

Core Voters or Swing Voters? The Distributive Politics of Higher Education Spending

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Abstract

This paper proposes several improvements to the literature on how political parties target distributive benefits to core and swing voters for electoral gain. I propose a conceptual redefinition of core and swing voters to extend their applicability to the analysis of multi-party systems. Instead of using voting data as is common in the literature, I propose to identify swing-voters by using survey data from the European Election Studies to identify the number of parties included in an individual's consideration set. This is the subset of parties that an individual reasonably considers when choosing to vote. Instead of using geographical expenditures as a measure of targeted expenditure I propose to look at programmatic expenditures that are biased in their consumption towards certain socio-economic groups. If such socio-economic groups are over-represented amongst a party's core or swing voters, then parties can use such expenditures to target resources towards them. I test this theory for the case of higher education expenditures in fourteen European countries. Children of higher educated parents are significantly more likely to enrol in university than children of parents with less education. Consequently, more educated parents prefer higher per student expenditures on tertiary education. I find evidence that parties spend more on higher education when a large share of their swing voters is highly educated. I find little support for the core voter hypothesis.

1 Introduction

There is a long debate in the political science literature on whether parties target their loyal core-voters or less certain swing-voters with policy benefits. The majority of analyses in this field study geographically targeted expenditures. Simply put, a measure for a geographical area's core or swing voter status is used to predict targeted expenditure to that area. The focus tends to be on two-party systems, where swing-voters are modelled as those who are ideologically neutral, or independent, vis-à-vis the two major parties. This two-party focus excludes many industrialised democracies from the analysis because of their high number of parties. It also excludes the bulk of expenditures in these countries from the analysis, because they tend to be programmatic rather than geographically targeted. In addition, by relying on voting data to define core and swing voters, such studies are found to often suffer from endogeneity biases.¹ After all, the actual number of people voting for a party consists of both core voters and swing voters. The fact that an individual has always voted for a given party could still make her a swing voter, for it could be that the party has convinced the individual in each election by targeting policy benefits.

This paper proposes an alternative approach to address these short-comings in the literature. I discuss a conceptual redefinition of core and swing voters to make the analysis applicable to multi-party systems. Instead of using voting data to indirectly infer the number of swing voters, I propose to identify swing-voters by identifying the number of parties an individual would consider to vote for. This set of parties is known in consumer choice theory as the consideration set, which is a subset from the universe of alternatives that a person reasonably considers in the decision-making process. When this consideration set comprises only one party, then that voter is considered a core voter. When this consideration set comprises multiple parties, the voter is considered a swing-voter for each of the parties included in its set. To identify the size of individual consideration sets I

¹See Larcinese, Snyder and Testa (2009) for an excellent discussion of such problems.

use survey data from the European Election Studies. In specific, I use a question which asks each respondent for each party about the probability that they will ever vote for that party.

Moreover, this paper employs a different measure for “targeted expenditures”. Instead of considering geographically targeted expenditures, I use programmatic expenditures that are biased towards specific socio-economic groups. One example of such biased expenditures is pension spending, which is obviously disproportionately consumed by the elderly. Another example is higher education spending, which tends to be disproportionately consumed by the children of higher educated parents. Hence, if the group of core-voters or swing-voters has a strong representation of such a socio-economic group, then parties can use expenditures on such a biased programme to target spending towards their core or swing voters. For example, if a party’s group of core-voters consists of a high percentage of elderly voters, then increasing expenditures on pensions is a tool for the party to target benefits to its own core-voters. Alternatively, if a party’s group of swing-voters has a large number of higher educated individuals, then parties can use expenditure on higher education to woo these swing voters with policy benefits. The case of higher education is used in the empirical analysis to evaluate whether parties target their core voters or their swing voters with policy benefits when in office.

In the following sections I discuss the existing literature on electoral targeting and propose an alternative conceptual definition of swing and core voters in a multi-party setting. I then provide a brief overview of the literature on the politics of higher education spending. I then develop an empirical model to apply this alternative framework to a dataset comprised of European Election Studies survey data and OECD higher education spending data for 14 European countries.

2 Existing Theories of Electoral Targetting

If and how political parties use specific expenditures for political gain has long been debated in the political science literature.² Do political parties target certain goods towards groups of individuals, geographic areas, or other special interests in order to win votes or elections? This debate is characterized by two approaches. Core voter models like that of Cox and McCubbins (1986) propose that parties target goods towards their stable voter base. In contrast, swing voter models like Lindbeck and Weibull (1987, 1993) propose that parties target those voters who are not ideologically predisposed to either of the parties competing. Hence, political parties are expected to “persuade” these indifferent voters by targeting policy benefits towards them.

Scholars leaning towards the swing voter school contend that spending on core-voters is a waste, after all such groups will vote for the party anyway (see, for example, Stokes 2005). The most common theories were developed in seminal papers by Lindbeck and Weibull (1987, 1993) and Dixit and Londregan (1996, 1998). These models start with several assumptions. Two parties $P = L, R$ compete within a single district with an exogenous level of turn-out to maximize their votes.³ Voters have a preferences x for the ideological position of party R over party L . Think of these ideological positions as fixed, such that they cannot credibly be changed from one election to the next. The electorate consists of I identifiable groups, each with a group specific distribution over the range x , given by $\Phi_i(\cdot)$. Prior to the election, both parties non-cooperatively commit to policy platforms, consisting of transfers t_{Pi} with respect to each group i . A voter with an ideological preference for party R will vote for party L only if the additional utility of transfers to her group promised in L 's platform outweighs her ideological preference for R . The cheapest voters for a group to buy are those who are ideologically indifferent, that is those for who $x = 0$. Hence, each party will

²See Cox (2006) for a review of the literature

³Persson and Tabellini (2000) arrive at similar results with a model in which parties maximize their probability for office

target its transfers to those groups with a high density of voters around $x = 0$. Several extensions of this model have been made, allowing for different levels of turn-out (Persson and Tabellini 2000) or information about policy (Stromberg 2004).

Empirical studies that find support for the swing-voter thesis include Wright (1974), Stein and Bickers (1994), Bickers and Stein (1996), Denmark (2000), Case (2001), Dahlberg and Johansson (2002), Herron and Theodos (2004), Stokes (2005). Most studies use the allocation of policy benefits across electoral districts as the dependent variable, rather than the groups in the Lindbeck and Weibull (1987, 1993) and Dixit and Londregan (1996, 1998) models. Dahlberg and Johansson (2002) and Case (2001) are an exception to this by studying the allocation of funds to municipalities within electoral districts. Stokes (2005) considers the allocation of benefits to individual voters. Recent studies by Stromberg (2004) and Larcinese, Rizzo and Testa (2006), in contrast, find no evidence for the swing-voter hypothesis.

The assumptions underlying the swing-voter model are very restrictive. It is assumed that voter turn-out is exogenously determined and thus unrelated to the targeting of government spending, and the number of parties competing is exogenously fixed at two. In fact, parties fulfill an essential role in achieving these assumptions by mobilizing voters and regulating the number of people seeking office (Robertson 1976, Aldrich 1995, Powell 2000, Cox 2006, 2008). Any attempt of parties to convince swing voters is futile as long as its core support base does not turn-out to vote, or if the party fails to deter third parties from entering its ideological space. Mobilization and coordination are thus necessary conditions for a party to be able to engage in persuasion (Cox 2006, 2008). Parties cannot be assumed to guarantee mobilization and coordination exogenously. Their existence and functioning in fact depends heavily on its activists and funders. In exchange for their services, this support base expects policy to be targeted in its direction. Thus, when in line with Cox (2006, 2008) coordination and mobilization are conceived of as endogenous to the allocation of transfers by parties, a convincing

logic for targeting spending towards core constituents emerges (Aldrich 1983, Aldrich and McGinnis 1989, see also).

A second logic for targeting core voters is based on information and uncertainty. Cox and McCubbins (1986) argue that politicians are better informed about the preferences of their core electoral group, and that risk averse politicians therefore have an incentive to target these more certain constituents. In the model by Dixit and Londregan (1996) politicians are better able to target their benefits towards their support group, resulting in less of a “leaky-bucket” and therefore more efficient distribution.

The empirical literature in support of the core voter theory is also dominated by evidence on the allocation of benefits towards electoral districts, rather than towards specific groups. Studies cited in support of the core voter hypothesis include (Levitt and Snyder 1995, Bickers and Stein 2000, Diaz-Cayeros, Magaloni and Weingast 2000, Balla et al. 2002, Hiskey 2003, Calvo and Murillo 2004, Larcinese, Rizzo and Testa 2006).

Generally these are studies of countries with majoritarian electoral system, and predominantly the U.S. and Latin America.⁴ The explanatory variables used in most studies testing the swing-voter hypothesis is some measure of the percentage of swing voters and the balance between parties in a given district. As Larcinese, Snyder and Testa (2009) point out, most of these studies rely on voting data to estimate the number of swing voters, which results in severe endogeneity biases. After all, voting data reflect not only ideological preference but also those swing voters who were persuaded by a party’s policy platform.

Current theories of electoral targeting tend to be theories of electoral targeting in two-party systems. This severely limits their explanatory power for electoral targeting in multi-party systems as common in most of Europe. After all, conceptualizing swing voters as central voters at best only captures some of the voters in need of persuasion. The typical left-wing party faces electoral threats from both the centre as from communists, green parties and other on its

⁴Dahlberg and Johansson (2002) being an exception.

left. Equally, parties on the right face threats from both the left and the right

This paper sets out to address some of these shortcomings in the current literature on electoral targeting. First, I adapt the theory to account for multi-party systems. Second, I use survey-data on party identification instead of voting data to identify core and swing voters in a multi-party system. Third, I use targeted group expenditures as my dependent variable.

3 Theory

3.1 Using consideration sets to identify core and swing voters in multi-party systems

Wilson (2008) recently critiqued the electoral behaviour literature for treating the voting decision as a discrete choice process whereby voters weigh the utility of each possible choice in the universe of alternatives. This stands in marked contrast with research in the fields of marketing, psychology and economics which has shown that the individual choice process generally only considers a subset of this universe of alternatives (see Wilson (2008) for a review). Hence, only the utilities of the choices contained in the consideration set are evaluated, whereas those outside the consideration set are discarded. When applied to consumer choice this process makes intuitive sense. When buying a car, consumers do not evaluate the utility of each possible car, but only consider a subset of cars, for example those within a certain price range.

Knowing that the choice process is staged has implications for how we evaluate choice, and can lead to biased parameter estimates when modelled as a single stage process. This becomes clear when we consider the following example by Wilson (2008, 4). If a consumer buys the car with the highest safety rating from among cars in the low-price range, it is not necessarily the case that either price or safety rating will be significant predictors of her choice when all alternatives are included in the analysis. However, when seen as a two-staged choice process, we can find that both price and safety are important. When we account for the

fact that price limits the consideration set in the first stage, then safety may have a strong predictive effect of the choice amongst the alternatives within the consideration set in the second stage.

Producers therefore compete in sub-markets. Those competing within the low price-range submarket will try to persuade consumers into buying their car by offering the highest safety standard. By analogy, vote choices between parties are made within a consideration set that is plausibly more limited than the universe. For example, while the typical left-wing voter may consider a party to the left of the current party, or a party just to its right, he or she may on ideological principle discard parties on the far right, however much they promise in terms of policy benefits. Equally, convinced atheists may be less likely to vote for a Christian party, while a devoutly religious person may discard any non-religious party.

Parties only have incentives to appeal to voters who include that party in their consideration set by promising policy benefits when they come to office. Such commitments are assumed to be binding, and if elections are viewed as a repeated game then parties have incentives to stick to their promises. In fact, the size of the consideration set provides an entry for conceptualising core and swing voters in a multi-party setting. A party's swing voters include those for whom that party is included in their consideration set, plus at least one other party. This is the case even if in practice a voter has always voted for one of the parties in the consideration set. The party of choice may never have been certain of their vote on ideological grounds, but always persuaded that voter by extending policy benefits. The number of swing voters voting for a party is thus a function of the total number of swing voters and the policy benefits promised to them by that party, compared to benefits promised by other parties.

Core voters, instead, can be conceptualised as those who would only consider one party in their consideration set. They either vote for that party, or they do not vote at all. Hence, the choice between parties is determined in the first stage, and policy benefits will not persuade them to vote for another party. However,

there can be a logic of mobilisation and co-ordination to spend on such groups of voters, as their turn-out is not guaranteed. The number of core-voters turning out to vote is then a function of the total number of core voters for that party in the electorate, times the percentage of core-voters turning out to vote. The latter is a function of group specific promised spending.

A vote maximising party will thus have to choose between targeting its core-voters or its swing-voters with targeted spending. The optimal strategy would be to divide its constrained budget between the two in such a way that the marginal number of votes gained from spending an extra dollar on core-voters equals the marginal vote gained from spending an extra dollar on swing-voters.

3.2 Conceptualising Group-Specific Transfers

How can a party target its expenditures towards its core or swing voters? The literature to date has mainly considered spending by geographic area. These are either electoral districts, or municipalities within electoral districts. All voters in such an area benefit from spending, but the larger the share of the target group in such an area, the more targeted the expenditure. Thus, if swing or core voters are disproportionately located in a specific geographic area, than spending on that area is a way of targeting those voters.

An alternative way of targeting expenditures not considered in this literature is targeting by spending on a type of expenditure of which the consumption is biased towards a specific socio-economic groups. Spending on many public services is disproportionately consumed by a specific socio-economic group. For example, higher education is disproportionately consumed by the children of higher educated parents, and hence they as a group benefit most from such expenditures. The elderly benefit most from spending on pensions, and young families benefit most from spending on child care.

Recent research in this area has found that preferences for such expenditures are structured by these consumption biases. Busemeyer, Goerres and Weschle

(2008) find that preferences for health and pensions are strongly structured by age. Unsurprisingly, the elderly prefer more spending on pensions than the young. Idema (2008, 2009) finds that preferences for higher education expenditure are structured by education level. Preliminary evidence suggests that education level is the most important determinant of education spending preferences, rendering both an individual's left-right position and income insignificant.

If such a socio-economic group is highly represented amongst a party's core-voters or swing-voters, then spending on that policy is a way of targeting policy towards those voters. The higher the share of such a socio-economic group amongst a party's core-voters or swing-voters, the less "leakage" will occur when targeting benefits. Thus, parties revert to such forms of biased expenditures to target voters especially when the targeted group contains a high percentage of individuals to which the policy is biased.

If parties target core-voters, then we would expect the following hypothesis to hold:

Hypothesis 3.1 *The higher the percentage of educated voters among a party's core support base, the higher the likelihood that party will increase higher education expenditure when in office.*

Alternatively, if parties target their swing-voters, then we would expect the following hypothesis to hold:

Hypothesis 3.2 *The higher the percentage of educated voters among a party's swing-voter base, the higher the likelihood that party will increase higher education expenditure when in office.*

It should be noted that these two hypotheses are not mutually exclusive, parties could split their resources between supporting their core-support base and their swing-voters.

4 The Literature on Higher Education Spending

Left-right positions of parties and individuals take a central explanatory role in the political economy literature on welfare spending. Generally, these studies argue that politicians need to engage both in winning the support of their base as well as that of the median voter (see, for example, Garrett and Lange 1989, Boix 1998, Garrett 1998, Powell 2000, Huber and Stephens 2001, Rueda 2007). The literature on education expenditure is no exception to this. Most studies of education expenditures use left-right partisanship as the main explanatory variable for increases in education expenditures (see, for example, Iversen and Stephens 2008, Busemeyer 2007*a*, 2009, Ansell 2006, Boix 1998, Garrett 1998, Castles 1998, 1989). The logic is compelling: by investing in education governments change the distribution of skills in society, and thereby the distribution of income. Alternatively, education expenditures can be seen as redistribution by provision of a universal public service funded through a marginal tax.

Some recent analyses have applied partisanship approaches to the politics of higher education.⁵ Iversen and Stephens (2008) and Busemeyer (2009) find an effect of left-wing partisanship on total higher education expenditures. The most advanced theoretical and empirical work on the topic to date has been conducted by Ansell (2008), who finds an effect of partisanship conditional on the existing level of enrolment. Their arguments are premised on the assumption that the consumption of higher education is structured by parental wealth. That is, children of well off parents have a higher probability to enrol in higher education. Iversen and Stephens (2008) and Busemeyer (2009) therefore argue that left wing parties will seek to expand higher education enrolment and expenditure to overcome this consumption bias. Ansell (2008) argues that when initial levels of enrolment are low, right-wing parties favour higher spending and expansion of enrolment, which left-wing parties oppose. These partisan preferences reverse once higher levels of

⁵Besides these recent contributions there is little comparative work on the political economy of higher education spending, Esteves-Abe, Iversen and Soskice (2001) who analyse distinct skill systems being an exception.

enrolment are attained, with left-wing parties favouring expansion of spending and enrolment.

The common assumption in the partisanship literature is that consumption of higher education is biased towards children of wealthy parents. This implies distinct preferences of well-to-do (right-wing) constituents and less well-to-do (left-wing) constituents. However, in a review of the developmental psychology and labour economics literature, Idema (2008, 2009) finds that the bias is instead predominantly structured by parental education. Children of more educated parents are significantly and substantially more likely to consume higher education.⁶ Although education and wealth are correlated, not all educated people are wealthy, nor are all wealthy people educated. Using individual level survey data, (Idema 2008, 2009) presents preliminary evidence that preferences for higher education expenditure are in fact orthogonal to an individual's income or position on the left-right scale. We thus have a group with strong preferences for increased higher education expenditure, namely higher educated parents, whose position cannot be mapped predictably onto a left right dimension. How then does the existence of such a group with distinct policy preferences in the electorate affect the behaviour of parties? This paper considers whether the education level of core-voters or swing-voters of parties is actually a more important driving force of higher education spending than their left-right ideological position.

5 Data and Methodology

5.1 *Dependent Variables*

The dependent variable for the higher education spending models is public tertiary education spending per student as a percentage of per capita GDP. Previous studies have either focussed on the share of higher education as a percentage of overall education expenditures, or on higher education expenditures as a percentage of GDP. I choose this per student measure because it most directly captures

⁶See also OECD (2007), Feinstein et al. (2004), Larcinese (2008)

the direct subsidy provided to students. The availability of consistent data on public spending on higher education is limited. I use OECD data from the Education at a Glance data series. The analysis therefore covers the period between 1991 to 2001.⁷ Because the analysis relies on data from the European Election Studies for individual level statistics, the data set is limited to fourteen European countries.⁸

5.2 *Independent Variables*

The independent variables capture the socio-economic characteristics of the group of swing-voters and core-voters of the parties in government. In the case of the higher education models the socio-economic characteristic of interest is the education level of core and swing voters. To be precise, the independent variables of interest are the percentage of higher educated individuals amongst core and swing voters of the parties in government, divided by the average percentage in society. This average is weighted by the share of seats each party has in the government. To arrive at these measures I use the following procedure.

First, each party's core and swing voters are identified by measuring the size of their consideration set. For this I use the European Election Studies data trend file, which contains data from European Election Studies held across Europe for the European elections of 1989, 1994, 1999 and 2004. Besides data on European electoral behaviour, it provides a series of questions that relate to national electoral behaviour, as well as some individual background statistics on gender, education, age, left-right position, class and employment. To define which parties are included in an individual's consideration set I use the following question asked for each party.

We have a number of parties in [country] each of which would like

⁷In an earlier analysis I used World Bank Education Statistics, which covers a longer time series. However, these data have significant gaps and cannot guarantee comparability. I therefore limit my analysis to data available from the OECD. Busemeyer (2007*b*) uses OECD data, while Ansell (2008) uses the World Bank data series.

⁸These are the fifteen original Member States of the European Union. Luxembourg is dropped because of its size which means its students often study abroad.

to get your vote. How probable is it that you will ever vote for the following parties? Please specify your views on a 10-point-scale where 1 means "not at all probable" and 10 means "very probable". If you think of [Party 1]: what mark out of ten best describes how probable it is that you will ever vote for [Party 1]?

A party is then coded to be included in an individual's consideration set if this probability is higher than 5. The size of an individual's consideration set is thus given by the number of parties that an individual ranks as probable to vote for. An individual is coded as a party's core voter if he or she ranks the party of probable, and that party is the only party in its consideration set (i.e. the consideration set size is equal to one). An individual is coded as a party's swing voter if he or she ranks the probability to vote for a party as probable, but has at least one other party that he or she considers probable to vote for (i.e. the consideration set size is larger than one). This procedure is different from the one employed by Wilson (2008), who empirically estimates the consideration set based on the predicted probability to vote for each party, using relevant individual characteristics such as their left-right position.

Next, for each party the average education level of its core and swing voters is calculated. The higher the education level of a group, the more the group is expected to prefer increases in higher education expenditure per student. This is because children of higher educated voters, or those currently in higher education, are likely to benefit the most from additional expenditures on higher education. All individuals who are either still in education, or are educated beyond the age of 20 are considered "higher educated." As these surveys were held at five year intervals, I interpolate and extrapolate the education level of core-voters and swing voters to arrive at annual measures for each party.⁹

I then create a measure for the average education level of the swing and core voters of all parties in government. These measures are a weighted average, using

⁹For those member states who only joined in 1995 (Sweden, Finland and Austria) previous years are excluded.

the percentage of seats of the government parties in the government coalition as the weight.¹⁰ Last, I divide this weighted average by the percentage of highly educated citizens in society. This gives us a measure of how disproportionately higher educated voters are represented in the group of swing and core voters. The higher this disproportionality, the more the group will benefit from increases in higher education expenditures compared to the rest of society.

5.3 Control Variables

Furthermore, the analysis controls for several variables predicted to affect higher education spending per student. I control for effects of differential enrolment rates on expenditures per student by including a measure of the total number of students enrolled as a percentage of the population. The expectation is that countries with higher enrolment percentages are likely to be able to afford less expenditures per student. A measure of the number of higher educated individuals in society is included to control for the size of this group in the electorate. The larger its share, the more likely parties are across the board to extend favours by providing higher levels of per student subsidies.

I control for government partisanship by including the percentage of seats in cabinet controlled by right-wing parties.¹¹ Other controls include government expenditures as a percentage of GDP. The logic to include this variable is that larger governments are likely to spend more across the board. I also include a measure of GDP per capita to control for any income effects.

5.4 Methodology

I employ two types of statistical analysis. The first type is a conventional pooled cross-sectional time series OLS regression with a lagged dependent variable, panel corrected standard errors¹², and a correction for panel auto-correlated error

¹⁰These weights are derived from Cusack and Engelhardt (2002)

¹¹The data is derived from the Comparative Political Dataset by Armingeon. I have also ran models with left-wing partisanship, which gave similar results.

¹²see Beck and Katz (1995)

terms. The second type is an error correction model (ECM). In this model the dependent variable is given in first differences (i.e. $\Delta y_t = y_t - y_{t-1}$.) Independent variables are given both lagged levels and first differences. The ECM specification allows for a separation of long-term effects (the coefficient estimates of the lagged levels of independent variables) from short-term effects (the coefficient estimates of the first differences of independent variables). This model deals with a potential problem of the first specification, namely that the dependent variable is non-stationary. This would be indicated by a high coefficient on the lagged dependent variable in the first specification.

6 Results

Table 1 provides the results of four models. The first two models are conventional pooled cross-sectional time series OLS regression with a lagged dependent variable. The second two models are ECM specifications. The first and third model contain right partisanship as a control variable, the second and fourth model left partisanship.

The first noteworthy result is that the coefficient for the variable capturing the education level of the swing-voters is positive and statistically significant in all four models. This suggests that the higher the education level of swing voters of parties, the more likely parties are to increase higher education spending when in office. The coefficients for the variable capturing the education level of core-voters is positive and statistically significant only for the conventionally specified first two models, but not for the ECM specifications. The size of the coefficient for core voters is also substantially smaller than the coefficient for the swing voter measure.¹³ The findings provide some initial support for the swing-voter hypothesis in the multi-party setting. Parties spend more on higher education when their swing-voters are highly educated. Support for the core-voter hypothesis is weaker, as the results are not replicated in a ECM specification.

¹³The coefficients can be compared because both measures use the same scale.

The controls which yield statistically significant coefficients have signs in the expected direction, this is the case for the percentage of higher educated voters in society and the percentage of students enrolled. Left or right partisanship has an insignificant effect on per student expenditures in all these models. This finding contradicts the partisanship accounts in the literature which have argued that either left or right partisanship would result in increases in higher education expenditures. One explanation is that my measure of per student expenditures has not been used in other studies. As argued above, however, this measure provides the most accurate measure of distribution towards students compared to others. An alternative explanation is that preferences for higher education spending cannot be meaningfully mapped on the left-right dimension, and are instead informed by an individual's education level. Hence, competition for such voters is instead structured by the education structure of core and swing voters in the electorate.

However, the results should be treated with some caution. Further research will have to validate the operationalization of core and swing voters using self-reported probabilities. The linear interpolation of the education levels of core and swing voter bases between surveys may lead to inaccurate representations of these bases in practice. Moreover, the analysis treats the variables capturing the education level of swing and core voters as measurements, while in fact they are estimates with standard errors attached. Last the data on both higher education spending, as well as comparative survey data suffer from limited availability, reducing the analysis to a subset of countries between 1991 and 2002.

7 Conclusion

This paper has discussed three criticisms of the current literature that analyses whether parties target core and/or swing voters. The first criticism is that swing voter models tend to be restricted to the two-party setting. This is problematic because it limits the applicability of such models to multi-party settings. I

propose an alternative empirical approach to conceptualise swing voters as those voters who hold multiple parties in their consideration set, and core voters as those voters who only hold only a single party in their consideration set. The concept of a consideration set is derived from consumer choice theory, and is defined as the set of alternatives that a person reasonable considers when making a decision.

The second criticism is that most measures of core and swing voters are endogenous. The literature often uses actual voting data to arrive at measures of core and swing voter status. I address this criticism by measuring the groups that hold parties in their consideration set using survey data to identify core and swing voters, rather than using data on vote choice.

The third criticism is that the empirical evaluation has focussed on geographically targeted redistribution, which thereby excludes the bulk of programmatic expenditures in industrialised democracies from analysis. Parties can target their group of core or swing voters also by spending on government programmes and services that are consumed disproportionately by their core and swing voters. Many government services are consumed disproportionately by certain socio-economic groups. If such a socio-economic group is highly represented amongst a party's core or swing voters, then parties can use such expenditures to target these voters.

In the empirical analysis I applied this theory to the case of higher education. The consumption of higher education is strongly biased towards children of higher educated parents. Research has shown that preferences for increased higher education expenditures are structured primarily by an individual's education level. Increasing the expenditures per student is therefore a way of targeting benefits towards the group of higher educated voters. I subsequently analysed if the education level of a party's swing and core voters affects its behaviour when in government. I find evidence that the higher the education level of a party's swing-voter base, the more it spends on higher education per student when in government. Only weak evidence was found for the argument that parties spend

to satisfy their core-voters. The results challenge previous partisanship analyses that have sought to explain higher education expenditures on the basis of a government's partisan colour.

This paper is only a first step, and the theory and methodology presented need to be developed and tested further. The approach does provide an interesting avenue for testing core and swing voter theories in the context of multi-party systems. It also provides a good starting point to study the politics of government expenditures that are biased in their consumption towards certain socio-economic groups and that cannot be mapped neatly on the left-right spectrum.

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Table 1: Determinants of Public Expenditure per Student in Higher Education Relative to GDP per Capita

	(1)	(2)	(3)	(4)
	b	b	b	b
Dependent Variable t_{-1}	0.819*** (17.75)	0.826*** (21.21)	-0.173*** (-2.74)	-0.171*** (-3.29)
Δ Swing-Voter Education			-0.0296 (-0.48)	-0.0205 (-0.32)
Swing-Voter Education t_{-1}	0.0791*** (3.84)	0.0819*** (3.88)	0.0653** (2.53)	0.0681*** (2.59)
Δ Core-Voter Education			-0.00602 (-0.16)	-0.0141 (-0.35)
Core-Voter Education t_{-1}	0.0218** (1.98)	0.0222** (1.96)	0.0178 (1.09)	0.0155 (0.90)
Δ Right Partisanship			-0.0000167 (-0.10)	
Right Partisanship t_{-1}	0.0000819 (0.76)		0.0000591 (0.44)	
Δ Left Partisanship				-0.0000382 (-0.29)
Left Partisanship t_{-1}		-0.0000687 (-0.86)		-0.0000556 (-0.65)
Enrolment	-1152.3*** (-3.17)	-1066.1*** (-2.92)		
Δ Enrolment			-4227.6** (-2.21)	-4061.7** (-2.10)
Enrolment t_{-1}			-1044.8* (-1.73)	-1025.8 (-1.64)
GDP per capita	0.000000705 (0.80)	0.000000697 (0.80)		
Δ GDP per capita			-0.00000287 (-0.45)	-0.00000276 (-0.43)
GDP per capita t_{-1}			0.000000899 (0.80)	0.000000832 (0.84)
Government Receipts	0.000531 (0.82)	0.000358 (0.60)		
Δ Government Receipts			-0.00127 (-0.67)	-0.00118 (-0.62)
Government Receipts t_{-1}			0.000381 (0.45)	0.000260 (0.35)
Percentage Higher Educated t_{-1}	0.160*** (3.56)	0.165*** (3.71)	0.151*** (2.73)	0.156*** (3.01)
Δ Percentage Higher Educated			0.180 (0.97)	0.197 (1.04)
R^2	0.972	0.972	0.286	0.289
N	125	125	122	122
Countries	14	14	14	14

T-statistics in parentheses. *, **, and *** denote p-values of 0.1, 0.05, and 0.01, respectively.