

The politics of opting out: explaining educational financing and popular support for public spending

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In this paper, we address two empirical puzzles: Why are cross-country differences in the division of labour between public and private education funding so large and why are they politically sustainable in the long term? We argue that electoral institutions play a crucial role in shaping politico-economic distributive coalitions that affected the original division of labour in education financing. In proportional representation systems, the lower and middle classes formed a coalition supporting the establishment of a system with a large share of public funding. In majoritarian systems, in contrast, the middle class voters aligned with the upper income class and supported private education spending instead. Once established, institutional arrangements create feedback effects on the micro-level of attitudes, reinforcing political support even among upper middle classes in public systems. These hypotheses are tested empirically both on the micro level of preferences as well as on the macro level with aggregate data and survey data from the ISSP for 20 Organization for Economic Co-operation and Development countries.

Keywords: education, political economy, redistribution, preferences, equality

JEL classification: I24, H52, P16

1. Introduction: the puzzle¹

Preferences for public policies are commonly modelled as a function of individual income, risk or sometimes ideological frames. Almost never is the choice modelled

¹Previous versions of this paper were presented at the SASE Annual Conference in Milan in June 2013, at the ECPR Joint Session of Workshops in Mainz in March 2013, at a workshop on skills and inequality at the University of North Carolina at Chapel Hill in November 2013 and at the Political Economy Seminar at the University of Paris I in December 2013. We thank the participants at these events for many helpful comments and suggestions. We are particularly grateful to Ben Ansell, Julian Garrizmann and Michael

as one between public and private alternatives. We will argue in this paper that the availability of private alternatives, of opting out, makes a big difference to the politics of public policies. In a range of policy areas—such as pensions, old age care, health-care, daycare and, our focus, education—public and private alternatives compete with each other. Borrowing a terminology from Hirschman, what matters then is not only ‘voice’ (voting) but also ‘exit’ (choosing private alternatives), and the latter, we argue, affects the former. Empirically, we observe a large variation in the share of private financing in social services such as education (see Figure 1). In some countries, education is provided and financed with public monies, whereas in others, voters seem happy to shoulder a large share of educational investments themselves. Moreover, these institutional settings are relatively stable over time, i.e. they most likely reflect underlying political equilibria. How can this be explained?

In this paper we argue that electoral institutions influence the formation of distributional coalitions, which in turn affect the division of labour between public and private sources of funding through a network logic. Once the composition of spending is ‘tilted’ in one direction or another, complementarities in private decisions to invest in education reinforce a particular structure of funding, which in turn affects individual preferences over public policies. The question of education financing matters because the structure of funding has notable effects on the distribution of spending, which in turn affects wage, income and wealth inequality (Busemeyer, 2014).

A stark implication of our model is that the relationship between income and support for public spending on education should switch sign depending on the electoral system and the composition of spending. In PR countries with large public systems, network effects transmitted through the fiscal system push high-income groups, who are concerned with high-quality education for their children, to push for more public spending in contrast to low-income groups, who are more concerned with current consumption. This is particularly true when the secondary and higher education systems are stratified, because this concentrates the benefits of educational spending on the rich (Ansell, 2008, 2010; Busemeyer, 2012). Conversely, in majoritarian countries with high levels of private financing, high-income groups who can shoulder substantial private costs for education will oppose public spending, because it raises taxes and undermines the returns on private investments, whereas low-income groups, who cannot afford private education, will favour more public spending that is *de facto* more targeted to these groups. This is particularly true when income inequality is high. To our knowledge, there is no existing model that has this implication, and it helps explain why, in Wilensky’s (1975) words, ‘education is different’ (p. 3) (although other policy areas may

Zemmour, three anonymous reviewers of this journal as well as Gregory Jackson, the chief editor of the SER, who read and commented in detail on multiple versions of the paper.

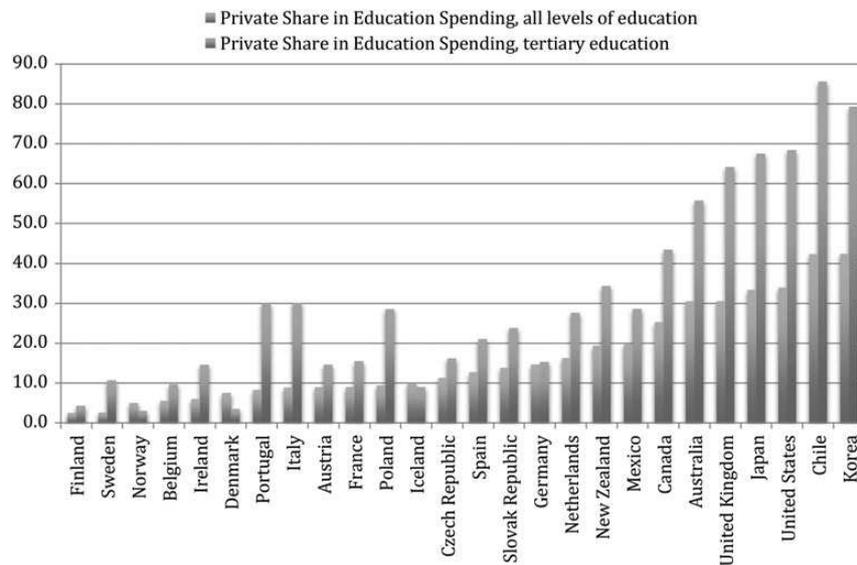


Figure 1 Share of education funding from private sources in OECD countries, 2007. *Source:* OECD, 2010: Education at a Glance, 233, 235.

increasingly resemble education). Our theoretical framework is rooted in the rational choice paradigm, but we add an important component to this approach by emphasizing the importance of social networks for individual choices (see also Abrams *et al.*, 2010). We test it on both macro-level spending data and micro-level public opinion in a large sample of Western Organization for Economic Cooperation and Development (OECD) countries.

2. Existing literature

After education had long been neglected in comparative political science and political economy, it has enjoyed growing scholarly interest in recent years (Busemeyer and Trampusch, 2011). The debate on Varieties of Capitalism played a crucial role in raising the interest of mainstream political science in topics such as the political economy of skills and training (Finegold and Soskice, 1988; Streeck, 1989; Hall and Soskice, 2001; Iversen and Soskice, 2001; Culpepper, 2003; Thelen, 2004). A few contributions recognize the importance of the connection between skill formation regimes and the welfare state (Estevez-Abe *et al.*, 2001; Iversen and Stephens, 2008; Busemeyer and Nikolai, 2010), but the exact nature of the causal mechanisms linking these two areas is still poorly understood.

Following Ansell (2008, 2010), we argue that the politics of educational investments can and should be treated as a contentious issue in the redistributive conflict between socio-economic classes similar to other social policies. In line with this

argument, Ansell's work as well as the work of others (Boix, 1997, 1998; Castles, 1989, 1998; Busemeyer, 2007, 2009; Schmidt, 2007) shows that the level and distribution of public investments in education are strongly shaped by partisan politics and changes in the balance of power between politico-economic interests. Private education spending has not been studied as extensively as public spending. Exceptions are Wolf (2009) and Wolf and Zohnhöfer (2009), who identify union density, partisan power and religious heritage as important determinants of differences in private spending on education.

More recently, scholars have moved from the macro to the micro level of individual attitudes towards education policies and educational choices. There is large literature on educational sociology and comparative education research on the individual and institutional determinants of educational *choices* as individuals move through the stages of their educational careers (for a recent overview and example, see Breen *et al.*, 2009). This literature provides important insights into how educational institutions affect patterns of educational stratification (e.g. Breen and Jonsson, 2005; Stocké, 2007; Pfeffer, 2008), but it does not look at policy preferences of (working-age) individuals with regard to the politically preferred design of education systems. The distinction between education policy preferences and actual choices over educations is important, however. New scholarship in comparative political economy and welfare state research has started to identify the most important individual and institutional determinants of education policy preferences (Busemeyer *et al.*, 2009; Ansell, 2010: Chapter 4; Busemeyer, 2012; Busemeyer and Jensen, 2012), building on earlier literature that studied the feedback effects of existing welfare state institutions on preferences (Svallfors, 1997, 2004, 2010; Andreß and Heien, 2001; Blekesaune and Quadagno, 2003; Jaeger, 2006, 2009). Although the empirical evidence is mixed, the general expectation of this literature is that institutions create positive feedback effects, contributing the long-term political sustainability of existing institutional arrangements. So private educational choices cannot be separated from educational policies, which in turn are affected by electoral preferences: education choices and policy preferences interact with, and reinforce, each other.

Our contribution to this literature is two-fold. First, we add to our understanding of the political and institutional determinants of cross-country differences in the division of labour in the financing of education. Specifically, building on Iversen and Soskice (2006), we focus on the role of electoral institutions shaping politico-economic distributive coalitions that are associated with particular cross-national patterns of educational investment. Secondly, we provide a game-theoretic analysis of individual educational choices when there is an option to opt out of the public system, and we show that this has implications for how we understand voter preferences for public policies. The existing research on preferences focuses on the cross-level interaction between attitudes and educational institutions (Ansell,

2010; Busemeyer, 2012; Busemeyer and Jensen, 2012), and we show that this interaction is a consequence of network effects in educational choices.

3. The argument

We propose in this section how the funding puzzle can be solved using an institutional network model of educational investment. We consider only democracies and the key institution is the electoral system. Yet the effects of the electoral system go through the strategically interdependent behaviour of voters, and before we can understand the macro-level effects of institutions, we therefore need to consider the micro-level logic. We differentiate preferences over funding system by income class but focus on the preferences of middle class voters under the assumptions that middle class parties are needed for a legislative majority and that this majority chooses the educational system (we modify this assumption below). We then proceed to explain how the electoral system ‘tips’ middle class preferences towards favouring either more private or more public spending, which in turn determines the relationship between income and preferences.

Our analysis refers to secondary and post-secondary education, since primary education is mandatory in all the countries we analyze and overwhelmingly publicly financed (even though there are some countries with a strong sector of independent primary schools). One reason why primary education is almost universally public is that there are strong positive externalities of primary education spending—it is a virtual requirement for all workers in a modern economy to have basic skills—so the middle and upper middle classes have a reason to always support public schooling, even for the lower classes. Since our compositional spending data include all educational spending, the private component never exceeds one-third of total spending, but it increases sharply as we look at secondary and especially tertiary education (see Figure 1).

3.1 *The individual choice over educational spending*

We assume that the typical middle class family has one or two children, where the adults have already acquired an education, but where their children have not. Parents are assumed to be altruistic towards their children and pay a significant portion of their children’s educational bill. The middle class voter now has two decisions to make: a private economic one and a political one. The economic one is how much to invest privately in their children’s education; the political one is whether to support public or private financing of education. We will show that the two decisions are interconnected and that individual preferences over educational policy depend on the private choices people make in investing in education.

We follow Ansell (2010) in assuming that low-income classes have a preference for public financing of education, since public subsidization reduces the marginal cost of education and enables children to acquire an education that many could not otherwise afford. The gains for the lower classes come via two main channels. First, if access to public education is universal, public financing has a redistributive component, since the benefit makes up a greater share of income for those at the lower end of the distribution.² Secondly, because the costs of private financing are inversely related to the ability of parents to put up collateral (wealth and earnings) for educational loans, the savings of lower income individuals from public subsidies are greater.

The logic for upper income classes is exactly the reverse. They pay more into a public system via taxes than low-income groups and their costs of financing their own children's education privately are lower. Furthermore, being highly educated themselves, they have an incentive to limit the supply of skills to maintain a high wage premium on education. While they want their own children to be educated to enjoy this premium, they have no interest in others being able to do the same. A privately funded system of education provides effective barriers to less affluent children, and private funding, therefore, raises the returns to education for the well-off.

The middle class is located between these two groups, both economically and in terms of policy preferences. On the one hand, a private system of financing reduces the tax burden to fund the education of the lower classes, and it creates a higher wage premium for children of the middle class if their cost of private funding is sufficiently low. Middle class voters also tend to have intermediate skills that are the most wage sensitive to an increase in the supply of skilled workers from the lower classes. On the other hand, access to credit is constrained for at least some in the middle class, and the cost of educational loans can be prohibitively high for many. Finally, some in the middle class benefit from the redistributive aspects of public spending. This could sway the middle class towards supporting public funding.

Given the pivotal position of the middle class, the preferred structure of funding depends critically on which side the middle class comes down on. So a key question is how individuals decide whether or not to support public spending on education. We propose that this choice depends on whether individuals themselves have an incentive to opt out of the public system by paying a substantial share of the costs of

²A reviewer raised the question of whether this is also true for higher education. We believe it almost certainly is for rich democracies. Thus, Sefton (1997) shows for the UK case (in 1993) that the ratio of spending per person in the bottom quintile group to that of the top quintile group is 0.7. If we then take into account the fact that in the UK in 1993 the top quintile received 41.2% of total household income while the bottom quintile received 7.5% (or 0.18 of what the top received), then it is clear that even a moderately regressive tax would be a net transfer to the bottom quintile.

education themselves. If so, they have little reason to support a tax-financed spending that mainly benefits those who stay in the public system. If they do not have a private incentive to opt out, they come to depend on the public system and will favour taxation to fund their children's education. What decides, then, whether individuals opt out?

We assume that choosing to pay for your children's education yields advantages in terms of school choice and quality. This is clearly the case for privately funded secondary schools and universities, but it also holds if there are economic barriers to entering the best public schools. The USA is a prime example because tuition and fees at public colleges are much higher for out-of-state students, so access to the best schools depends on ability to pay. In England public universities have discretion to charge fees up to a maximum of £9000 and the best do. A differentiated public system also induces wealthier parents to spend on private tutoring, summer schools, etc. There are, consequently, benefits of opting out, or at least supplementing public spending with your own money. If quality of education is a normal good, demand will be rising in income, whereas the costs of financing education privately will be falling in income.

Yet the affordability of opting out for any individual depends on how many others opt out. Since affordability is declining in taxes paid into the public system, for any individual to partially or fully opt out of the public school system and pay (some) for herself, a sufficient number of other parents must have done the same. This is reinforced by a rising skilled wage premium as lower income parents are increasingly priced out of higher education.

We can formalize this logic using a simple network or strategic complementarities game (originally outlined in Schelling, 1978). The idea is that for any individual to opt out of the public system and pay for herself, a critical mass of other parents must have done the same. When all or most people send their children to public schools and pay for this through taxes, only a small number of very wealthy people will opt out. But if a substantial number of parents pay for private alternatives, the tax burden of the public system declines, the wage premium increases and more people can afford to opt out and so on. Furthermore, a smaller public sector might indicate a selection effect in the sense that the quality difference between public and private schools increases as more and more of the wealthy opt out. The point at which it is more attractive for an individual to opt out than to stay put is what Shelling calls a critical mass point. The critical mass point will be low for the wealthy but will rise as income declines. For some low-income people, this point will never be reached and they will, hence, never support a private system.

If the critical mass points are a function of income, it is sensible to conjecture that the distribution of these points is inversely related to the income distribution. Since the income distribution is right skewed, the distribution of critical mass points will be left skewed, so that there is an in-built asymmetry that favours public over private

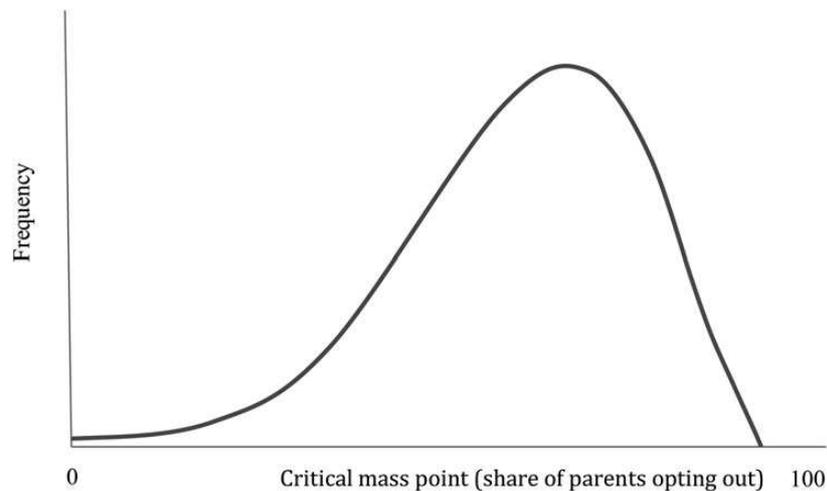


Figure 2 Distribution of critical mass points in choosing private education (the share of people opting out of the public system needed for a particular individual opting out).

provision. This is illustrated in Figure 2 (although our conclusions do not depend on the skew). In the left tail, there are just a few wealthy people who will opt out (when others do not), but then the numbers increase more steeply until one reaches low income groups where few are able to opt out even when most others do. Again, some will likely never opt out regardless of how many others do, so a fully private system is infeasible. This means that the share opting out may always be less than 100%.

Figure 3 is simply the distribution of Figure 2 transformed into a cumulative probability function, where the x -axis measures the expected share of individuals who opt out of the public system, while the probability of an individual opting out is recorded on the y -axis. Since the probability of choosing private alternatives must be equal to the actual share of people who do, equilibria are located on the 45-degree line. Based on the distribution in Figure 2, there are three such equilibria. One of these, the one in the middle, is unstable, however. This is the ‘tipping point’ because any small deviation from this point will set off a cascade of changes until one of the stable equilibria is reached (as suggested by arrows in the figure).³

³We have emphasized taxes and wage premia as the main mechanism creating strategic complementarities between educational choices (as people opt out of the public system, taxes to finance the public system fall, and so do the costs of opting out, etc. at the same time as the skill wage premium rises), but there may be a reinforcing social network effect. As more people opt out, the social acceptance of private schooling rises, and children left behind in the public system will tend to have a higher incidence of social and behavioural problems (‘creaming’), which in turn undermines

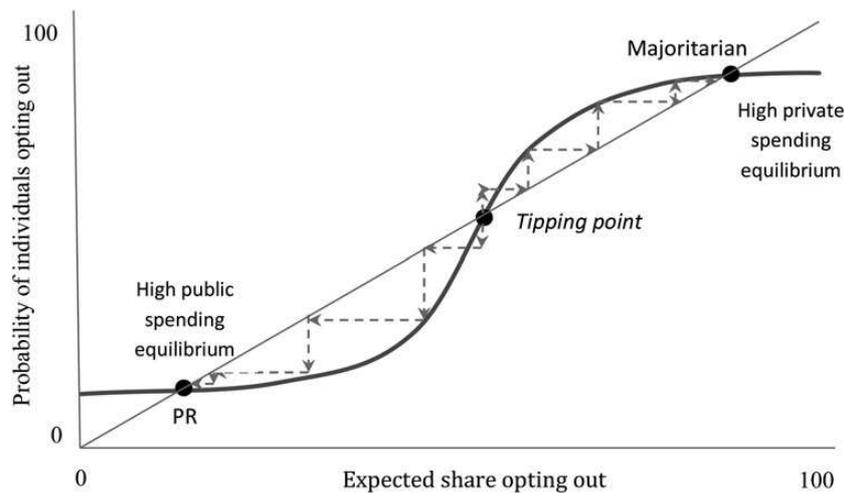


Figure 3 Network game of educational choice with two stable equilibria.

Note that the location of equilibria may vary across countries because the distribution of critical mass points varies. This will be the case if the distribution of income varies, but the structure of educational borrowing, regulation of fees and so on also matter. Our argument is thus fully compatible with a continuous distribution of private and public funding as opposed to only two outcomes.

3.2 Preferences for educational spending

Given that the composition of spending is so different across countries, we would expect the number of people above their critical mass points, where they oppose public spending, to vary systematically. As illustrated in Figure 3, the number will be greater in a system where most choose private schooling than in a system where most choose public schooling. Empirically, we can capture the shares opting out by the division of private and public spending, so that average support for public spending should be rising in the share of total spending that is public.

But there is another key implication of our argument, which is that the relationship between income and preferences for public spending varies with the composition of spending. While it is usually the case that those with high incomes who have

middle class support for the public system, etc. Of course, all these complementarities work to *increase* public spending if we are to the left of the 'tipping point' in Figure 3.

reached, or are above, their critical mass point will prefer less public spending,⁴ those who are clearly below this point will prefer to maintain public financing. In the short- and medium term, the share of individuals opting out is given exogenously from the perspective of individuals. If education is a normal good (demand is rising in income), when the share of public financing is high, higher income is therefore expected to be associated with *more* support for public education spending. Since even high-income people will fall short of their critical mass point, they are effectively deprived of the opportunity to opt out and the only way to satisfy their demand for more and better education is to vote for an improvement in the quality of public higher education. In systems with a high private share, on the other hand, richer people will prefer to spend additional income on private education and oppose taxes for public education.⁵

The contingent relationship between income and preferences for spending is illustrated in Figure 4. Even though there are no inherent differences in the utility functions of people in different systems—say, because of political culture or beliefs about the right to education—at high levels of private spending, the support for public spending is declining in income for most of the income scale, whereas at high levels of public spending, the support for public spending is increasing in income for most of the income scale. No other theory of educational spending that we are aware of has this implication.

Note that the slope for the private equilibrium is drawn to be steeper, suggesting stronger class conflict. This is because those with low income cannot opt out of the public system and because public spending becomes *de facto* more redistributive as those with higher incomes do. In public systems, in contrast, those with lower income still benefit from the redistributive aspects of educational spending, even as they may oppose educational spending on higher education at a level that would satisfy the high expectations of middle- and high-income groups. An intriguing implication of our argument is, therefore, that class conflict, and hence partisan differences, are muted in public systems.

This may also suggest the possibility of centre-right coalitions to fund higher education in public-financed systems. But for this to be true, the system must be firmly entrenched, and it does not speak to long-term institutional preferences.

⁴A potential exception is when public spending on education is seen by the wealthy as insurance for their children in case they can no longer afford their education. We think this insurance motive is likely to be very weak, in part simply because movement from the private system back to the public is rare.

⁵Ansell (2008) has suggested that the support among the rich for public spending on higher education is higher when provision is low. But this assumes that financing is public, and then we agree since the rich prefer higher spending on education, especially when provision is low and disproportionately benefits the rich. But as long as educational spending is redistributive (see footnote 1), a higher private spending is preferable to public spending.

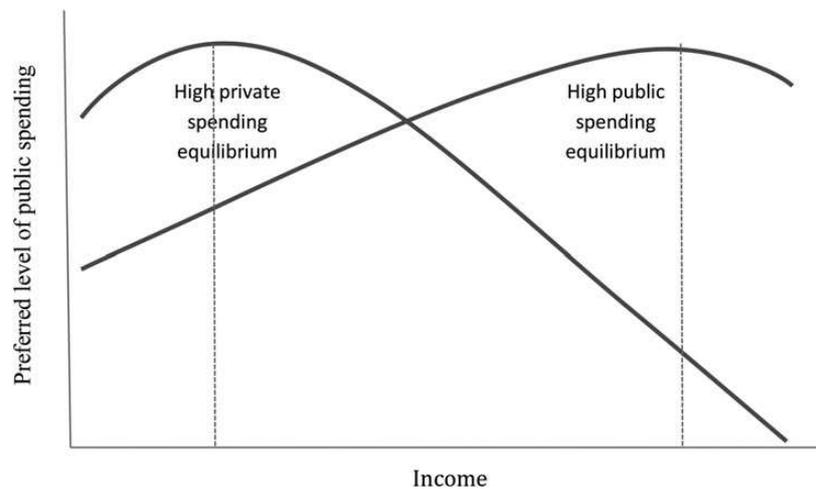


Figure 4 Relationship between income and preferences for public spending on education depending on the composition of spending.

As we argue in the next section, in choosing a funding system the poor and the lower middle classes will prefer a public system when the burden of financing the system can be disproportionately placed on the wealthy, whereas the rich and upper middle classes will prefer a system that offers better private options. So if the right pushed for a fundamental change in the structure of funding in public-financed systems, we would expect the middle class to oppose.

3.3 *The choice of funding system in the post-war period*

As we argued above, once a funding system is in place, it is likely to enjoy broad middle class support because of positive feedback effects, especially in public systems where most private education is squeezed out. But, again, these preferences are *induced* by entrenched educational institutions; they do not reflect 'pre-strategic' preferences over the educational system itself. So setting up the system is likely to bring out the distributive conflicts we identified, following Ansell, in Section 3.1. Since the middle class can go either way, a critical question is whether there are institutional incentives for the middle class to lean in one direction or the other. This would in effect solve the tipping point game.

Most of the rise in secondary and tertiary education occurred after the transition to democracy was completed in the early 20th century (in most of our cases). While it has been argued that prior religious control of education shaped public subsidization of private primary education (Ansell and Lindvall, 2013), a critical variable for our purposes is simply whether political coalitions were in place that favoured

rapid growth in public spending, independent of whether some of this spending was funnelled through religious schools. Before the Second World War as well as in the early post-war period, national systems of public education were hotly contested partisan affairs (Iversen and Stephens, 2008; Busemeyer, 2014). A key democratic institution that shaped the outcome was the electoral system. Proportional representation (PR) countries in continual Europe and Scandinavia quickly adopted almost entirely publicly funded systems, although this was true to a somewhat lesser extent where Christian democracy and the church remained strong. In contrast, majoritarian England and its settler colonies reserved a much larger role for private schools and private spending on education.

One way to understand this contrast is suggested by Iversen and Soskice's (2006, 2011) model of coalition formation, which implies that electoral institutions influence the likelihood of centre-left or centre-right coalitions. The argument is that in electoral systems based on PR, the middle class, represented by a centrist party, is more likely to enter a coalition with the political representatives of the low-income classes. This prediction rests on the notion that the rich can be forced to pay the lion share of public spending, usually outweighing any negative effects of such funding on the wages of the educated middle classes. As we have argued, once this pro-spending coalition raises taxation and forces up the cost of opting out for the rich, the network logic kicks in and a stable equilibrium emerges where private schooling is merely a niche for the very wealthy. Public funding takes over.

In majoritarian systems the dynamic is different. Here the middle class typically has to choose between two parties, both appealing to the 'median voter' but each incorporating distinct constituencies of either lower or higher income voters. In this setting, the middle class has to be concerned what happens if parties deviate from their median voter platform, and here the calculus is different from the PR case. The centre-left party, if it deviates, cannot be prevented from adopting a public system that imposes high taxes on the middle class (in addition to the upper classes), whereas if the centre-right party deviates it will cut taxes and thus partially offset the loss of public spending. This enables more in the middle classes to pay for their own children's education. Alternatively, centre-right parties will allow some mixture of private and public financing that will give the middle classes a measure of choice while keeping down costs (since those with higher income do not use the public system). As long as taxes are kept relatively low, and skilled wage premia high, a significant number of upper income parents will choose private alternatives. This encourages middle and upper middle class groups to do the same, setting in motion the network logic we have modelled.

Our macro-level argument thus builds on the notion that public funding is initially a matter of traditional partisan politics. This continues to be true in majoritarian systems where the left is more likely than the right to support an increase in public spending. But there is a twist to the story in PR systems because of the

network effect. If the spending equilibrium is firmly shifted towards a public system, the middle- and upper middle classes concerned about high-quality education have no choice but to support better public schools. This in turn pushes right parties to favour more spending, despite their ‘first-best’ choice being low spending. So PR tips the system to the left in Figure 4 above, even as it does not preclude subsequent centre-right compromises over public spending intended to improve the quality of higher education (as opposed to more redistributive spending targeted to the lower and middle classes). This logic does not necessarily extend to other redistributive policies. Yet, with more private alternatives being introduced in pensions and healthcare this conclusion might change.

Summarizing, our model implies the following testable hypotheses:

Hypothesis 1a (Macro level): We expect electoral institutions to influence patterns of spending on the macro level. The public share of education spending is hypothesized to be higher (lower) in PR (majoritarian) countries, controlling for other determinants.

Hypothesis 1b (Macro level): Government partisanship is expected to matter, but only in the long term because in the short term government incentives are shaped by the inherited funding system and associated voter preferences. Only if governments have long-time horizons can they pursue ‘first-best’ partisan preferences, and long-term partisanship is itself conditioned by electoral institutions.

Hypothesis 2a (Micro level): The composition of funding has feedback effects on preferences for public education spending. In public-dominant educational systems we expect an increase in income to be associated with higher levels of demand for public education provision, whereas the opposite is expected in private-dominant educational systems (this is a cross-level interaction effect).

Hypothesis 2b (Micro level): The composition of funding also has feedback effects on average levels of support for increasing public education spending. In public systems, average levels of support should be higher, whereas the opposite holds in private systems.

The next section seeks to test these implications.

4. Empirical analysis

Following the theoretical discussion, we test our argument in two steps. First, we analyse the macro-level determinants of the share of private spending on education to determine whether electoral institutions are associated with different levels of private financing. Secondly, we study how electoral institutions feed back into public preferences and attitudes at the micro level. The second step is essential to our argument since it tests the causal mechanism of the network model that we introduced above.

4.1 Data

For the macro analysis, we largely rely on the Comparative Political Dataset compiled by Armingeon *et al.* (2011). Additional data on the public share in education funding are taken from the OECD Education Statistics Database (accessed via OECD.stat). Our dependent variable is the public share of education spending (not spending as percentage of gross domestic product (GDP) as is common in existing scholarship (Castles, 1989, 1998; Busemeyer, 2007, 2009; Schmidt, 2007; Ansell, 2008, 2010)). The most important independent variable is an indicator of the type of electoral system given in Armingeon *et al.* (2011), based on previous work by Huber *et al.* (2004). A value of '0' indicates a PR system, a value of '1' a modified PR/mixed system and '2' a single-member, simple plurality system.

We control for several alternative explanations. Two variables are designed to capture the power resources of the political left. Wolf (2009) identifies union density as an important positive determinant of the public share in education funding. Unions have an interest in promoting public instead of private education in order to ensure open access to education for their membership. A related control is a measure of (short-term) government partisanship (also from Armingeon *et al.*, 2011), for which higher values indicate a more left-ward-oriented government. The standard expectation is that a more left-ward-oriented government is associated with a larger public share, but short-term partisanship may not matter much because the policy (network) feedback effects reduce, or even reverses, partisan differences once a particular public/private division of labour in education financing is established.

We also include gross enrolment levels in tertiary education in proportion to the size of the typical age cohort in education (taken from the UNESCO database of education statistics) as a measure of demand. The expectation is that higher levels of enrolment should be associated with higher *levels* of spending, although it may or may not spill over into a higher share of public spending depending on the elasticity of private demand. Relatedly, we control for the total size of the public sector [total outlays as percentage of GDP from Armingeon *et al.* (2011)], because a larger public sector may capture political forces that are also important in explaining the public share of educational spending, yet not captured by any of our other controls. The causal relationship between these two variables is clearly ambiguous, but including total public spending helps us control for the effect of unobserved variables and therefore reduces potential problems of omitted variable bias (the results are substantively unaltered if we exclude this variable).

Finally, we seek to control for the historical role of the Catholic Church in the development of educational systems in some countries (Ansell and Lindvall, 2013) by including the population share of Catholics for the critical period from the turn of the 19th to the 20th century (taken from Barrett *et al.*, 2001). The

expectation is that a larger share of Catholics should be associated with a lower share of public funding and public education spending more generally (Castles, 1989; Wolf and Zohlnhöfer, 2009). However, it is important to remember that in many European countries with a strong Catholic heritage, independent religious schools in the primary and secondary education sector are actually financed with public monies (e.g. in France, Belgium, Italy and Ireland).

For the micro-level survey data, we use the ISSP Role of Government IV data. Fieldwork for this survey was administered in 2005/06. The ISSP data are of high quality and available for a large number of countries, and while the survey does not contain a question that specifically asks individuals for their preferences regarding the public/private division of labour in education financing, it contains one question that comes as close as any survey we are aware of⁶:

Listed below are various areas of government spending. Please show whether you would like to see more or less government spending in each area. Remember that if you say ‘much more’, it might require a tax increase to pay for it’. (Government should spend money: Education)

Respondents’ answers are coded in five categories (from 1 ‘Spend much more’ to 5 ‘Spend much less’). We collapsed the five categories into a binary categorical variable that takes the value ‘1’ if respondents state that government should spend ‘more’ or ‘much more’ on education and the value ‘0’ in the remaining cases. The advantage of collapsing the five categories into two is that results of the statistical analyses are much more straightforward to interpret, while it does not affect the substantive findings.

A disadvantage of the question wording is that it does not distinguish between different types of education (academic, vocational, basic, etc.), and it is not specifically about the division of labour between public and private sources of funding. Yet the assumption we have to make for this question to be a good proxy for our theoretical variable is fairly weak. For preferences for public spending to be a good proxy for preferences for the share of public spending, we simply have to assume that they are positively correlated. To the extent that some who want more spending also prefer a smaller public share, or vice versa, it will attenuate the estimated effects of the observed variable—which is to say, it would make it harder to confirm our hypothesis—but it would not bias the results in the wrong direction.

⁶The ISSP survey also contains a second question that we considered to use: ‘On the whole, do you think it should or should not be the government’s responsibility to give help to university students from low income families?’ Compared with the alternative above, this question is less about public spending as such, but more about redistribution, since it asks specifically about government support for students from low income families. In any case, the core findings of this paper (in particular, the negative cross level interaction between income and the existing division of labour) can be replicated using this alternative question (results available on request).

We next discuss our key explanatory variables. The first is income, given in income deciles in order to make relative income comparable across countries. As our model implies, without taking institutional context into account, we do not expect income to have a positive or negative significant effect on support for public education spending. Therefore, we include a cross-level interaction term between income and the prevailing private share of education spending. Furthermore, we include a number of control variables. In contrast to income, educational background is expected to have a positive impact on support for more education spending. Having gone through a longer education may be an expression of a strong preference for such education, also for one's children. With regard to age, we expect a curvilinear relationship: individual support for education spending increases up to a certain age, either because individuals are in education themselves or (expect to) have (young) children. Older people, in contrast, most likely prefer less spending on education and more on other social policies (Busemeyer *et al.*, 2009). We include gender as an additional control. Since women are now more likely than men to attend college, yet still earning less than men, we may expect them to favour more public spending. In addition, we include a dummy variable that indicates whether respondents have children or not.⁷ The expectation is that having children increases support for education spending. Since there might be important differences in the impact of macro-level factors between parents and non-parents, we also split the sample in order to assess whether the effect of macro variables varies across subgroups. Finally, we include a number of categorical indicators of labour market status (full-time employed is the base category).

At the macro-level we control for the current level of public education spending to adjust for differences in the *status quo*. In addition, we include the current level of income inequality [the net Gini index of inequality of household income taken from Solt (2009)]. In line with the standard Meltzer and Richard (1981) model, we expect inequality to be associated with a higher level of average support for public spending. The logic is that more than half have a below-mean income and will demand more spending when their income falls. We include the net Gini instead of the market inequality because the survey question asks about preferences for a change in spending, and here it is the post-fisc distribution that matters.

Because of problems of data availability, the composition of the two samples in terms of countries varies a bit. For the macro level analysis, we cover Australia,

⁷To be more precise, the variable in the ISSP dataset (HHCYCLE) captures the current composition of the respondent's household. Thus, respondents living in households with children are coded '1' and '0' otherwise. This does not take into account individuals with children not living with their parents anymore. Therefore, our estimate could underestimate the share of respondents with children attending university, but unfortunately, there is no better measure available in the dataset.

Austria, Belgium, Canada, Denmark, Finland, France, Greece, Ireland, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the US and the UK. Germany and New Zealand had to be excluded due to missing data either for private spending on education or for tertiary enrolment. The period for which we have complete data is 1997–2008, although the unbalanced panel dataset also contains some observations for countries before 1997. The ISSP dataset includes Germany and New Zealand, but excludes Austria, Belgium, Greece and Italy. To maximize the number of level-2 units (countries), we also include three Eastern European countries (the Czech Republic, Poland and Hungary). Yet, the results do not differ much whether we include these or not.

4.2 *Methods*

The analysis of aggregate data poses serious, but well-known, methodological challenges. Pooled time-series data are often plagued by serial autocorrelation of error terms within countries, panel-specific heteroskedasticity and contemporaneous correlation across units (countries) (Beck and Katz, 1995, 1996; Kittel and Winner, 2005; Kittel, 2006; Franzese and Hays, 2008). In our case the problem is aggravated by the fact that some of the independent variables, most importantly the electoral system and the historical share of Catholics, do not change over the period we consider. Therefore, the effects of these independent variables would be suppressed if country-fixed effects are used to pick up any unobserved country-specific confounders. Our (imperfect) solution to this problem is (a) to provide a clear theoretical argument on the causal mechanisms linking electoral systems and policy output (see above) and (b) to provide a large number of different model specifications to show the robustness of the findings.

More specifically, we employ three different model specifications: (a) A model that uses panel-corrected standard errors (PCSEs, see Beck and Katz, 1995, 1996) as well as an AR(1) process to correct for serial autocorrelation and a time trend variable. This model also includes a time trend variable to deal with the potential problems of non-stationarity. (b) A model with PCSE and a lagged dependent variable (Beck and Katz, 1995, 1996) that takes account of autocorrelation, but suppresses the explanatory power of other independent variables (Achen, 2000). (c) A generalized least squares (GLS) model combined with an AR(1) process to correct for autocorrelation of error terms.

With regard to the micro-level analysis of preferences, we apply a simple multi-level logit regression. This model includes macro- and micro-level variables, taking into account the multi-level structure of the data when estimating standard errors (individuals nested within countries). Our theory predicts an association between macro-level variables and average levels of support for education spending, where average levels in the dependent variable are conditioned by macro-level contexts,

Table 1 Macro level: DV: proportion of public spending on education

Dependent variable	Public share of education funding		
	(1)	(2)	(3)
Model specification	PCSE AR(1)	PCSE LDV	GLS AR(1)
Public share, lagged level		0.91*** (0.041)	
Government partisanship	0.13 (0.24)	0.013 (0.12)	0.098 (0.16)
Union density	0.13** (0.054)	0.0075 (0.011)	0.18*** (0.055)
Public spending, % of GDP	0.055 (0.079)	0.063*** (0.015)	−0.015 (0.072)
Gross tertiary enrolment	0.069 (0.048)	0.00046 (0.014)	0.040 (0.028)
Share of catholics, ca. 1900	0.059** (0.027)	0.0024 (0.0038)	0.064** (0.026)
Majoritarian electoral system	−4.89*** (1.90)	−0.90* (0.47)	−3.70*** (1.25)
Time trend (years)	−0.20 (0.13)		
Constant	4.85* (257)	4.94 (3.18)	78.67*** (4.36)
Observations	288	282	288
R ²	0.948	0.955	
Number of countries	19	19	19

Standard errors in parentheses.

*** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$.

which is equivalent to a random intercept model. The second empirical implication of our model is an association between the private spending share and the income effect (cross-level interaction), which is equivalent to a random-slope model.

4.3 Findings: macro level

Table 1 presents the findings from the macro-level analysis of the public spending share. The table shows that electoral institutions indeed have a significant impact on the public share in education financing in the expected direction (Hypothesis 1a). The public share is significantly lower in majoritarian systems. The variable on electoral institutions is the only one that is robust across all model specifications. The predicted effect of moving from a full PR to a full majoritarian system (recall from above that this indicator has three categories) is a reduction in the public share in spending of 9.8 (model 1), 9.9⁸ (model 2) and 7.4 percentage points (model 3). The mean of the public spending share in the sample is 88.8 with a standard deviation of 8.2. Thus, the predicted effect has a magnitude of about 1 SD.

The control variables behave largely as expected. Union density has a positive and sometimes significant effect as in Wolf (2009). A larger public sector is also

⁸This estimate is obtained by the following formula: coefficient of independent variable/1 − coefficient on lagged dependent variable, as recommended by Kittel and Winner (2005) when using an LDV specification.

associated with a higher share of public spending on education. In addition, we find some evidence for a positive association between gross tertiary enrolment and the public spending share, but it is not statistically significant. There is a statistically significant association between the share of Catholics and the public spending share, but, contrary to expectations, it is *positive* (Wolf and Zohlnhöfer, 2009, have a similar finding). The reason for this puzzling association may be that, as mentioned above, independent religious schools in a number of Catholic European countries are actually financed with public monies. In any case, the association between electoral institutions and the public share remains robust and significant.

Government partisanship (left-oriented governments score higher on this indicator) tends to have a positive effect, but it is not statistically significant. However, it is important to remember that electoral institutions also influence the predominance of particular partisan coalitions in the long run (Iversen and Soskice, 2011). Figure 5 confirms this by displaying a number of bivariate scatterplots between the long-term average cabinet share of conservatives and social democrats, respectively. A higher share of social democratic government parties is negatively associated with the private share of education funding, whereas the opposite holds for conservative government parties. These figures confirm that there *is* a strong relationship between partisan politics and education policies (Busemeyer, 2007, 2009, 2014; Iversen and Stephens, 2008; Wolf, 2009; Ansell, 2010), but it holds for the long term rather than the short term, and it is conditioned by electoral institutions (Hypothesis 1b).

In Table A1 in the online appendix, Supplementary data, we look at determinants of private spending on higher education (as percentage of GDP) instead of the share of public spending as a robustness check. As before, the variable on electoral institutions is the only one that is robust and statistically significant across all model specifications. The average predicted effect (from models 1 and 3, Table A1) of a change from full PR to full majoritarian system is an increase in private spending on higher education by 0.4 percentage points. The sample mean for this variable is 0.33% of GDP with an SD of 0.4. Again, the predicted effect has the magnitude of about 1 SD.

4.4 Findings: micro level

In Table 2, we look at the association between the prevailing division of labour in education financing and individual-level support for increased public spending on education. In general, the micro-level control variables perform as expected. Without taking into account cross-level interaction effects, income does *not* have a significant impact on individual-level support for public education spending (model 1, Table 2). This is worth reiterating because no other major policy area displays this kind of lack of association between income and preferences.

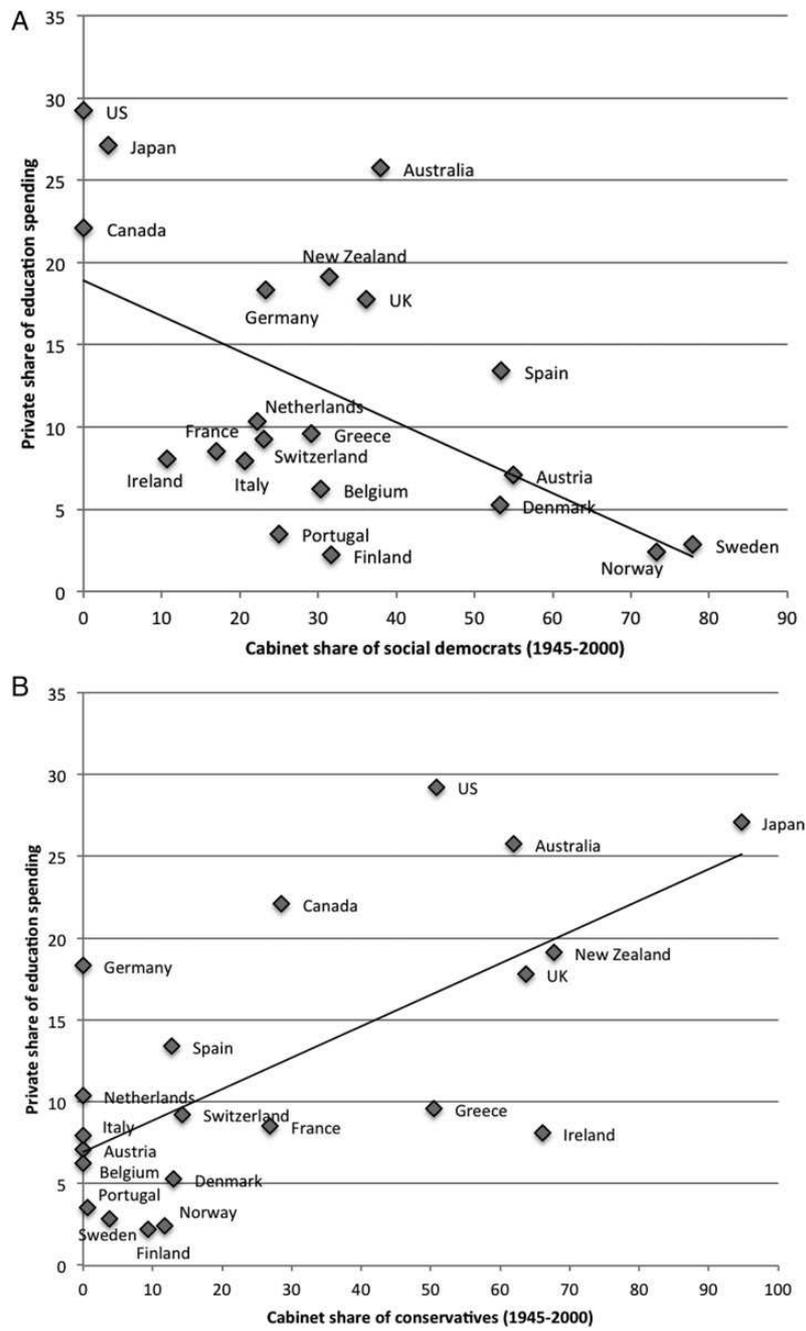


Figure 5 Partisanship in the long term and the private share in education financing. Panel A. Private spending share and social democrats. Panel B. Private spending share and conservatives.

Table 2 Determinants of micro level support for public education spending

Dependent variable	Support for more or much more government spending on education (= 1) vs. the same or less (= 0)					
Subsample?	(1)	(2)	(3)	(4)	(5) Children	(6) No Children
Micro-level variables						
Income	0.00016 (0.0098)	0.052*** (0.018)	0.0033 (0.0099)	0.047*** (0.017)	0.055* (0.029)	0.061*** (0.023)
Gender (female = 1)	0.055 (0.036)	0.057 (0.036)	0.061* (0.036)	0.064* (0.037)	0.167** (0.067)	0.014 (0.043)
Having children	0.31*** (0.04)	0.31*** (0.04)	0.31*** (0.04)	0.30*** (0.04)		
Years of education	0.029*** (0.005)	0.028*** (0.005)	0.030*** (0.005)	0.028*** (0.005)	0.018* (0.009)	0.031*** (0.006)
Age	0.016** (0.0065)	0.017*** (0.0065)	0.018*** (0.0067)	0.018*** (0.0067)	0.045*** (0.017)	0.011 (0.010)
Age, squared	0.00014** (0.00007)	0.00015** (0.00007)	0.00015** (0.00007)	0.00016** (0.00007)	0.00046** (0.0002)	0.00010 (0.00007)
Part time employed	0.11* (0.062)	0.11* (0.062)	0.098 (0.064)	0.099 (0.064)	0.15 (0.10)	0.034 (0.079)
Less than part time, out of labour force	0.041 (0.063)	0.045 (0.063)	0.030 (0.064)	0.037 (0.064)	0.058 (0.10)	0.093 (0.081)
Unemployed	0.056 (0.099)	0.075 (0.10)	0.042 (0.10)	0.062 (0.10)	0.046 (0.17)	0.079 (0.12)
In education	0.52*** (0.14)	0.56*** (0.14)	0.51*** (0.14)	0.54*** (0.14)	0.79*** (0.25)	0.47*** (0.17)
Retired	0.037 (0.068)	0.050 (0.068)	0.029 (0.069)	0.046 (0.069)	0.30 (0.23)	0.052 (0.074)
Macro-level variables and cross-level interactions						
Public education spending, % of GDP	0.32** (0.15)	0.32** (0.15)	0.33** (0.14)	0.34** (0.15)	0.33** (0.15)	0.31** (0.15)
Socio economic in equality (Gini)	0.12*** (0.030)	0.13*** (0.030)	0.14*** (0.033)	0.15*** (0.033)	0.13*** (0.031)	0.13*** (0.031)
Private share of edu cation spending, all levels	0.038*** (0.014)	0.028** (0.014)			0.020 (0.015)	0.030** (0.015)
Income*private spending share		0.0029*** (0.00084)			0.0031** (0.0014)	0.0033*** (0.0011)
Private share of edu cation spending, ter tiary education			0.022*** (0.0077)	0.017** (0.0080)		

Continued

Table 2 Continued

Dependent variable	Support for more or much more government spending on education (= 1) vs. the same or less (= 0)					
Subsample?	(1)	(2)	(3)	(4)	(5) Children	(6) No Children
Income*private spending share (tertiary)				0.0015*** (0.00041)		
Constant	1.59 (1.25)	1.80 (1.27)	2.15* (1.23)	2.29* (1.25)	2.13 (1.37)	1.68 (1.33)
Variance components						
Level 2 intercept standard deviation	0.41 (0.067)	0.42 (0.068)	0.41 (0.068)	0.412 (0.069)	0.412 (0.072)	0.429 (0.071)
Intra class correlation	0.049 (0.015)	0.050 (0.016)	0.048 (0.015)	0.049 (0.016)	0.049 (0.016)	0.053 (0.017)
Log likelihood	10 664	10 657	10 225	10 218	3526	7130
Observations	18 971	18 971	18 218	18 218	6690	12 281
Number of countries	20	20	19	19	20	20

Standard errors in parentheses.

*** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$.

Educational background (years of education) has a positive, robust and statistically significant impact on support for more education spending. Women tend to be in favour of more education spending, but this effect is not statistically significant. We also find evidence for the expected curvilinear relationship between age and support in the case of support for public education spending. Labour market status is not a strong predictor of individual support for more education spending, except for the (unsurprising) fact that individuals who are still in the education system support further spending increases.

With regard to macro-level control variables, we find that the existing level of public education spending has a negative effect on support for further increases. We also find a robust positive and statistically significant association between existing levels of socio-economic inequality and average support for increasing public education spending. The predicted change in support for public education spending as a result of an increase in inequality from 22 to 36 points on the Gini index (roughly the difference between Sweden and the US) is an increase from the level of 53 to 83%. This is consistent with the notion that educational spending is redistributive and that the borrowing costs of private alternatives increase as income (and ability to provide collateral) declines.⁹

Our key finding is that there is a strong cross-level interaction between income and the private spending share.¹⁰ That is, the impact of household income on support for public education spending varies systematically with the prevailing private share of education spending. In public education systems, becoming richer is associated with an increase in support for higher public education spending, whereas it is associated with a *decrease* in support in private systems. This cross-level interaction is presented graphically in Figure 6, which shows the change in the marginal effect of a one-unit increase in income (at the mean) as the private spending share rises. The figure shows that income has a positive effect on support for public education for low levels of private spending share, although the effect is statistically significant only when the private spending share is close to zero. In contrast, the marginal effect of income turns negative and is statistically significant when the private spending share is larger than 20%. A similar cross-level interaction effect can be observed for the case of private spending for tertiary education only (model 3, Table 2).

⁹The estimate is based on model 1 from table 2. Calculations are based on simple logit regressions instead of multi level models, because the `SPost` commands in Stata do not work with the latter.

¹⁰As an alternative, we included a cross level interaction between individual income and inequality on the macro level. Because inequality and the private spending share are related, this cross level interaction produces similar results: increases in income are associated with lower support for public spending in inequalitarian societies and vice versa. Detailed results can be provided upon request.

The reversal in the effect of income is quite remarkable. The fact that the positive effect in public systems is relatively weak likely reflects that public spending is a composite of spending on lower-level education and subsidies targeted to poorer students, and spending on higher education and measures to ensure high quality (such as low teacher–students ratios). The latter is obviously more important to those with higher income. We would have liked to be able to differentiate clearly between the redistributive and ‘quality’ aspects of educational spending in public systems, but the data do not allow us to do that. Thus, the effect of income on support for public spending includes preferences for both targeted and non-targeted spending. For systems with a large private component, in contrast, high-income individuals will tend to view all public spending as redistributive.

A second key finding is that there is a robust and significant association between the existing private share in education spending and average levels of support for increasing public spending. This association holds independent of whether we use the private spending share for all levels of education (models 1 and 2, Table 2) or focus on tertiary education only (models 3 and 4, respectively). Increasing the private spending share from 5% (roughly the level of Norway) to 30% (the level of the US) is predicted to be associated with a decrease in support for more public education spending from 77 to 63%. A similar simulation for the case of private spending on tertiary education yields a reduction in support for public spending from 79 to 60%. Of course the network model implies that the causality runs in both directions since preferences for public spending will increase spending, even as they are also affected by such spending. Our data (from one year) cannot tease out this recursive relationship, but the results are fully consistent with the equilibrium predictions of the model.

As a further robustness test, we split the sample in two: parents (model 5) and non-parents (model 6) in order to address the question whether the effects are stronger in the first group compared with the second. The findings in the table show that by and large, the effects remain similar in direction and in terms of statistical significance in both subgroups despite the significant reduction in number of cases for the subgroup of individuals with children (although the coefficient estimate of the private spending share turns insignificant in model 5 of Table 2).

5. Discussion and conclusions

This paper addressed two pressing research puzzles: Why do countries vary significantly with regard to the share of private spending on education and why are these differences politically sustainable in the long term? Expanding the argument of Iversen and Soskice (2006), we argued that electoral institutions play a crucial role in shaping distributive coalitions. In PR systems, the centre party representing the median voter can align with the representatives of the low-income classes to

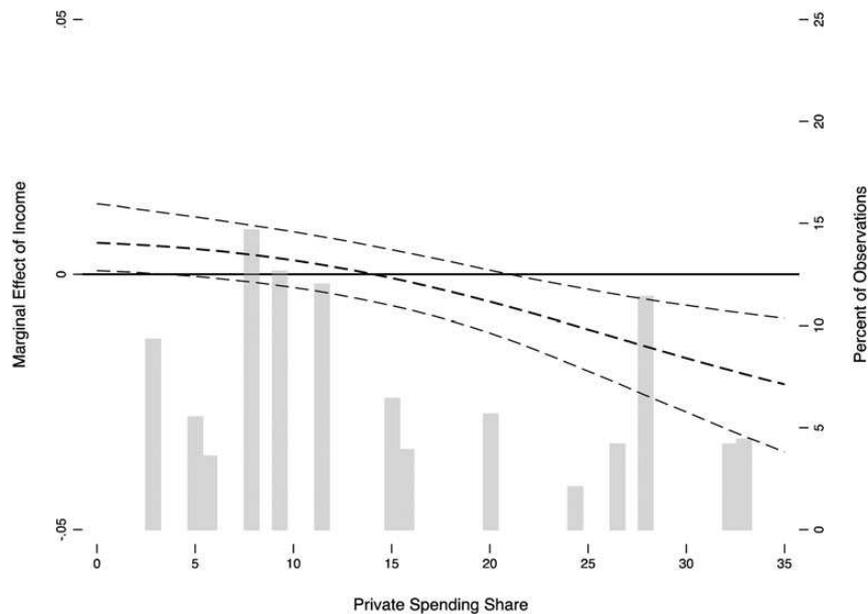


Figure 6 Graphical representation of the cross level interaction between income and private spending share, dependent variable: support for public education spending.

push for an education system in which the state dominates as provider and financier of education. In majoritarian systems, the median voter forms a coalition with the party of the upper income classes, leading to a larger share of private funding of education. Once in place, the funding system affects individual preferences for public spending because the greater the share of public spending, the more expensive it is to opt out. If educational spending is a normal good, this means that middle- and upper middle classes will vote for more public spending when such spending is high, but vote for less when it is low. These feedback effects explain why distinct spending equilibria are politically sustainable in the long run. We assessed the empirical validity of the argument both on the micro level of preferences and on the macro level of aggregate data, and found considerable support for both conjectures.

Our theoretical perspective is rooted in the rational choice paradigm, although we underscore the social character of political preferences and highlight the interdependencies of individual behaviour. Still, there might be other reasons why the status of public and private education varies across countries. For example, collective norms, values and expectations about the role of the state vis-à-vis private providers could reinforce (or counteract) the economic logic that we apply in our theory. We believe, however, that our results are strongly suggestive of individual choices and preferences being driven to a large extent by material self-interest and network effects. We also take account of unexplained national differences in

preferences to some extent by controlling for student enrolment and public spending levels.

Our argument has implications for how we explain inequality. First, and most obvious, the level and composition of public education has implications for the supply and distribution of skills. It is hardly an accident that publicly financed systems tend to have less wage inequality, and we suspect that the decline in the rate of growth in college graduates in the USA, and the associated exceptional rise in wage inequality as documented by Goldin and Katz (2008), is closely associated with a rise in the number of middle- and upper middle income parents who opt to pay for their children's education privately. Secondly, besides the question of financing, the institutional set-up of the education system might matter as well. In fact, institutional stratification within the public system may act as a functional equivalent to private education spending. Thus, private education spending is above average in countries with comprehensive secondary education systems and relatively open access to higher education (USA, Canada, the UK, but also Japan). Upper income classes might be willing to pay for the private education of their children with the goal of effectively limiting access to (elite) higher education in such systems. In contrast, access to higher levels of education is limited by design in public education systems with a high degree of stratification, i.e. early tracking and a strong differentiation between academic and vocational education. The need of upper income classes to 'price out' the middle or working class is less pressing in these cases and in fact, public spending on higher education can become a form of regressive redistribution from the low- to the high-income classes.

In general, the possibility of 'opting out', either by purchasing private alternatives or by gaining exclusive access to superior public services, is likely to increasingly shape the politics of many policy areas ranging from pensions and healthcare to childcare and public safety. Since the 1980s, new elements of choice and private options have been injected into many social policy areas, and we hope our approach will help cast light on how this might alter the politics of the welfare state. What has been an exceptional politics of education may become the norm. Theoretically, we encourage a more explicit re-consideration of Hirschman's informal conjecture of an interaction between 'exit' and 'voice'.

Funding

Marius R. Busemeyer's research is partly supported by funding from the German Research Foundation (DFG Grant No. BU1852/4-1) and the European Research Council (ERC Starting Grant INVEDUC, Grant Agreement No. 311769).

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