic distribution are irrelevant if we do not know how these changes actually affect the purchasing power of voters. In this analysis it is believed that reductions in inequality increase turnout due to a larger portion of the population falling into socioeconomic classes where the propensity to vote is higher. But, without controlling for inflation it is impossible to determine if fluctuations in economic distribution are advantageous to the lower classes. When inequality falls the potential gains in turnout could be counteracted by heightened inflation. Thus, beyond its particular impact on turnout it is imperative that inflation be included in the models presented below.

The principal independent variable to be included in this analysis is *inequality change*. While there are a variety of ways to measure inequality the most commonly adopted approach is to use the gini coefficient (Galbraith and Kum 2002). When inequality is low the gini coefficient is small. The primary problem with the gini coefficient, as with all inequality data, is availability. Deninger and Squire (1996) compiled the first comprehensive international time series of gini coefficients. Though the data set is immense the number of figures with national coverage in their 'acceptable data set' is just over 700 and the dataset is plagued with missing data, which makes meaningful calculation extremely difficult. Galbraith and Kum (2004), working under the

University of Texas Inequality Project (UTIP) provide a solution to this by merging the Deninger and Squire data with United Nations Industrial Development Organization (UNIDO) measures of manufacturing pay inequality and other variables to provide a consistent and stable data set of household income inequality. This data set is highly correlated with the Deninger and Squire data set and includes data for a significant number of years that were missing or were otherwise unreliable. Thus, this analysis adopts the UTIP-UNIDO data set.

Like GDP, measuring the change in inequality from the previous year is advantageous because it captures election year changes that will be the primary influence on the decision to vote. Though it is possible that inequality could rise before this two-year time frame it is believed that voters can more readily adapt to these changes before the election than they can when changes take place during the year preceding the election. Additional analyses confirm this hypothesis, so for the sake of brevity only the measures of inequality from the year preceding the election will be reported here.

The central hypothesis regarding the inequality variable is that when inequality rises turnout will fall as a larger portion of the voting age population falls into socioeconomic classes where the average propensity to vote is lower. Thus, when inequality rises withdrawal will result. Conversely, when inequality falls a larger portion of the voting age population will rise into socioeconomic classes where the average propensity to vote is higher. Therefore, when inequality falls it is expected that mobilization will result.

As Radcliff (1992) and Pacek and Radcliff (1995b) have shown the level of welfare state development can dramatically influence the effect of the economy on

politics. This proposition will be analyzed in a model that groups countries into either high or moderate levels of welfare spending. The hypothesis here is somewhat different than that of Radcliff, because I control for changes in inequality. As previously mentioned, I believe that the effects of the welfare state on turnout observed by Radcliff (1992) are actually the result of the welfare state altering the level of inequality and subsequently voter turnout. Thus, when controlling for changes in economic inequality it is hypothesized that there will be no difference in the effect of the economy (GDP, inflation, unemployment, and inequality) on turnout when comparing high and moderate welfare countries. In both the high and moderate models I believe that the coefficient of inequality will be statistically significant and have a negative direction of effect.

Controlling For The Institutional Context

Institutional explanations of turnout typically include variables such as nationally competitive districts (Fornos, Power and Garand 2004), electoral disproportionality (Lijphart 1984; Franklin 2002), unicameralism (Jackman 1987; Jackman and Miller 1995), and compulsory voting (Franklin 2002; Jackman 1987; Jackman and Miller 1995). Because this paper is primarily concerned with the influence of the economy on turnout it is not vital to determine the individual significance of these institutional variables, therefore *country dummy variables* will be utilized. These dummy variables combined with the use of a lagged turnout variable, “effectively embody the institutional, constitutional, and developmental factors that affect long-term turnout levels,” according to Radcliff (1992, 445).

Controlling For The Political Context

Though the dummy variables encompass spatial constraints on turnout it is also important to account for temporal variation in turnout that results from changes in the political context. When the value of the vote rises it is expected that turnout will also rise (Jackman 1987; Blais and Dobrzynska, 1990; Franklin 2002). Here the value of the vote is based on the proximity of the two leading parties' vote shares and the majority status of the leading party or coalition.

Competitiveness is the absolute value of the difference between the incumbent party's vote share and the strongest opposition party's vote share in the current election. Though this variable measures the outcome of election campaigns and not the anticipated outcome of elections themselves it is probable that there is a high correlation between election outcomes and intensity of campaigns. It is hypothesized that as the margin of victory falls turnout will rise.

Majority status, which was first introduced by Franklin (2002), is measured as the leading party's vote share minus fifty percent. In most democratic governments a simple majority is all that is required to enact legislation or change policy, thus it follows that the closer a party's perceived vote share is to majority status then the more important the election becomes in determining future policy outputs. Elections in which the leading party is significantly above or below majority status do not carry the same weight with voters, because the value of the vote affecting future policy outputs is diminished. Consequently, it is hypothesized that turnout will increase as the leading party's vote share approaches majority status.

Some scholars hold the belief that time since the last election has a significant influence on turnout (Boyd 1981). However there is limited variation in this variable among the industrialized democracies (most countries have elections every 2-5 years) and thus previous research has found this variable to be insignificant (Franklin 2002). *Time since last election* was analyzed here and the same insignificant conclusions were found and the exclusion of this variable from the models did not significantly alter other variables in the analysis, so the models shown below omit this variable.

RESULTS

To begin, I will analyze a basic economic model of turnout for all of the countries in the analysis, without controlling for the institutional or political context. Perhaps the most striking aspect of these models is that all of the variables are highly significant, with the exception of *GDP change* in Model 2.

Model 1 excludes inequality from the analysis and the remaining measures of the economy are highly significant, with both inflation and unemployment change having p values below .001 and GDP change having a p value below .01. The direction of the effect is positive for all three variables, which is consistent with all of the corresponding hypotheses. GDP change produces a positive sign, which confirms the withdrawal hypothesis argued by Radcliff (1992), wherein economic decline leads to lower rates of turnout in the industrialized democracies. The positive direction of effect on both inflation and unemployment change corresponds to the grievance asymmetry hypothesis or the negativity bias found in some electorates⁴. The magnitude of effect for both variables is very high, indicating dramatic gains in turnout when these variables increase,

⁴ For an explanation of the grievance asymmetry see Pacek and Radcliff, 1995c

which would presumably not be advantageous for the incumbent government responsible for the economic malfeasance.

Table 1

Economic models of turnout		
<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>
Inequality Change	----	-2.781***
		.865
Inflation	.406***	.246**
	(.104)	(.083)
Unemployment Change	3.314***	1.982**
	(1.053)	(.844)
GDP Change	1.106**	.208
	(.391)	(.332)
Constant	.707***	.769***
	(.016)	(.014)
R2	.137	.161
N	179	157
Notes: Entries are unstandardized regression coefficients. Dependent Variables is voter turnout. Standard errors are given in parentheses below the coefficients. ⁵ * - Significant at the .05 level ** - Significant at the .01 level *** - Significant at the .001 level		

Model 2 in Table 1 includes *inequality change*, which is highly significant with a p value below .001. The direction of the effect is in the hypothesized direction indicating that increases in inequality lead to reductions in turnout and the strong magnitude of effect tells us that for every one point increase in inequality turnout falls by slightly less

⁵ Data sources: Turnout- International Institute for Democracy and Electoral Assistance
 Unemployment- US Bureau of Labor Statistics, Economics Web Institute
 Inflation-Economics Web Institute, US Bureau of Labor Statistics, Statistics Canada
 Inequality- University of Texas Inequality Project
 GDP- Penn World Tables

than three percentage points. The magnitude of the effect is reduced for both *inflation* and *unemployment change*, however both remain highly significant and their effects are in the hypothesized direction. GDP change is highly insignificant with a standard error that is more than fifty percent larger than its coefficient. The insignificance of GDP and the overwhelming significance and strength of inequality confirms the aforementioned hypothesis that what matters in explaining turnout is not economic growth, but economic distribution. It must be noted though that the R² for the second model does not increase dramatically with the inclusion of *inequality change*, the net result is a small change in the percent of variation in turnout explained.⁶

Though the analysis in Table 1 supports all of the expectations regarding the economic variables the explanatory power of the model leaves much to be desired. Furthermore, like turnout, inequality varies much more between countries than it does within them, and without controlling for institutional and political context variables in a pooled model it is impossible to tell whether or not the observed effects are simply due to institutional and political differences between countries. When controlling for institutional and political context if inequality is able to maintain its significance and magnitude we can be much more confident of its importance in the turnout function.

Table 2 displays the results of this rigorous test with the inclusion of the country dummy variables and previous turnout which account for the institutional context, and *competitiveness* and *majority status*, which account for the political context. The models, as a whole, are very strong predictors of the variance in turnout and the economic variables retain much of their significance in these models. In Model 3 *inflation* and

⁶ The reduced sample size in Model 2 (N=157) reflects inequality data limitations.

unemployment change have p values below .01 while *GDP change* is significant at the .05 level. The directions of the effects remain positive as before, but the magnitudes are significantly diminished from the pure economic model of turnout. The political context variables, *majority status* and *competitiveness*, are significant at the .01 and the .001 level

Table 2

Models of turnout including institutional, political, and economic variables		
<i>Variable</i>	<i>Model 3</i>	<i>Model 4</i>
Inequality Change	----	-1.186** (.393)
Inflation	.0987** (.042)	.0773* (.044)
Unemployment Change	.843** (.35)	.717* (.341)
GDP Change	.303* (.147)	.220 (.145)
Majority Status	.207** (.073)	.238*** (.076)
Competitiveness	-.166*** (.049)	-.169*** (.050)
Previous Turnout	.423*** (.082)	.311*** (.088)
Constant	.532*** (.076)	.635*** (.080)
R2	.902	.905
Number of observations	168	157
Notes: Table omits country dummy variables. Entries are unstandardized regression coefficients. Dependent Variable is voter turnout. Standard errors are given in parentheses below the coefficients. ⁷ * - Significant at the .05 level ** - Significant at the .01 level *** - Significant at the .001 level		

⁷ Data sources: Competitiveness and Majority Status measures derived from data provided by: wikipedia, parties-and-elections.de, Adam Carr's election archive (Australia)

respectively. The direction of effect is in the hypothesized direction for both models. In elections where the leading party approaches 50 percent turnout rises by an average of .2 percentage points for every percentage point reduction in the gap between the leading party's vote share and 50 percent. Competitiveness is measured as the incumbent party's vote share minus the leading opposition party's, so the negative sign reveals that when elections are not close voters opt to abstain at a rate of a little more than one and a half percentage points for every ten point increase in the vote share gap. It is interesting to note that this figure was also calculated as the absolute difference between the two leading parties with no regard for incumbency status and this measure of competitiveness (not reported here) was found to be insignificant. Perhaps it is the ousting or the maintaining of an incumbent party that draws voters to the polls and not simply competition. As for the institutional variables, *previous turnout* is significant at the .001 level, and nearly all of the country dummy variables are significant at the .05 level or greater.

Model 4 in Table 2 adds *inequality change* into the model of voter turnout with all of the institutional, political, and economic variables. The political context variables and previous turnout are all significant at the .001 level or better. The directions of their effects remain unchanged and the magnitudes of their effect are not appreciably different from Model 3, with the exception of *previous turnout*, which lost approximately 25 percent of its magnitude with the inclusion of *inequality change*. Of the four economic variables included in the model inequality change has by far the strongest association with turnout and is more significant than any of the other economic variables ($b=-1.186$,

$p=.003$). For every one-point increase in the level of inequality turnout falls by slightly more than one percentage point. Inflation and unemployment change remain significant, but at the .05 level, and the magnitudes of their effects are reduced. Most importantly, when accounting for the level of inequality GDP change is no longer significant at the .05 confidence level and the magnitude of effect is reduced by roughly a third. Though GDP change performed better in Model 4 than it did in Model 2 its insignificance provides further support for the hypothesis that the economic variable which matters most in explaining turnout in comparative perspective is economic distribution, not economic growth.

Welfare State Development

As previously mentioned Radcliff (1992) found welfare state development to be an important determinant of the economy's influence on turnout. I argue that the observed effect could actually be an economic distribution effect related to the level of welfare state development. To test this conjecture I divide the sample of countries into high and low welfare states. The level of welfare state development is based upon Gosta Esping-Andersen's (1990) country ratings of "socialist" criteria, which accounts for welfare program universalism and degree of equality in the benefit structure. The moderate welfare states are: Australia, Austria, France, Greece, Ireland, Italy, Portugal, Spain, and the United States. The high welfare states are: Belgium, Canada, Denmark, Finland, Germany, Iceland, Luxembourg, Netherlands, Norway, Sweden, and the United Kingdom.

Radcliff found that economic growth had a positive effect on turnout in moderate welfare states and no effect or a negative effect in extreme welfare states. In response to economic decline voters withdraw in moderate welfare states and mobilize in extreme welfare states. As Table 3 reports, when accounting for changes in inequality the results here do not support Radcliff's findings, in fact the results are the complete opposite of

Table 3

Models of turnout grouped by level of welfare state development		
<i>Level of Welfare</i>	High	Moderate
<i>Variable</i>	<i>Model 5</i>	<i>Model 6</i>
Inequality Change	-1.407** (.579)	-.945* (.536)
Inflation	.0896* (.049)	.0272 (.110)
Unemployment Change	1.035* (.525)	.464 (.446)
GDP Change	.343* (.195)	.07256 (.227)
Majority Status	.174 (.107)	.457*** (.117)
Competitiveness	-.0941 (.071)	-.313*** (.076)
Previous Turnout	.417*** (.112)	.108 (.147)
Constant	.512*** (.101)	.741*** (.116)
R ²	.859	.946
Number of observations	87	65
<p>Notes: Table omits country dummy variables. Entries are unstandardized regression coefficients. Dependent Variable is voter turnout. Standard errors are given in parentheses below the coefficients.</p> <p>* - Significant at the .05 level ** - Significant at the .01 level *** - Significant at the .001 level</p>		

Radcliff's findings. GDP change is positive in both models, indicating withdrawal, significant at the .05 level in the model of high welfare states, but not significant in the model of moderate welfare states. It appears that when accounting for inequality,

changes in economic growth are only relevant in high welfare states. Perhaps the economic effect that Radcliff observed in the moderate welfare states was the result of income fluctuations altering the level of economic distribution and subsequently levels of turnout. This would explain why inequality is statistically significant in Model 6 while GDP is insignificant.

The importance of inequality cannot be understated in these models. *Inequality change* is the only variable to attain statistical significance in both models. The magnitude of effect is also very strong indicating an almost one percentage point decline in turnout for every one-point increase in inequality in moderate welfare states and nearly a one and a half point decline in turnout for every one point increase in inequality in high welfare states. The higher magnitude and significance in the high welfare states indicates that voters are not insulated by their welfare systems.

The models reveal a striking difference between the two sets of countries. In the high welfare states the economy has a very strong impact on turnout, while the political context variables are insignificant. In the moderate welfare states just the opposite holds true, with the exception of *inequality change* all of the economic variables are insignificant, while the political context variables both have p values below .001. Surprisingly, even previous turnout is insignificant in the model of moderate welfare states, indicating substantial volatility in turnout rates within these countries. The model

explains a great deal of the variance in turnout so it seems that in moderate welfare states the political context affects turnout above all else.

DISCUSSION

Prior studies of turnout have found that turnout varies as a function of the macroeconomy. But, without the inclusion of a measure of economic distribution it was impossible to empirically illustrate how or why this change in turnout came about. Considering the well documented socioeconomic bias, which finds that the affluent are much more likely to vote than are their lower class counterparts, it becomes apparent that the overall level of the economy in itself cannot explain variance in turnout. It is the impact that macroeconomic changes have on the finances of the socioeconomic groups that can best explain the economy's effect on turnout. When economic inequality is small more people will have the economic security and opportunity to participate politically, whereas increases in the level of economic inequality consolidate economic resources in the hands of a few who are already predisposed to vote while pulling resources from the lower classes whose propensity to vote is predicated on their economic standing.

The analysis presented here has offered empirical evidence to support this theoretical notion. In the models presented above the level of economic growth was found to be a significant predictor of turnout, just as in prior analyses of the economy and turnout. But, in models that account for change in the level of economic inequality GDP change was found to be insignificant. Thus, it is safe to assume that the effect of economic growth on turnout is largely the end result of economic growth altering the

level of inequality. While it might be argued that economic growth and economic inequality are highly correlated further analysis reveals that this is not the case.⁸

Perhaps the most intriguing results were those regarding the level of welfare state development. As previously stated when inequality change is accounted for the level of welfare state development does not matter in the way that Radcliff (1992) and Pacek and Radcliff (1995b) have found. But, even when accounting for changing inequality welfare state development is far from irrelevant as was hypothesized here. Once inequality change is accounted for, the economy has a significant impact on turnout in the high welfare states and has an insignificant effect in the moderate welfare states, while the opposite is true for the political context variables. In short, the economy matters in the high welfare states and the political context matters in the moderate welfare states. In many ways this is counterintuitive. In high welfare states the public is provided with a safety net and a greater portion of basic necessities are provided for, yet these are the countries where the economy is most important in determining turnout. In the moderate welfare states where there is less of a safety net, economic factors are not significant predictors of voter turnout (with the exception of inequality change).

While this is assuredly a topic that requires further investigation, an initial plausible explanation merits discussion. It is quite possible that those countries that are grouped into the high welfare category are also those countries where economic issues are of greater concern for voters, which would explain why those countries have high welfare systems to begin with. This amounts to somewhat of a selection bias argument in that high welfare states are also those states where the economy matters most. Perhaps this is because of a political culture that places the emphasis for economic success or

⁸ See Appendix A

failure on the individual. However, the analysis presented here does not speak explicitly to this theoretical explanation of the clear divergence between high and moderate welfare states. Further research will be necessary to explore this interesting relationship.

The findings here may also have important implications for economic voting. It is often assumed that positive economic performance by the government is rewarded and when there is economic decline the incumbent government is punished for it in the next election. While in general this proposition may be true it does not account for changes in turnout. Given the generally accepted fact that political participation is positively related to income, during economic recessions “many of the people who would otherwise have ‘punished’ the government will not turnout” according to Radcliff (1992, 451). Radcliff (1994) investigates this conjecture and finds that there is a “positivity bias” in that governments are heavily rewarded for economic success but not readily punished for economic decline. The analysis here would tend to support this “positivity bias” based upon changes in electorate composition alone. As inequality rises the propensity to turnout is reduced amongst those most adversely affected by the heightened levels of inequality.

This prospect is quite discomfoting considering the downward spiral that could result if policies that engender greater economic inequality are not punished. Inequality could continue to rise and purge a higher proportion of the lower classes from the electorate, which would in turn make the future electoral costs of inegalitarian policies even lower. Overtime, economic inequality would steadily increase and turnout rates would steadily fall. In the aggregate this appears to be more than just a theoretical notion. The declining rate of turnout over the past three decades has been documented

repeatedly, but what has not been nearly as documented is the fact that inequality within countries has risen over the same time period (Wade 2004; Hongyi, Squire and Zou 1998; APSA Task Force).

The APSA Task Force Report on American Democracy in an Age of Rising

Inequality states:

Indeed, trends in all three areas—citizen voice, government decision making, and public policy—may together be amplifying the influence of the few and promoting government unresponsiveness to the values and needs of the many. Such a negative spiral can, in turn, prompt Americans to become increasingly discouraged about the effectiveness of democratic governance, spreading cynicism and withdrawal from elections and other arenas of public life. (APSA Task Force Report 2004, 655).

The evidence presented here points to the precise ‘negative spiral’ identified by the task force. Moreover, this analysis includes not only the United States, but also a cross section of 19 other industrialized democracies. Table 4 illustrates the mean levels of inequality and turnout over the past three decades for the nations analyzed here. The table shows a clear and consistent increase in inequality over the same time period that turnout fell steadily. This provides at least circumstantial evidence that the industrial democracies may be caught in a downward cycle of inequality and turnout. Economic inequality is thus offered here as a plausible explanation for the international decline in turnout during the last three decades of the 20th century.

Table 4

Comparison of GDP and inequality means by decade		
<i>Decade</i>	<i>Inequality</i>	<i>Turnout</i>
1970-79	.332	.8059
1980-89	.353	.7769
1990-2000	.371	.7313

In order to provide further support for this conjecture future research is needed to investigate the effect of inequality on incumbent vote swing. As this analysis has shown it will be necessary to control for turnout levels in order to separate turnout effects from actual preferences for incumbent parties. If it is found that turnout fluctuations are the leading determinant of support for incumbent parties, as Radcliff (1994) hypothesizes, then it would be reasonable to assume that the downward spiral between turnout and inequality is a reality in the industrialized democracies. This possibility would be particularly disturbing considering that perhaps the best remedy for low turnout, compulsory voting (Lijphart, 1997), would have to be enacted by those who benefit most from the elevated levels of inequality.

Accordingly, it would be advisable to test the proposition that heightened turnout levels do in fact lead to reductions in inequality. Pacek and Radcliff (1995a) have shown that voter turnout is positively related to the vote for left-of-center parties, but the question remains whether those leftist parties are actually furthering the cause of egalitarianism. Leftist parties have been found to appeal more to their affluent constituents than to their lower class constituents (Verba, et. al. 1996). Turnout is only valuable in reducing levels of inequality if the demands of voters are translated into policy outputs. However, if electoral salience is high and the previously mentioned notion regarding government's ability to shape the level of inequality is accurate, then heightened turnout could be one of the most important determinants of levels of inequality. This would provide significant empirical support for the normative claims made by compulsory voting advocates.

CONCLUSIONS

The substantive conclusions of this analysis are quite clear. First, when analyzing the influence of the economy on turnout change in the level of economic distribution is much more important than change in economic growth. Second, when comparing the industrialized democracies, variations in turnout are best explained by the institutional and political context of elections. Yet, even when accounting for these factors inequality remains a significant and powerful predictor of turnout. In fact, inequality is by far the most significant economic explanation of turnout tested here. Third, the level of welfare state development conditions the way in which the political and economic variables affect turnout. The economic variables are significant in high welfare states, whereas the political context variables are the principal explanatory variables in moderate welfare states. But, inequality is significant in both models possibly indicating that the welfare effects identified by Radcliff are primarily the result of inequality effects. Fourth, the incidence of increases in inequality alongside reductions in turnout over the past three decades provides justification for the inclusion of inequality and turnout in analyses of incumbent vote swings in order to determine if the industrial democracies are caught in a cycle of economic punishment for the lower classes and reward for the incumbent government.

Last, the inequality findings suggest that comparative studies of turnout should consider levels of economic inequality. While comparative studies of turnout in the industrialized countries are common, recent research has begun to investigate other regions of the world, such as Latin America (Fornos et al. 2004; Kinsey and Schraufnagel 2005). The effects of inequality fluctuations on turnout in Latin America will be

particularly important due to the regions notoriously high levels of economic inequality. With the new UTIP dataset, reliable and consistent inequality figures are now available for more countries than ever before, and it will be exciting to see if the effects of inequality on turnout identified in this analysis apply to countries beyond the industrialized sample utilized here.

**APPENDIX A: STATISTICAL ANALYSES FOR THE INDEPENDENT
VARIABLES**

CORRELATION MATRIX

		GDP Change	Inequality Change	Inflation	Unemployment Change	Previous Turnout	Majority Status	Competitiveness
GDP Change	Pearson Correlation	1	0.084	-0.123	-0.519**	.031	.285**	.259**
	Sig. (2-tailed)	-	.292	.093	.000	.675	.000	.000
Inequality Change	Pearson Correlation	.084	1	-.122	.058	-.233**	-.033	-.136
	Sig. (2-tailed)	.292	-	.125	.464	.003	.673	.090
Inflation	Pearson Correlation	-.123	-.122	1	.072	.185*	-.108	-.085
	Sig. (2-tailed)	.093	.125	-	.327	.012	.139	.256
Unemployment Change	Pearson Correlation	-.519**	.058	.072	1	-.016	-.149*	-.119
	Sig. (2-tailed)	.000	.464	.327	-	.825	.041	.114
Previous Turnout	Pearson Correlation	.031	-.233**	.185*	-.016	1	.045	.224**
	Sig. (2-tailed)	.675	.003	.012	.825	-	.543	.003
Majority Status	Pearson Correlation	.285**	-.033	-.108	-.149*	.045	1	.565*
	Sig. (2-tailed)	.000	.673	.139	.041	.543	-	.000
Competitiveness	Pearson Correlation	.259**	-.136	-.085	-.119	.224**	.565**	1
	Sig. (2-tailed)	.000	.090	.256	.114	.003	.000	-

** - Significant at the .01 level (2-tailed)

* - Significant at the .05 level (2-tailed)

DESCRIPTIVE STATISTICS

	N	Range	Minimum	Maximum	Mean	Standard Deviation
GDP Change	191	.19	-.07	.12	.0221	.02747
Inequality Change	163	.0802	-.03	.0502	.001900	.0086685
Current Inflation	190	.87	.00	.87	.0949	.11414
Unemployment Change	189	1.8	-.54	1.26	.0626	.24613
Previous Turnout	186	.6	.36	.95	.7807	.12037
Majority Status	192	.61	-.5	.11	-.1496	.11151
Competitiveness	179	.69	-.41	.28	.0640	.10703

**APPENDIX B: COUNTRIES AND ELECTION YEARS INCLUDED IN THE
ANALYSIS**

COUNTRY	ELECTION YEARS											
Australia	1972	1974	1975	1977	1980	1983	1984	1987	1990	1993	1996	1998
Austria	1971	1975	1979	1983	1986	1990	1994	1995	1999			
Belgium	1971	1974	1977	1978	1981	1985	1987	1991				
Canada	1972	1974	1979	1980	1984	1988	1993	1997				
Denmark	1971	1973	1975	1977	1979	1981	1984	1987	1988	1990	1994	1998
Finland	1972	1975	1979	1983	1987	1991	1995	1999				
France	1978	1981	1986	1988								
Germany	1976	1980	1983	1987	1990	1994						
Greece	1974	1977	1981	1985	1989	1993	1996					
Iceland	1971	1974	1978	1979	1983	1987	1991	1995				
Ireland	1973	1977	1981	1982	1987	1989	1992	1997				
Italy	1972	1976	1979	1983	1987	1992	1994	1996				
Luxembourg	1974	1979	1984	1989	1994							
Netherlands	1971	1972	1977	1981	1982	1986	1989	1994	1998			
Norway	1973	1977	1981	1985	1989	1993	1997					
Portugal	1975	1976	1979	1980	1983	1985	1987					
Spain	1977	1979	1982	1986	1989	1993	1996					
Sweden	1970	1973	1976	1979	1982	1985	1988	1991	1994	1998		
United Kingdom	1970	1974	1979	1983	1987	1992	1997					
United States	1972	1976	1980	1984	1988	1992	1996					

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