CESifo WORKING PAPERS

7128
2018

June 2018

Political Participation and the Welfare State

Rainald Borck

CESifo

Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
Poschingerstr. 5, 81679 Munich, Germany
Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email office@cesifo.de
Editors: Clemens Fuest, Oliver Falck, Jasmin Gröschl
www.cesifo-group.org/wp

An electronic version of the paper may be downloaded
· from the SSRN website: www.SSRN.com
· from the RePEc website: www.RePEc.org
· from the CESifo website: www.CESifo-group.org/wp

CESifo *Working Paper No. 7128*
Category 2: Public Choice

Political Participation and the Welfare State

Abstract

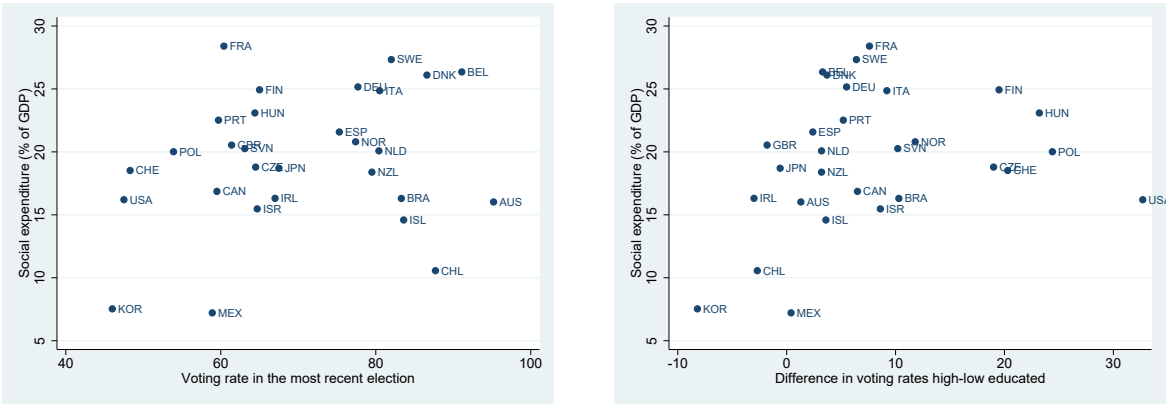
A large literature has claimed that higher political participation increases welfare spending. In this paper, I review this literature. I study the theoretical link between participation and redistributive spending. Then, I survey the empirical literature on the link between education, income and political participation, as well as that between political participation and redistribution.

JEL-Codes: D720, H530.

Keywords: political participation, turnout, welfare spending.

Rainald Borck
University of Potsdam
Department of Economics
August-Bebel-Str. 89
Germany - 14482 Potsdam
rainald.borck@uni-potsdam.de

June 15, 2018
Prepared for the Oxford Handbook of Public Choice, edited by Roger Congleton, Bernard Grofman and Stefan Voigt, Oxford University Press, forthcoming.



(a) Voting rate

(b) Difference in voting rates high-low educated

Figure 1: Social spending and turnout (Source: OECD (2011))

1 Introduction

In OECD countries, government spent on average 42% of GDP in 2013, ranging from 24% in Mexico to 60% in Greece (OECD, 2015). Governments spend resources on various public goods and services, but the largest share is spent on "social protection" (36% of total spending on average). Other large shares are spent on education (12%) and health care (15%). So a large part of government spending is at least in part redistributive, and analyzing welfare spending is therefore of prime importance to social scientists.

In this chapter, I review the literature which deals with the link between political participation and welfare spending. Again referring to OECD data, turnout in parliamentary elections ranges from 46% in South Korea to 95% in Australia (OECD, 2011). While some countries have mandatory voting laws, others don't, and even in those that do, not everyone votes. Fig. 1a shows that social spending is (weakly) positively correlated with turnout in OECD countries.

Turnout (or political participation more broadly) may affect policies if it is not evenly distributed in the population. Using the same OECD data shows that turnout is negatively correlated with the difference in voting rates between high and low educated citizens: When turnout is low, generally, relatively more poor voters abstain. Since poor or low educated voters generally have different preferences on public spending than rich or high educated ones, the expectation is that low turnout and therefore a large difference in turnout between rich and poor will lead to lower social spending. In fact, Fig. 1b shows that social spending is positively correlated with the difference in turnout rates between high and low educated across OECD countries.

Questions about redistribution and political participation have received attention for a long

time by political scientists and public choice scholars.[1] In this paper, I review both theoretical and empirical approaches that try to shed light on whether political participation affects welfare spending.

The next section outlines the theoretical link between political participation and welfare spending. I then turn to empirics. In Section 3, I describe the evidence on the relation between political participation and income. Then, Section 4 reviews the evidence on the link between participation and redistribution. The last section concludes the paper.

2 Theory

In this section, I outline theoretical models which establish a link between political participation and welfare spending.

2.1 A basic model

I now present a simple model based on Romer (1975), Roberts (1977) and Meltzer and Richard (1981) (the 'RRMR' model). For reviews, see Borck (2007) and Acemoglu *et al.* (2015).

Consider heterogeneous voters who differ with respect to their income level y_i, which is distributed with cumulative distribution $F(y_i)$. Income is taxed at proportional rate t, and each voter receives a lump sum transfer f. All tax revenue is spent on transfers. Assume a quadratic deadweight cost of taxation, so the individual transfer is $f = (t - \gamma t^2)y$, where γ indexes the deadweight loss and y is average income. The deadweight loss could be rigorously derived, e.g. in a model with elastic individual labour supply. Voter i's utility is

$$u_i = (1-t)y_i + (t - \gamma t^2)y. \tag{1}$$

Inspection of (1) shows that utility satisfies single peakedness and single-crossing, and that the optimal tax rate is decreasing in y_i (see, e.g., Persson and Tabellini, 2000). Therefore, the median income voter is decisive. Maximizing (1) gives individuals' optimal tax rates as a function of individual and average income, and of the marginal deadweight cost γ. Under universal turnout, maximization of (1) shows that the equilibrium tax rate under majority voting is

$$t^m = \max\left\{\frac{y - y_m}{2\gamma y}, 0\right\}, \tag{2}$$

[1] See, e.g. Grofman (1983) for an overview of some of this older literature.

where median income y_m is defined by $F(y_m) = 1/2$. The equilibrium tax rate is positive if and only if median income is lower than mean income, and increases with the ratio of mean to median income.

Now suppose instead that only voters with income above some level $\tilde{y} > 0$ vote. Then, the equilibrium tax rate $\tilde{t}_m$ has the same form as (2), with y_m replaced by the income level of the decisive voter, $\tilde{y}_m$, whose income is now defined by $F(\tilde{y}_m) - F(\tilde{y}) = 1/2(1 - F(\tilde{y}))$. So this is the median income earner among all *voters*, not among the general (voting age) population. Since $\tilde{y} > 0$, we have $\tilde{y}_m > y_m$ and $\tilde{t}^m \leq t^m$. The first implication of the RRMR model is straightforward: if government redistributes income and only voters below a certain threshold $\tilde{y}$ are allowed to vote, lowering that threshold will lead to higher taxes and higher redistributive transfers.

Taken literally, the application of this first result is quite narrow, namely, it applies to situations where government spending is clearly redistributive and turnout increases because of an extension of the voting franchise to poorer voters, who prefer larger taxes. The broader claim that increasing turnout would increase welfare spending rests on two distinct claims. The first claim is that poorer voters prefer higher spending, a claim which I examine in the next subsection. The second claim is that when turnout increases, the income of the decisive voter decreases. This point is more subtle than might appear at first sight. In section 3, I will consider evidence on the relation between turnout and income. But even if much literature shows that this relation is positive, does higher turnout automatically imply that the decisive voter is poorer? Maybe, but the details of why turnout increases would seem to be important. For instance, a particular reform may reduce the time costs of voting (say, by moving voting from workdays to weekends). But since time costs are higher for richer voters with higher wages, this kind of reform would likely increase turnout most among *richer* voters. Hence, while it is plausible that higher turnout reduces the income of the decisive voter, this is not necessarily always so. Importantly, when considering the empirical evidence, one should ask the question whether a reform which leads to a change in turnout is theoretically expected to increase turnout especially among the poor (which much of the literature seems to take for granted).

2.2 Twists and turns

Before turning to the empirical evidence, I describe some 'twists and turns' on the main theme of this section. For some related points, see Borck (2007) and Acemoglu *et al.* (2015).

Income and preferences for public spending. The argument so far relies on the prediction of the RRMR model that lower income voters prefer higher welfare spending. However, this is not

always so clear. Suppose that instead of paying out pure transfers, government finances a publicly provided private good, such as education, public health care or unemployment insurance.[2] Then, decreasing the decisive voter's income has two effects. First, as she gets poorer, her tax price decreases, which pushes towards higher taxes and spending. Second, however, assuming the publicly provided good is normal, there is a negative income effect, leading to lower spending, other things equal. Which effect dominates depends on the magnitude of the substitution and income effects (Kenny, 1978). Therefore, when the welfare state provides education, health care, or various types of insurance, it is unclear whether letting poorer voters vote will increase welfare spending.

Information. Hodler *et al.* (2015) present a model where higher turnout may increase or decrease redistributive spending. Their model has informed and uniformed voters, and the incentives to acquire information increase with skills (which also increase income). Informed voters vote based on the utility received from party programs while uninformed ones are influenced by campaign contributions. When voting costs decrease, the average voter becomes less informed (and hence, poorer). Politicians respond by increasing taxes and rents directed toward interest groups, in order to win more of the uninformed voters who now vote. Hodler *et al.* (2015) show that redistributive spending may increase or decrease as a result. In fact, they present evidence from Switzerland showing that increased participation (due to a reform in voting technology) led to lower welfare spending (see Section 4 below).

Capture. Acemoglu *et al.* (2015) argue that inequality may not decline following an extension of the franchise to poor voters. Their argument is that elites may capture the political process through costly investment. If this cost is not too high, elites will expend it and invest in increasing their *de facto* power following democratization, to counter the transfer of *de jure* power to poorer voters. Consequently, redistribution may not increase (or increase less than the 'direct effect' of democratization would suggest) after democratization.

Lizzeri and Persico (2004) also present a model where franchise extension may decrease redistribution. Like Acemoglu and Robinson (2000), they study the incentives of elites to extend the franchise. Acemoglu and Robinson (2000) argued that elites in power may extend the franchise to poor voters in order to avoid a revolutionary threat. In their model, extending the franchise will lead to increased redistribution. By contrast, Lizzeri and Persico (2004) argue that

[2]For examples, see Kenny (1978) for the general case of publicly provided goods, Epple and Romano (1996a) and Epple and Romano (1996b) for the examples of education and health care, and Moene and Wallerstein (2001) for insurance.

elites might extend the franchise, not under the threat of revolution, but out of their own interest. In their model, politicians have an incentive to redistribute to swing voters. However, members of the elite who are not swing voters may prefer extension of the franchise, which will shift the incentive towards provision of public goods. Their model then predicts that redistribution may decrease after an extension of the franchise. They argue that the evolution of public spending in Britain during the age of reform is consistent with this idea (spending on poor relief decreased, while local spending on infrastructure increased).

3 The effect of education and income on political participation

I will now review the effect of education and income on political participation. That political participation is not equally distributed throughout different groups has been a concern for political scientists for a long time. In his 1996 Presidential Address to the American Political Science Association, Lijphart (1997) called unequal participation "Democracy's unresolved dilemma". In this paper, he reviewed the evidence on unequal participation, as well as the consequences and possible remedies. In conclusion, he argued for compulsory voting to achieve the goal of universal participation in politics.[3] I now briefly describe evidence on the relation between education and income on one side and turnout or political participation on the other. I will also address the issue of identifying causal effects of education on participation.

Turnout and other forms of participation. Numerous studies have analyzed the link between income or education and political participation. To cite one prominent example, Rosenstone and Hansen (1993), using data from Presidential elections in the US from 1956-1988, showed that the Americans with the highest incomes have turnout rates that are 35 percentage points higher than those of the voters with the lowest incomes. Furthermore, the richest Americans were more than ten times more likely than the poorest to contribute money to political parties or candidates. Likewise, college graduates had turnout rates about 30 percentage points above those of grade school educated and were more than four times more likely to contribute money to political campaigns. The positive effect of education and income on participation holds up after controlling for age, race, gender, and employment status. Similar results were found for other countries, see e.g. Powell (1986) for a comparative study using data from nine countries

[3] Borck (2002) argues that if turnout increases with income and decreases with population size, participation should be more equal in small jurisdictions, which makes a case for federalism.

and Lijphart (1997) for a survey of evidence from different country studies. The evidence from countries other than the US seems to show, however, a weaker income or education gradient, that is, participation seems to rise faster with income or eduction in the US than in other countries (see, e.g., Chevalier and Doyle, 2012). One explanation is that turnout is generally higher in other countries so the variation by individual characteristics such as education or income is lower (Lijphart, 1997).

Identification. One issue with many earlier studies showing a relation between turnout and income or education is that identification of a causal effect may be problematic. High income households may differ from low income households in some unmeasured variable which affects both income and political participation. For instance, if richer individuals are more skilled, they will earn higher incomes. At the same time, they may have lower costs of getting informed on political matters and therefore be more likely to participate in politics. If skills are unmeasured, an OLS regression of income on political participation will yield biased estimates.

In the case of education, similar concerns abound, though perhaps to a lesser extent. For instance, some parents may have a taste for encouraging their children to participate in politics and at the same time for encouraging them to obtain education. If this preference is unobserved, OLS estimates of the effect of education on political participation will be biased.

In cross-country regressions of aggregate turnout, these problems are compounded by the well-known fact that countries differ in many unobserved variables that may be correlated both with income (or education) and participation. For instance, high income countries may have some political or social institutions (such as trust in politicians) that make political participation more likely.

Milligan *et al.* (2004) use an instrumental variable strategy to overcome omitted variable problems. The instrument comes from changes in compulsory voting and child labor laws. In the US, states have changed compulsory schooling laws (minimum required years of schooling) and child labor laws several times. These changes are relevant predictors of the probability of graduating from high school. The instrument is valid if changes in compulsory schooling laws do not have a direct effect on turnout, which Milligan *et al.* (2004) argue is not likely. They find that after instrumenting, graduation from high school retains a positive and significant effect on turnout in the US. Interestingly, in their UK sample, voting does not appear to depend on education when the same IV strategy is used. Other forms of participation, namely trying to persuade friends to share views or discussing political matters with them, however, depend positively on education. Pelkonen (2012) uses a similar approach on Norwegian data and finds

little evidence that education affects political participation, except for the likelihood of signing a petition. Similar results are also found by Siedler (2010) for the case of Germany.

Jaitman (2013) studies the effect of mandatory voting on turnout by skill level. She uses the fact that voting in Argentina is mandatory for all eligible voters aged 18-70. She therefore uses a regression-discontinuity design: By looking at the differences in turnout of male voters who are just under 70 and those just over 70 years, she can identify the causal effect of compulsory voting on turnout. She finds that compulsory voting significantly increases turnout, and this increase is more pronounced for the unskilled (those whose professions usually require high-school or a lower degree) than for skilled voters (professions requiring more than high-school education).

Thus, the identification of a positive effect of education on political participation may be less straightforward than might seem at first sight.

4 The effect of participation on redistribution

I now present evidence on the link between political participation and redistribution. I start by considering broad redistribution programs and then consider some variants: first, participation by specific groups (blacks and females) and then different spending categories. I then turn to identification issues.

4.1 Broad redistribution

Several papers have studied the effect of an extension of the voting franchise to poorer and less educated voters on public spending. Husted and Kenny (1997) is a classic paper in this strand of literature. In particular, they analyze the effects of poll taxes and literacy tests on welfare spending in a panel of US states. These effective restrictions on the enfranchisement of mostly poor and black voters were struck down by Supreme court decisions and federal legislation in the 1960s and 70s. The removal of the restrictions had sizeable effects on the turnout of these groups. Husted and Kenny (1997) show that removal of poll taxes (and to a lesser extent, literacy tests) increased welfare spending, but did not change non-welfare spending. This is consistent with the basic story of the RRMR model.

As another historic example, Aidt *et al.* (2006) study the franchise extension in European democracies. In the early 19th century, in most countries voting rights were restricted to rich males, but suffrage rights were successively granted to poorer males and females. Aidt *et al.* (2006) use panel data from 12 Western European countries between 1830 and 1938. They measure the effect of the observed increases in the percentage of enfranchised voters on total government spending

(as percentage of GDP), as well as spending on different categories of goods (security, infrastructure, collective goods such as health and education, and transfers such as social insurance spending). Interestingly, they find that while franchise extension increased total government size, this increase came mainly through greater spending on security and infrastructure. This seems to be consistent with the model of Lizzeri and Persico (2004), who show that universal suffrage might reduce redistributive spending and increase public good provision (see Section 2). See Acemoglu *et al.* (2015) for further references on this strand of literature.

Other papers, rather than analyzing discrete increases of participation due to enfranchisement of new classes of population, study the effect of varying turnout along the intensive margin. Lindert (1994) analyzed the rise in social spending in a panel of 21 countries between 1880 and 1930. Consistent with the RRMR model, he found that higher turnout increases social spending. He also finds that social spending rises with female suffrage (see below).

Mueller and Stratmann (2003) analyze the effect of turnout on transfer spending, income distribution and growth in a cross-section of countries. They find that higher turnout leads to larger transfer spending and a more equal distribution of income, again consistent with the RRMR story. They also find that this comes at the cost of lower income growth (in the model presented in Section 2.1, the deadweight loss increases with the tax rate). Since identification of causal effects is generally difficult in cross-country regressions, they also instrument turnout using population size, election closeness and electoral rule as instruments. However, the exogeneity of these instruments is not entirely clear. I return to the identification issue below.

Female suffrage. A number of papers have looked at the effect of female suffrage on welfare spending. Lott and Kenny (1999) is one study in this vein. They examine the effect of introducing female suffrage on government spending in the US states. They exploit the staggered introduction of female voting rights in US states between 1869 and 1920, which prohibited the denial of voting rights to women. Lott and Kenny (1999) find that giving women the right to vote led to increased turnout and an immediate increase of expenditure of 14 percent. In order to mitigate the possible endogeneity of female suffrage, they examine those states where female suffrage was imposed by the Nineteenth Amendment (which prohibited United States citizens from being denied the right to vote on the basis of sex), and find that the effect is largely the same.

Abrams and Settle (1999) study the introduction of female suffrage in Switzerland in 1971, and its effect on the evolution of public spending, relative to neighboring countries that already had female suffrage (Germany, Italy, and France). They find that female suffrage increased

welfare spending and government consumption. While their regressions include country and time fixed effects, identification rests on the assumption that there were no other institutional changes in Switzerland, relative to other countries, that could have affected public spending in the considered time period.

Miller (2008) uses similar data as Lott and Kenny (1999) and estimates that female suffrage significantly increased municipal and state spending on health care, but not total spending. Carruthers and Wanamaker (2015), on the other hand, examine the effect of female suffrage on local education spending in three Southern states that had to grant women the right to vote following the passage of the Nineteenth Amendment. To identify the effect of female suffrage, they measure the percentage of the electorate in counties that were white and female, on the grounds that black women were still disenfranchised due to poll taxes and literacy tests (see below). They find that female suffrage significantly increased local school spending. Importantly, spending in (segregated) white schools increased more than spending in black schools, so while total education spending increased as the result of female suffrage, the black-white schooling gap increased.

? study how the introduction of female suffrage at the local level in Norway affected public spending on poor relief and education. Interestingly, they find no effect on public spending on education and poor relief.

Blacks. Several papers have examined the effect of the effective disenfranchisement of black voters in the US South through poll taxes and literacy tests. Cascio and Washington (2014) study the effect of black enfranchisement on public spending towards blacks. They find that the removal of literacy tests led to increased transfers to counties with large shares of black voters (see more below). For similar evidence on education in black versus white schools, see the papers by Naidu (2012) and Carruthers and Wanamaker (2015) described below.

4.2 Spending categories

Public education. Publicly financed education and health care may also redistribute between voters, although the issue here is obviously more complex than for pure fiscal redistribution. As Section 2 has explained, public provision of private goods redistributes from rich to poor only if the price effect dominates the income effect on demand. Hence, whether increased representation of poor groups will increase provision of these goods is theoretically open.[4] So it is interesting

[4]In fact, an influential couple of papers by Epple and Romano (1996a,b) argued that if preferences for public spending increase with income but there are private alternatives (or 'topping up possibilities) to publicly provided goods, public provision may result in an 'ends against the middle equilibrium, where the poor and rich want low spending whereas the middle class want high spending.

to see what empirical studies have to say about this issue.

A few papers have looked at the effect of participation on public education.[5] Naidu (2012) and Carruthers and Wanamaker (2015) concentrate on the effect of (dis-)enfranchisement of women and black voters in the US. Naidu (2012) studies the effect of poll taxes and literacy tests in the US South in the 19th century. He finds that turnout decreased and, as a result, teacher-pupil ratios were reduced in (segregated) black schools, but not in white schools. The study by Carruthers and Wanamaker (2015) cited in Section 4.1 found that female enfranchisement increased education spending, but more so in (segregated) white than in black schools, because of the continued disenfranchisement of southern blacks.

Health care. I now turn to studies that examine the effect of political participation on publicly provided health care.[6] Fujiwara (2015) studies the effect of increased effective political participation of poor voters in Brazil on health spending and health outcomes. The move from paper to electronic voting (described below) increased effective political participation by less educated voters and led to increased shares of health spending in total spending as well as increased health spending per capita. He also shows that as a result, health outcomes (prenatal visits and birthweight) improved for less educated but not for better educated mothers. As described above, Miller (2008) finds that the enfranchisement of women in the US led to increased health spending. He also shows that the reforms led to lower child mortality caused by insufficient hygiene (such as diarrheal diseases and diphtheria).

4.3 Identification

In closing this section, again, some notes on identification of the causal effect of participation on redistribution are in order. The usual suspects for threatening identification in OLS regressions are (i) reverse causality, (ii) omitted variables and (iii) unobserved individual heterogeneity. Clearly, turnout may be endogenous to welfare spending, simply because spending may increase (net) income and therefore affect turnout, or because of some other channel (say voters are more likely to turn out and vote for the incumbent party when spending goes up). Second, it is likely that countries (or subnational units) that differ in turnout and welfare spending differ in some unobserved variable that is correlated with turnout but also independently affects welfare spending. For instance, voters may have a special sense of 'civic duty' which makes them more likely

[5] See Acemoglu *et al.* (2015) for additional references on the link between education spending and democratization.

[6] See, again, Acemoglu *et al.* (2015) for additional references on the link between health care spending and democratization.

to vote but also more likely to support welfare spending. If unobserved, this will lead to biased estimates. The usual techniques used to deal with these effects are fixed effects estimation to deal with time-invariant unobserved heterogeneity and natural experiments, difference-in-differences, instrumental variables and regression-discontinuity designs to deal with omitted variables or reverse causality. Here, I present some examples with careful identification strategies.

Fixed effects. The identification of causal effects is notoriously difficult in cross sectional data, where the possibility that units (countries, states, counties...) differ in some unobserved ways which affect both turnout and welfare spending. To control for time-invariant unobserved heterogeneity, many researchers control for fixed effects. Examples include Husted and Kenny (1997), Aidt *et al.* (2006), and Acemoglu *et al.* (2015).

Difference-in-differences models. Another classic approach for tackling identification is difference-in-differences (DiD). Suppose we observe a reform that lowers voting costs in jurisdiction A but not in B. If the pre-reform trends in A and B are similar, comparing the difference in post- and pre-reform outcomes between the treatment and control group will allow the researcher to identify the causal effect of the reform. For instance, Fowler (2013) exploits the introduction of compulsory voting at the state level in Australia. Since the introduction was staggered across the states, comparing states that had and had not adopted compulsory voting at different points in time amounts to a difference-in-differences analysis where the effect of the introduction on the treatment group (states with compulsory voting) is compared to the control group (those without compulsory voting). He finds that compulsory voting increased voter turnout by 24 percentage points which in turn increased the vote shares and seat shares of the Labor Party by 7-10 percentage points.

Some papers go one step beyond this, by exploiting the intensity of the treatment in DiD settings. A nice example is the study by Cascio and Washington (2014). The study aims at identifying the effect of black enfranchisement, trough the removal of literacy tests, on spending targeted towards black voters in the 1960s/1970s in the US South. To identify the causal effect of the reforms, they estimate how the abolition of literacy tests by the Voting Rights Act of 1965 affected state transfers to counties with large shares of black voters. Hence, the fraction of black voters in a county serves as an indicator of treatment intensity. In order to control for the possibility that these counties could have received larger transfers in the absence of the removal of literacy tests, they compare the evolution of transfers in states where literacy tests were removed to states that didn't have any literacy tests (that is, a triple-difference estimation). They find that

counties with higher black population shares in former literacy test states saw greater increases in both voter turnout and state transfers than comparison counties in nonliteracy test states.

Falch *et al.* (2015) is another example using this method. They analyze the introduction of female suffrage in Norway. The treatment intensity here is given by the share of females in the voting franchise. Municipalities with a larger share of female voters effectively received a larger "treatment dose" than those with smaller shares. Falch *et al.* (2015) find that turnout increased significantly after female suffrage was introduced. Interestingly, however, they find no effect of female suffrage on local education spending or poor relief. This differs from Carruthers and Wanamaker (2015) who study the franchise extension to female voters in the US (see above). They find that this led to higher education expenditures, and more so in counties with larger shares of female voters. What exactly drives these differing results is an open issue.

Natural experiments. Sometimes, it may be possible to use quasi-experiments that lead to increases or decreases in turnout. A couple of papers have used the introduction of a new voting technology as a quasi-experiment. Another example described below is the introduction of synchronized voting dates.

A nice example is the study by Fujiwara (2015). He studies the introduction of electronic voting for municipal elections in Brazil, which he argues led to the effective enfranchisement of less educated and poorer voters. The reason is that electronic voting was accompanied by pictures of candidates and other visual aids which made voting much easier for illiterate voters. To identify the causal effect of the reform, he uses the fact that electronic voting was made available in 1998 only for municipalities with more than 40,500 voters. Hence, he uses a regression discontinuity design (RDD) which compares municipalities close to the threshold which are otherwise similar but for the treatment status (the larger ones being 'treated' because they voted electronically). He finds that while the reform had no effect on turnout, it reduced invalid votes and thereby effectively enfranchised less educated voters who otherwise would produce invalid votes because of confusion. The paper also finds that the introduction of electronic voting increased health care spending (as share of total government spending and per capita), which Fujiwara (2015) interprets as spending targeted towards the poor.

The study by Hodler *et al.* (2015) also exploits a reform of voting technology. They analyze the effect of the introduction of postal voting at the cantonal level in Switzerland. Postal voting as opposed to pure ballot voting lowers voting costs and is therefore expected to increase turnout. The identification relies on the staggered introduction of postal voting in Swiss cantons, which the authors argue was not related to, e.g., low turnout and should therefore be exogenous. They

find that postal voting led to higher turnout, lower education of voters relative to the general population, and *lower* welfare spending.[7] Clearly, this is at odds with the RRMR model. Hodler *et al.* (2015) interpret this as evidence in favor of their model which argues that high turnout among uninformed voters increases the role of interest groups and leads to more spending which benefits these groups at the expense of spending which benefits the general electorate.

Aggeborn (2016) uses a constitutional reform in Scandinavia. In 1970, a constitutional reform in Sweden led to synchronized national and municipal elections, while Finland had staggered elections throughout the study period.[8] Since the reform reduces voting costs, it should increase turnout in Swedish but not in Finnish local elections. Using the reform as an instrumental variable, Aggeborn (2016) shows that turnout increased (especially among low income voters), local public spending increased, and support for right wing parties decreased.

RDD. As discussed above, studies of franchise extension suffer the potential problem that the extension itself may be motivated politically and therefore, for instance, be affected by the potential support of different voter groups. Indeed, the central argument in Acemoglu and Robinson (2000) is that franchise extension follows strategic motives of the ruling elite. In a nutshell, revolutionary threats may lead to an extension of the franchise and in the sequel larger redistributive spending. The franchise extension may therefore be endogenous.

Naidu (2012) circumvents this problem in his study of the disenfranchisement of blacks in the US south through poll taxes and literacy tests. In particular, the identification relies on the comparison of adjacent counties that belong to different states, one which did and the other which did not disenfranchise blacks. Since economic and social conditions are likely to be similar across state borders, this strategy captures potential confounders of the disenfranchisement. He finds that poll taxes and literacy tests led to significantly lower turnout and increased the Democratic vote share. It also led to lower teacher-student ratios in black schools, but not in white schools.

The study by Fujiwara (2015) cited above also uses an RDD design.

Instrumental variables. Researchers trying to estimate causal effects in the absence of natural experiments often turn to instrumental variables (IV) estimation. An instrumental variable must be relevant, i.e., have an effect on the endogenous variable, and be exogenous, i.e., have no direct effect on the government spending variable analyzed.

[7] The effect is significant, however, only in a specification which controls for quadratic canton-specific time trends.

[8] It should be noted that the reform had some other elements such as introduction of a unicameral system and that it was accompanied by a municipal merger reform which sharply reduced the number of municipalities.

Rain is clearly exogenous to political events and reduces turnout because it increases the costs of voting. It is therefore reasonable to use rain as an instrument for turnout. Since rain on election day should not affect government spending, it is also exogenous. Knack (1994) is an early study which analyzes whether rain "helps the Republicans". It is also noteworthy because it contains a nice discussion of how weather affects supporters of the Democratic and Republican parties. For instance, Knack argues that Democratic voters tend to be poorer and might therefore be more sensitive to bad weather because they rely on weather-sensitive transport modes (biking, walking, public transport...). He estimates models of individual turnout in national elections between 1984 and 1988. Surprisingly, he finds no effect of rainfall on turnout. He also finds that rainfall has no differential effect on turnout of Democratic versus Republican voters. One problem with these data is that the 1984 and 1988 presidential elections were held in unusually dry weather so variability in rainfall was generally low. Interestingly, Knack (1994) finds that cold weather, if anything, makes Democratic voters more likely to turn out.

Gomez *et al.* (2007) use data from presidential elections in the US between 1948 and 2000. They estimate county level turnout and find that it significantly falls with both rain and snowfall. They also include these weather variables in regressions of the Republican vote share. Contrary to Knack (1994), they find that the Republican vote shares were significantly higher with bad weather.[9]

Another clever instrument is the incidence of infectious diseases. Obviously, individuals who get sick are less likely to vote. Godefroy and Henry (2016) show that the incidence of digestive infections in French municipalities significantly reduces turnout. The paper is mostly concerned with the quality of politicians' decisions, but it also shows, interestingly, that when turnout is instrumented by infections, it actually leads to lower infrastructure spending (with no significant effect on other fiscal variables). They interpret this as consistent with their model. Their theoretical model shows that higher turnout decreases the chances of the more competent candidate. In turn, the less competent candidate, in equilibrium, spends less on infrastructure because her costs are higher. This story is clearly different from the basic RRMR story.

[9] Actually, this is an intention-to-treat rather than an instrumental variable regression. Hansford and Gomez (2010) present IV results with similar — though more nuanced — effects. Horiuchi and Saito (2009) also use rain as an instrument for turnout in Japanese municipal elections, finding a significant negative effect. However, they analyze the effect of turnout on intergovernmental transfers instead of redistribution between voters. Artés (2014) also finds that rain decreases turnout in Spanish elections and that this hurts the conservative party (though the main left wing party does not benefit).

5 Conclusion

This paper has reviewed the literature about the link between turnout and social spending. The basic claim is that increasing turnout (or political participation more broadly) increases welfare spending. The causal chain behind this claim runs like this: (i) when turnout increases, the proportion of voters with low education or low income rises, and (ii) as the decisive voter's income falls she votes for higher social spending. After reviewing the theoretical argument, the paper has also looked at empirical evidence, paying particular attention to the identification of causal effects.

The empirical evidence, at first sight, seems to support this view. However, closer inspection yields some mixed results. For instance, not all studies find a positive effect of education on political participation, and likewise, not all papers find a positive effect of turnout on social spending.

In closing, I want to mention some open issues that my reading of this literature suggests. When comparing results from different countries, one obvious caveat is that institutions differ between countries in many ways, and these institutions may mediate the effect of turnout on spending. For instance, Fumagalli and Narciso (2012) find that turnout is lower in presidential than in parliamentary regimes. So the finding that, say, the US has lower turnout and welfare spending than some European countries might partly be due to differences in political regimes and other social institutions.[10]

Secondly, a case can be made for strengthening the connection between theory and empirical analysis. For instance, it seems fruitful to look at disaggregated spending on health or education. But the effect of lowering the income of the decisive voter on spending depends on whether optimal spending levels increase or decrease with income, or are even inversely U-shaped (as argued by Epple and Romano's 1996a famous 'ends against the middle' model). For instance, while Borck and Wrohlich (2011) find that low income voters prefer higher spending on childcare, Kotakorpi and Laamanen (2010) find that rich and poor individuals prefer low spending and middle-class voters prefer high spending on health care.

While the literature on turnout and government spending is already quite large, these and other open issues seem to leave enough room for future research.

[10] An interesting paper by Chevalier and Doyle (2012) argues that the differing results between the US and other countries are driven by the high incarceration rates in the US. Since incarcerated individuals predominantly have low education levels, they argue that this fact can explain the different education gradient on turnout in the US.

References

Abrams, B. A. and Settle, R. F. (1999). Women's suffrage and the growth of the welfare state. *Public Choice*, **100**(3), 289–300.

Acemoglu, D. and Robinson, J. A. (2000). Why did the west extend the franchise? Democracy, inequality, and growth in historical perspective. *Quarterly Journal of Economics*, **115**, 1167–1199.

Acemoglu, D., Naidu, S., Restrepo, P., and Robinson, J. A. (2015). Democracy, redistribution, and inequality. In A. B. Atkinson and F. Bourguignon, editors, *Handbook of Income Distribution*, volume 2 of *Handbook of Income Distribution*, chapter 21, pages 1885–1966. Elsevier, Amsterdam.

Aggeborn, L. (2016). Voter turnout and the size of government. *European Journal of Political Economy*, **43**, 29–40.

Aidt, T., Dutta, J., and Loukoianova, E. (2006). Democracy comes to Europe: Franchise extension and fiscal outcomes 1830-1938. *European Economic Review*, **50**(2), 249–283.

Artés, J. (2014). The rain in Spain: Turnout and partisan voting in spanish elections. *European Journal of Political Economy*, **34**, 126–141.

Borck, R. (2002). Jurisdiction size, political participation, and the allocation of resources. *Public Choice*, **113**(3/4), 251–263.

Borck, R. (2007). Voting, inequality, and redistribution. *Journal of Economic Surveys*, **21**, 90–109.

Borck, R. and Wrohlich, K. (2011). Preferences for childcare policies: Theory and evidence. *European Journal of Political Economy*, **27**(3), 436–454.

Carruthers, C. K. and Wanamaker, M. H. (2015). Municipal housekeeping: The impact of womens suffrage on public education. *Journal of Human Resources*, **50**(4), 837–872.

Cascio, E. U. and Washington, E. (2014). Valuing the vote: The redistribution of voting rights and state funds following the voting rights act of 1965. *Quarterly Journal of Economics*, **129**(1), 379–433.

Chevalier, A. and Doyle, O. (2012). Schooling and Voter Turnout: Is there an American Exception? IZA discussion paper 6539, IZA.

Epple, D. and Romano, R. E. (1996a). Ends against the middle: Determining public service provision when there are private alternatives. *Journal of Public Economics*, **62**, 297–325.

Epple, D. and Romano, R. E. (1996b). Public provision of private goods. *Journal of Political Economy*, **104**, 57–84.

Falch, T., Strøm, B., and Tovmo, P. (2015). The causal effects of voting franchise extensions on fiscal outcomes. Mimeo.

Fowler, A. (2013). Electoral and policy consequences of voter turnout: Evidence from compulsory voting in australia. *Quarterly Journal of Political Science*, **8**(2), 159–182.

Fujiwara, T. (2015). Voting technology, political responsiveness, and infant health: Evidence from Brazil. *Econometrica*, **83**(2), 423–464.

Fumagalli, E. and Narciso, G. (2012). Political institutions, voter turnout, and policy outcomes. *European Journal of Political Economy*, **28**(2), 162 – 173.

Godefroy, R. and Henry, E. (2016). Voter turnout and fiscal policy. *European Economic Review*, **89**, 389 – 406.

Gomez, B. T., Hansford, T. G., and Krause, G. A. (2007). The republicans should pray for rain: Weather, turnout, and voting in u.s. presidential elections. *Journal of Politics*, **69**(3), 649–663.

Grofman, B. (1983). Models of voter turnout: A brief idiosyncratic review. *Public Choice*, **41**(1), 55–61.

Hansford, T. G. and Gomez, B. T. (2010). Estimating the electoral effects of voter turnout. *The American Political Science Review*, **104**(2), 268–288.

Hodler, R., Luechinger, S., and Stutzer, A. (2015). The effects of voting costs on the democratic process and public finances. *American Economic Journal: Economic Policy*, **7**(1), 141–71.

Horiuchi, Y. and Saito, J. (2009). Rain, elections and money: The impact of voter turnout on distributive policy outcomes in Japan. Asia Pacific Economic Paper 379.

Husted, T. A. and Kenny, L. W. (1997). The effect of the expansion of the voting franchise on the size of government. *Journal of Political Economy*, **105**, 54–82.

Jaitman, L. (2013). The causal effect of compulsory voting laws on turnout: Does skill matter? *Journal of Economic Behavior and Organization*, **92**, 79 – 93.

Kenny, L. W. (1978). The collective allocation of commodities in a democratic society: a generalization. *Public Choice*, **33**(2), 117–120.

Knack, S. (1994). Does rain help the republicans? Theory and evidence on turnout and the vote. *Public Choice*, **79**(1/2), 187–209.

Kotakorpi, K. and Laamanen, J.-P. (2010). Welfare state and life satisfaction: Evidence from public health care. *Economica*, **77**(307), 565–583.

Lijphart, A. (1997). Unequal participation: Democracy's unresolved dilemma. *American Political Science Review*, **91**(1), 1–14.

Lindert, P. H. (1994). The rise of social spending, 1880-1930. *Explorations in Economic History*, **31**(1), 1–37.

Lizzeri, A. and Persico, N. (2004). Why did the elites extend the suffrage? Democracy and the scope of government, with an application to Britain's "age of reform". *Quarterly Journal of Economics*, **119**(2), 707–765.

Lott, John R., J. and Kenny, L. W. (1999). Did women's suffrage change the size and scope of government? *Journal of Political Economy*, **107**(6), 1163–1198.

Meltzer, A. H. and Richard, S. F. (1981). A rational theory of the size of government. *Journal of Political Economy*, **89**, 914–927.

Miller, G. (2008). Women's suffrage, political responsiveness, and child survival in american history. *Quarterly Journal of Economics*, **123**(3), 1287–1327.

Milligan, K., Moretti, E., and Oreopoulos, P. (2004). Does education improve citizenship? Evidence from the United States and the United Kingdom. *Journal of Public Economics*, **88**(9-10), 1667 – 1695.

Moene, K. O. and Wallerstein, M. (2001). Inequality, social insurance, and redistribution. *American Political Science Review*, **95**(4), 859–874.

Mueller, D. C. and Stratmann, T. (2003). The economic effects of democratic participation. *Journal of Public Economics*, **87**, 2129–55.

Naidu, S. (2012). Suffrage, schooling, and sorting in the post-bellum U.S. south. working paper.

OECD (2011). *Society at a Glance 2011: OECD Social Indicators*. OECD Publishing, Paris.

OECD (2015). *Government at a Glance 2015*. OECD Publishing, Paris.

Pelkonen, P. (2012). Length of compulsory education and voter turnout—evidence from a staged reform. *Public Choice*, **150**(1), 51–75.

Persson, T. and Tabellini, G. (2000). *Political Economics*. MIT Press, Cambridge, MA.

Powell, Jr., G. B. (1986). American voter turnout in comparative perspective. *American Political Science Review*, **80**(1), 17–43.

Roberts, K. W. (1977). Voting over income tax schedules. *Journal of Public Economics*, **8**, 329–340.

Romer, T. (1975). Individual welfare, majority voting, and the properties of a linear income tax. *Journal of Public Economics*, **4**, 163–185.

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

Siedler, T. (2010). Schooling and citizenship in a young democracy: Evidence from postwar germany. *Scandinavian Journal of Economics*, **112**(2), 315–338.