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Education, Stratification and Reform

Educational Institutions in Comparative Perspective

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Abstract

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The main argument of this thesis is that research has to take the institutional character of education seriously. Educational institutions carry considerable weight for outcomes of education and their design is a matter of intense political debate. This work focuses in particular on the institution of tracking that has wide-reaching consequences for the structure of education. The thesis consists of an introductory essay, together with three empirical essays. The empirical essays all acknowledge the main argument but study different outcomes and relationships connected to education. Essay I studies how the institutions of political economy and education together affect equality of income and equality of educational opportunity. This essay contributes to the literature by distinguishing the effects of the different institutions of political economy and education, as well as how they interact to affect the two contrasting conceptions of equality. The results reveal that tracking hinders equality of educational opportunity but is also related to better incomes for vocational education graduates in certain institutional settings. Wage bargaining coordination reinforces the more equal educational opportunities of weakly tracked contexts and improves the relative income of vocational graduates in these contexts. Essay II explores how education and tracking affect social trust. It makes two contributions. First, the empirical approach provides strong support for causal inference. Second, it is the first study to consider how tracking affects social trust. The empirical evidence finds no general effect of educational attainment on social trust, but decreasing tracking has a positive effect on social trust for individuals who come from weakly educated backgrounds. Essay III aims to explain cross-country differences in tracking by focusing on the impact of government partisanship. The study contributes to the literature by being the first comparative study to explore how partisan politics may explain differences in tracking and being one of few comparative studies there are on the topic at all. The results show that tracking is strongly related to a dominance of Christian democratic governments, whereas detracking reforms have mainly been carried out by social democratic governments.

Keywords: Detracking, Education, Educational institutions, Educational inequalities, Education policy, Educational reform, Educational systems, Equality, Political economy, Political Parties, Social Trust, Tracking, Vocational education, Vocational training, Varieties of Capitalism

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Till Sofie

List of essays

This thesis is based on the following essays, which are referred to in the text by their Roman numerals.

- I Österman, M. (2017) 'Varieties of education and inequality: how the institutions of education and political economy condition inequality'. *Socio-Economic Review*, published online 4 May 2017, DOI: 10.1093/ser/mwx007.*
- II Österman, M. (2017) 'In education we trust? Social trust and institutional reform of education'. Submitted.
- III Österman, M. (2017) 'Tracking detracking reforms: political explanations of institutional tracking in education'. Working Paper, Department of Government, Uppsala University.

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Thinking back on more than six years of PhD studies, a long line of treasured memories are brought forth. There are so many experiences to reflect on. The journey from being a new PhD student, not having a clue about much at all, to actually finishing what you now are reading. This has been a journey filled by encouraging and fascinating experiences, though there have also been moments of doubt. Above all, it is a journey characterized by facing difficult challenges and finding ways to master these, just to advance further and encounter new challenges. While this might sound like a Sisyphean endeavour, it is a truly rewarding process, because you get the chance to continuously develop and challenge yourself, to finally discover that you have actually come very far from where you once started. However, I would not have come very far at all without the help and support from a large number of people. Because, as much as this has been a long journey, it has also, at all times, been a joint one. Without the support and encouragement of all of those who have stood by me during these years, I would have found the challenges too steep and been unable to let go of my doubts, and this thesis would never have been written.

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Uppsala, October 2017

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Introductory essay

Without undervaluing any other human agency, it may be safely affirmed that the common school, improved and energized as it can easily be, may become the most effective and benignant of all the forces of civilization. (H. Mann 1868, p. 650)

Education has a dual nature. On the one hand, education is often referred to as a universal good. It is considered an institution that people of all convictions put their hope in as the instrument to reform society, regardless of whether the aim is emancipating the oppressed, providing equal opportunities for everyone to pursue their life plans, promoting democratic vitalization or ending intolerance. Education promises to be ‘the great equalizer’ (Mann 1868, p. 669) and the means for ‘the cultivation of humanity’ (Nussbaum 1997). On the other hand, education is frequently depicted as the reproducer of stratification (e.g., Bowles and Gintis 1976; Collins 1971). The history of education is a history of privilege (Coleman 1967; Collins 1979; Marshall 1950). Education has traditionally been reserved for the higher classes and has been portrayed by some as nothing less than a way for these classes to monopolize prestigious jobs and high-status positions (Bourdieu and Passeron 1990 [1977]; Collins 1971, 1979; Parkin 1979).

The educational system forms one of the key pillars of modern society, and the system is characterized by its many divergent functions and aims. This fact naturally makes the structure and design of the system a highly politically contested issue that brings to a head the fundamental political questions of social stratification, equality of opportunity and social cohesion. In comparison to many other policy fields, education has a special long-term effect, as the structure of the educational system today very well may be the structure of tomorrow’s society. An ambition to reform society implies reform of the educational system.

Considering the high political stakes in education, the late development of the comparative study of education is surprising. It is even more surprising

that political scientists have avoided this research until quite recently (Busemeyer and Trampusch 2011; Jakobi et al. 2010). In particular, comparative institutional analyses of education have been in short supply. Juxtaposing education research with the well-developed field of comparative welfare state research is revealing; in the latter field, comparative institutional analysis has been all but entirely dominating since Esping-Andersen's (1990) landmark contribution. Such analysis has resulted in many significant studies that have advanced our understanding of developed welfare states and how institutional differences affect outcomes (e.g., Alber 1995; Bamba 2005; Korpi and Palme 1998, 2003; Lewis 1992; Orloff 1993). The related research area of comparative political economy is another example of where institutional analysis has excelled and been exceptionally influential (e.g., Hall and Gingerich 2009; Hall and Soskice 2001b; Iversen 2005; Iversen and Soskice 2006; Pontusson 2005).

In relation to these paradigmatic literatures on the study of institutions, the record for education research is rather limited. There are noteworthy early contributions (Allmendinger 1989; Shavit and Müller 1998), but institutional analyses have lacked precision and have focused on the effects of regimes or intermediate outcomes rather than actual institutions (Allmendinger and Leibfried 2003; Beller and Hout 2006; Esping-Andersen 2005). Economists have long had an interest in the study of education (e.g., Arrow 1973; Becker 1964), and have made major contributions regarding the effects of education (e.g., Acemoglu and Angrist 2001; Angrist and Krueger 1990; Meghir and Palme 2005). However, economists have mainly focused on economic outcomes and put less emphasis on institutions, in particular, from a comparative perspective. It was not until recently that we have seen substantial contributions with regard to the comparative institutional study of education (Ansell and Lindvall 2013; Bol and Van de Werfhorst 2011, 2013; Braga et al. 2013; Brunello and Checchi 2007; Schütz et al. 2008).

The integration of the study of education and the welfare state has been a particularly slow-moving endeavour that has been brought forward by few, if significant, contributions (Estevez-Abe et al. 2001; Iversen and Stephens 2008; Iversen 2005; Busemeyer and Iversen 2012; see also Busemeyer and Trampusch 2011). This lack of integration has often been attributed to Wilensky's (1975, p. 3) legendary assertion that 'Education is special', meaning that education does not follow the logic of progressive redistribution that characterizes the rest of the welfare state. Wilensky argued that the strong class gradient in education instead makes education a matter of regressive redistribution, and therefore, he excluded it from his study of the welfare state and equality. Indeed, both the effects of education and its beneficiaries differ from those of the welfare state and do include several double-edged relationships. However, such complexity hardly makes education less interesting to study. For a long time, welfare state researchers followed Wilensky's lead and stayed away from education, but this stance has finally changed, and schol-

ars have started to see the special character of education as a strong reason to study education, including the study of its political economy, rather than avoid it (Ansell 2010; Busemeyer 2014; Busemeyer and Iversen 2014).

The starting point of this thesis, therefore, is the fact that the institutional comparative study of education is a young field where much remains to be developed and researched, even though there has been a substantial leap forward recently. This thesis consists of three distinct essays, in addition to this introductory essay, that all contribute to filling some important gaps in this literature. The essays focus on primary and secondary education but study different outcomes and relationships connected to education. All of the studies share a common interest in studying how education relates to social stratification and the conditions of equality. This work departs from a socio-economic or class-based perspective on stratification and equality.

The main argument of this thesis is that we have to take the institutional character of education seriously. Education is more than just educational attainment, enrolment ratios or spending. Educational institutions carry considerable weight for outcomes of education and their design brings forth fundamental political questions. Differentiating institutions through the use of well-calibrated measures is vital in the study of education, and so is the insight that educational institutions interact with one another and with related institutions. If we are not precise in this respect, we risk mixing up institutions, and we will not be able to discern the separate effects of different institutions, nor may we distinguish the effects of, for instance, educational attainment from institutional effects. All of the essays, consequently, make use of a comparative institutional perspective on education.

In addition, this piece of research stresses that education is a particularly complex institutional system characterized by several challenging dilemmas. Arguably, the complexity comes to a head with regard to the ambiguous equality-promoting qualities of education. In line with the main argument, I claim that this fact emphasizes the importance of being clear about different educational institutions and their distinct effects. Institutional precision and conceptual clarity are crucial for revealing the nature of the complexity of educational systems. In so doing, we may go beyond initial impressions and possibly identify the ambiguities.

What is more, among educational institutions, the degree of *tracking* stands out as being of particular relevance. Tracking is the practice of separating students into different schools and tracks depending on their performance or plans for further education (Shavit and Müller 2000b).¹

¹This thesis studies *institutional* between-school tracking (also referred to as *differentiation*), meaning tracking between schools with different institutional frameworks rather than within-school or within-class tracking (i.e., ability grouping). While Europeans usually refer to between-school tracking, as it has been a common practice there, Americans usually understand tracking in terms of ability grouping.

In any analysis of education and inequality or stratification, tracking is the institutional starting point. This is reflected in the extensive political and scientific debate on the topic (e.g., Benavot 1983; Bol and Van de Werfhorst 2013; Brunello and Checchi 2007; Coleman 1967; Hanushek and Wößman 2006; Mann 1867; Marshall 1950; Myrdal and Myrdal 1941; Shavit and Müller 2000b; Van de Werfhorst and Mijs 2010). This thesis connects to this extensive debate by having a particular focus on tracking in the institutional analyses.

Essay I studies how the institutions of political economy and education together affect equality of income and equality of educational opportunity. The empirical results rely on a cross-national survey dataset that covers up to 23 European countries and incorporates a relatively wide selection of institutions. The focus is on the institutional arrangements in the early 21st century and how these interact with individual-level characteristics. This essay contributes to the literature by distinguishing the effects of the different institutions of political economy and education, as well as how they interact to affect the two contrasting conceptions of equality that are rarely studied jointly. The results reveal that tracking hinders equality of educational opportunity but is also related to better incomes for vocational education graduates in certain institutional settings. Wage bargaining coordination reinforces the more equal educational opportunities of weakly tracked contexts and improves the relative income of vocational graduates in these contexts. Vocational enrolment, as such, is of less relevance to these outcomes.

Essay II explores how educational attainment and tracking affect social trust (generalized trust). The empirical approach is based on educational reforms in 16 European countries that were carried out between the 1940s and 1990s and that affected birth cohorts from the 1930s to 1980s. This essay makes two contributions. First, by exploiting educational reforms, it provides superior opportunities for drawing causal conclusions regarding the relationship between education and social trust. Second, it is the first study to consider how this relationship is conditioned by the institution of tracking. The results give no support for a general effect of educational attainment on social trust. Decreased tracking does, however, have a positive impact on social trust for individuals who come from weakly educated backgrounds. The essay argues that this positive effect stems from the fact that less tracking implies that children spend more time together with a more diverse set of class mates, which gives them ample opportunity to become acquainted with the ‘generalized other’.

In contrast to the first two essays that study the effects of educational institutions and, in particular, tracking, **Essay III** aspires to explain cross-country differences in tracking, focusing on the role of partisan politics. It is argued that tracking is a truly political issue, as it is closely connected to the reproduction of social stratification and the conditions for social mobility. This essay aims to describe the development of tracking over time as

well as to theoretically and empirically map out the political dimensions of institutional differences in tracking. Put differently, is there a relationship between government partisanship and tracking, and if so, what parties have been responsible for detracking reforms and who has defended traditional tracking institutions? This essay contributes to the literature by being the first comparative study to explore political explanations for the differences in tracking and being one of the very few comparative studies there are on the topic at all. This essay builds on a novel dataset collected by the author that covers tracking institutions in 31 developed democracies from 1960 to 2013. The results show that tracking is strongly related to a dominance of Christian democratic governments, whereas detracking reforms have mainly been carried out by social democratic governments.

This introduction is followed by a section that discusses tracking and the institutional dilemmas of education. The third section explicates the main argument of this thesis. Thereafter, there is a section on data and methods where the methodological points of departure will be laid out, the different approaches of the essays contextualized and the central challenges discussed. This introductory essay concludes with a section that discusses the research and policy implications of the findings in this thesis.

Multi-faceted education: institutional trade-offs

As was portrayed in the first paragraphs of this essay, the promises of education often know no limits. Without a doubt, education may hold the key to many human aspirations, but few of these are guaranteed outcomes of education. The structure and distribution of education may as well be a profound obstacle to human development. In this thesis, I argue that education, as a public institution, is characterized by its multiple roles and divergent aims. These roles and aims are often difficult to integrate. A point of departure for this piece of research is that the institutional design of an educational system implies balancing what, in practice, may be contradictory aims. In other words, educational institutions may very well give rise to difficult trade-offs. This situation in particular applies to the institution of tracking and the organization of vocational education.

In this section, I first explain and discuss the practice of tracking and then continue with a discussion of the institutional dilemmas that arise in relation to tracking, vocational education and the general institutional design of education.

Different forms of tracking

Tracking, or differentiation, is about the degree to which pupils or students are separated depending mainly on study performance, plans for further ed-

ucation and choice – be it their own or their parents’ (Shavit and Müller 2000b). In this thesis, I focus on institutional tracking where an educational track is defined by a distinct institutional framework. This type of tracking typically occurs on the secondary level when children are between 10 and 18 years old. The separate tracks are often considered different types of schools. Children could, for instance, be divided between vocational schools, technical institutes and grammar schools. The tracks are differentiated by, among other things, different curricula, varying programme lengths, and separate certificates that in turn affect the options for further education (Bol and Van de Werfhorst 2013; Shavit and Müller 2000b). The tracks are usually hierarchically organized from top tier academic or general tracks to lower tier vocational or basic tracks.

Institutional tracking is also referred to as *between-school* tracking and stands in contrast to *within-school* tracking that denotes ability grouping in a school with a common institutional framework, such as US high schools (Gamoran and Mare 1989; Van de Werfhorst and Mijs 2010). Between-school tracking has mainly been a European phenomenon and is still common today in Continental Europe, whereas tracking in the American context instead refers to within-school tracking. While these two types of tracking are related, they are qualitatively different practices. Within-school tracking implies ability grouping on a subject-by-subject basis, where all students attend the same school with a shared institutional framework. A student may thus take a higher-level course in one subject and a lower-level course in another subject. The shared institutional framework implies, for instance, that all students receive the same type of diploma upon graduation and that all consequently become eligible for university studies after finishing the upper secondary level (Chmielewski 2014). Between-school tracking instead involves the separation of students into different school types that adhere to disparate institutional frameworks and that typically are located in physically different schools. One example is the German secondary schools with lower tier *Hauptschule*, middle tier *Realschule* and upper tier *Gymnasium*. Track selection in the case of between-school tracking implies following a whole educational programme that in turn results in different qualifications after graduation. Usually, only the upper tier general tracks would provide access to university education. Mobility between tracks tends to be limited, if possible at all (Shavit and Müller 2000b). The physical separation of schools also means that students of different tracks do not meet in a system that employs between-school tracking.

I have chosen to focus on between-school tracking, as it is a clearly more far-reaching practice in terms of separation and rigidity than within-school tracking. The latter may still have substantial consequences for educational stratification, but the former does mean more severe socio-economic stratification between tracks (Chmielewski 2014). Furthermore, the literature on within-school tracking is dominated by studies of the American context (e.g.,

Gamoran and Mare 1989; Lucas 1999; Oakes 2005), whereas cross-country comparative approaches have instead addressed between-school tracking (e.g., Bol and Van de Werfhorst 2013; Brunello and Checchi 2007; Hanushek and Wößman 2006; Schütz et al. 2008; Van de Werfhorst and Mijs 2010). I thus argue that focusing on between-school tracking is in line with the outline of this thesis: to study socio-economic stratification in education with a comparative perspective on educational institutions. Consequently, in this work, 'tracking' refers to *between-school tracking* unless otherwise specified.

It should also be noted that other types of school separation have been common. Noticeable examples are single-sex schools, schools for children with disabilities, and specific schools for indigenous groups, as well as strict racial segregation of schools, such as the Jim Crow laws in the southern US. While these types of school segregation are phenomena that doubtless are worthy of in-depth study, they are separate from tracking and fall outside of the scope of this thesis.

The degree of tracking: comprehensive schooling vs. strong differentiation

Tracking may differ in regard to the age at which it is instituted, the number of tracks, and the level of distinction between the different tracks (Bol and Van de Werfhorst 2013; Shavit and Müller 2000b). A heavily tracked system would be characterized by early track selection with several tracks that employ clearly different curricula, in turn resulting in certificates of varying statuses that profoundly affect further educational opportunities. Moreover, clearly differentiated tracks usually mean that it is hard or impossible to switch tracks, particularly from a lower to a higher tier track. Tracked systems may also incorporate 'dead-end' tracks where there are no opportunities for pursuing further education (see e.g., Ballarino et al. 2009; Shavit and Westerbeek 1998). Conversely, a completely non-tracked system would not implement any instance of programme separation and everyone that graduates would receive the same qualifications. Such a system is referred to as a comprehensive or a single-structure system (Benavot 1983; Eurydice 2014).

Nonetheless, education can never be completely comprehensive. That would rule out all individual variation in education. At some point in an educational system, there needs to be a choice between different educational paths or possibly the option to opt out from further education. That point would also signify the start of tracking. Tracking can thus, strictly speaking, never be a yes or no question. However, while a branching point is necessary in any modern educational system, the timing and character of it could vary quite substantially. This branching point may occur at a very young age, such as at age 10 in the early-selection systems in Germany and Austria, or at age 16 in the less tracked systems in Sweden and the United Kingdom

(Eurydice 2014). The number of tracks and how fixed the separation is may also vary, and both affect the extent of tracking.

When and how tracking should be instituted are questions that raise a number of rather fundamental issues regarding the role and aim of education. These issues are partly empirical, but to a large extent, they are a matter of moral or political judgement. Some might view tracking as completely uncontroversial, stressing that children have different talents and that it is thus not strange that at a young age, they are selected into different tracks. Others put greater value on equal educational opportunities and are sceptical of selecting children for different tracks on the basis of their performance at an early age, arguing that the school instead should focus on compensating for differences in ability and on supporting those that fall behind. An empirical, but difficult, question that relates to these two different viewpoints is at what age are the talents of children reasonably developed and stable enough to form a basis for track selection. A connected but more moral question is when are children old enough to be able to themselves make well-informed educational choices that might have profound effects on their further educational career and life course. Furthermore, some would argue that the issue of when to institute tracking goes beyond sheer considerations of study performance and would point to the importance of children obtaining a common education regarding democracy and other central societal institutions to be well-equipped for civic engagement and political participation. Still others would underline the value of heterogenous schools where children of different backgrounds and abilities may meet and interact.

All of the abovementioned issues point to the many perspectives regarding tracking; however, much of the debate on tracking tends to centre on vocational education (Bol and Van de Werfhorst 2013; Shavit and Müller 2000b; Van de Werfhorst and Mijs 2010). This focus stems from the fact that the principal difference between tracks is the balance between general and vocational subjects. Upper tier tracks prepare students for higher education through an academic curriculum, whereas lower tier tracks focus on vocational skills to prepare students for labour market entrance or further vocational training. It is the interplay between tracking and vocational education that raises many of the questions regarding tracking, in particular with regard to the consequences for equality. This is the topic of the following section.

The dilemma of vocational education, tracking and equality

There is pervasive evidence that tracking is connected to educational stratification and inequality of educational opportunity (Bol and Van de Werfhorst 2013; Brunello and Checchi 2007; Hanushek and Wößman 2006; Pfeffer 2008; Schütz et al. 2008; for an overview, see Van de Werfhorst and Mijs

2010). That is, more extensive tracking reinforces the influence of social background on educational choices and study performance. This finding runs counter to most ideas about equality of opportunity that emphasize that individual fortune should be distributed according to effort and ambition rather than arbitrary factors that are beyond the influence of the individual, such as parental education (e.g., Dworkin 1981a,b; Roemer 1998). Tracking has also long been the subject of critique by scholars who have regarded it as an instrument for the reproduction of social stratification (e.g., Coleman 1967; Marshall 1950; Myrdal and Myrdal 1941).

The analysis and discussion of inequality in this thesis focus on inequality related to socio-economic factors and social class. I argue that this approach is in line with how tracking generally unfolds, as it emphasizes differences related to parental education, individual study performance and social status considerations in an educational trajectory. All of these factors have a strong socio-economic gradient. However, tracking may also very well affect inequalities with respect to factors other than socio-economic class. In particular, gender and race or ethnicity have been highlighted in the literature. Systems that apply earlier tracking and offer more specific vocational education may contribute to the gender stratification of educational programmes and, in turn, the gender segregation of labour markets (Charles et al. 2001; Estévez-Abe 2005, 2011), though there are also more mixed findings regarding these issues (for a recent overview, see Reisel et al. 2015). Furthermore, there is evidence that tracking reinforces educational stratification related to race or ethnicity (for an overview, see Alba et al. 2011; but also see Cobb-Clark et al. 2012). However, such findings do not prove that race or ethnicity has an independent role, as they could be fully attributed to socio-economic factors (Van de Werfhorst and Mijs 2010). To a large extent, this has been shown to be the case for achievement-gaps between natives and migrants (Ruhose and Schwerdt 2016). Individual-level studies on educational careers appear to give further support to such an interpretation. That is, when controlling for student achievement and socio-economic background, the role of ethnicity in track selection seems to disappear or even reveal that minority groups are overrepresented in higher academic tracks (Jackson et al. 2012; Jonsson and Rudolphi 2011; Van De Werfhorst and Van Tubergen 2007). While the study of how educational institutions affect inequalities with respect to gender and race/ethnicity are very interesting research topics, it has not been possible to include them in the present thesis. I connect this research to the lion's share of the literature on tracking by making use of a socio-economic perspective on inequality. Such inequalities also appear to account for much of the ethnic inequality in education. The focus on socio-economic inequality is also warranted by the aim of this thesis to study the political underpinnings of tracking, as political interest formation mainly tends to follow the socio-economic dimension.

The fact that tracking reinforces the role of socio-economic factors for inequality of opportunity in education does not, however, end the discussion of tracking. There are also significant arguments in favour of tracking. These arguments tend to be closely connected to vocational education. Vocational education has a pivotal role in giving skills that are valued in the labour market to those who do not have aptitude for academic education. Early selection and clear separation of vocational and general tracks implies more time for learning specific vocational skills that are geared towards a particular occupation in the labour market (Busemeyer 2009). Such practices have the potential to increase the labour market value of a vocational education, as graduates are more well-prepared for a specific job (Bol and Van de Werfhorst 2013; Shavit and Müller 2000a).

It must be stressed that the degree to which vocational education is able to offer labour market-relevant skills has rather profound consequences for labour market stratification and income inequality. Problems related to poor quality jobs and weak labour market attachment are essentially an issue for the share of each cohort that does not continue on to higher academic education. In the absence of a tertiary education, this group has little else to rely on than vocational education. Consequently, if vocational education does not offer skills that provide access to reasonably well-paid and good quality jobs, labour market stratification will be amplified, and the income differences along the distribution of academic skills and higher education will be reinforced (Busemeyer and Iversen 2012; Estevez-Abe et al. 2001). Countries with more extensive vocational education that emphasizes specific skills also tend to have more equal wage distributions (Busemeyer and Iversen 2012; Iversen and Stephens 2008), even though this may be undermined by segmentalization of vocational education (Thelen 2014).

In essence, this amounts to a trade-off where tracking may strengthen the capacity of vocational education to provide vocational graduates labour market-relevant skills, but the downside is that educational stratification is fortified (Bol and Van de Werfhorst 2013; Shavit and Müller 2000a). That is, a trade-off that confronts policy makers with a choice between educational stratification or labour market stratification. Or put differently, it is a choice between promoting equality of educational opportunity or equality of income.

This trade-off also relates to a broader set of issues that go beyond just a concern about the conditions of equality. A well-functioning labour market for vocational graduates is arguably of decisive importance for both employers and the economy in general. That vocational education does result in well-developed specific skills would also be of particular relevance for countries that rely heavily on such qualifications for their production, so-called *coordinated market economies* in the Varieties of Capitalism literature (Estevez-Abe et al. 2001; Hall and Soskice 2001b; Iversen 2005; see also Streeck 1991). On the other hand, educational stratification may also have

rather far-reaching consequences. Early separation of general and vocational tracks might result in large differences in the general knowledge about central societal institutions, which in turn could give rise to substantial differences in the conditions for civic engagement and political participation (Galston 2001; Hyland 2006; Nussbaum 1997; Rubin 2006; Van de Werfhorst 2017). Moreover, a highly stratified society where few experience any sense of equality of opportunity could also adversely affect social cohesion and trust (Rothstein and Uslaner 2005; Uslaner 2012).

The main argument

The interest in education and the recognition of its perennial role in modern society have long been a part of social science (e.g., Dewey 1966[1916]; Durkheim 1956; Marshall 1950). In contemporary research, it is all but a rule to include education as a predictor for all types of social outcomes. However, education is typically treated as an individual characteristic that may be summarized by years of educational attainment or educational degrees. To consider the context of education with respect to, for instance, the type of school, the curriculum or with whom you study is rare. That is, the institutional character of education is usually completely left out of the picture. Comparative institutional analysis of education has been anything but common, regardless of whether the focus is on individual- or macro-level outcomes. The parallel to welfare state research is striking, as such analyses have dominated that field for almost 30 years. I argue that educational research has much to learn here. Education is not a standardized commodity that may easily be summed up in terms of length or level. To paraphrase Esping-Andersen, education is not merely a matter of more or less, it is about what education *does* (cf. p. 2 & 19 Esping-Andersen 1990).

Many of the studies that, after all, have the ambition of taking educational institutions into account rely on debatable institutional measures regarding enrolment in different types of education or average educational attainment on a macro level (Bradley et al. 2003; Busemeyer and Jensen 2012; Estevez-Abe et al. 2001; Iversen and Stephens 2008; Rothstein and Uslaner 2005). Such measures fall short of catching the actual institutional context of education and can consequently not inform us about the effects of formal institutions. These measures are ‘intermediate outcomes’ rather than institutional indicators, meaning that they very well may be effects of other institutions or country-level variables. Another approach has been to rely on broad regimes in empirical analyses, but such a design also rules out identifying the effects of individual institutions (Allmendinger and Leibfried 2003; Beller and Hout 2006; Esping-Andersen 2005).

Admittedly, lately, there has been a promising development of more sophisticated institutional analyses of education that consider how different

institutions affect outcomes; these are mainly driven by scholars of sociology and economics (Bol and Van de Werfhorst 2013; Bol et al. 2014; Braga et al. 2013; Brunello and Checchi 2007; Van de Werfhorst 2011). These studies represent valuable contributions, but they also leave much room for further research. First, these papers are rather confined in their institutional analyses and tend to treat educational institutions as independent islands that are unrelated to other public institutions. That is, these studies do not take into account how educational institutions interact with related institutions, in particular, welfare state and labour market institutions. Second, there are many outcomes that are highly relevant to political science that not are studied in these contributions, for example, social cohesion and social trust. Third, these papers do not have the ambition to explain the development of educational institutions and the political decisions behind them (a rare exception is Braga et al. 2013).

There have also been a couple of recent contributions in political science that truly aim to integrate the study of education into the political research tradition (Ansell 2010; Ansell and Lindvall 2013; Busemeyer 2014; cf. Busemeyer and Trampusch 2011; Jakobi et al. 2010). The present thesis does share much of the ambition of Busemeyer (2014) in particular in bringing together an institutional analysis of both education and the welfare state. However, Busemeyer has a broader ambition to study the overall effects of the welfare state and educational institutions and tends to rely on aggregate measures regarding spending and enrolment ratios of different types of education. That is, this broad ambition implies a lack of institutional precision, and Busemeyer focuses on fleshing out three regimes of skill formation rather than differentiating specific institutions. This thesis adopts a clearly more distinct approach to institutional analysis, pinpointing individual educational institutions in relation to how they affect outcomes and exploring political explanations for these institutions.

Taking educational institutions seriously

The main argument of this thesis is that the institutional character of education needs to be considered in any detailed study of education. What you study, under what circumstances and with whom could very well make all the difference regarding the effects of education. These factors may not be summarized by years of educational attainment or by the share of a cohort that enrolls in a certain type of education. We need to pin down the institutional differences that characterize educational systems, both to separate the effects of different educational institutions and to distinguish institutional effects from the effects of education per se. Only then may we actually learn how education affects outcomes.

Furthermore, educational institutions are by no means detached from the wider institutional context. Part of taking educational institutions seriously is also to consider how they interact with one another and with related institutions connected to the welfare state and the labour market. These institutions jointly determine outcomes, and to overlook this point means that we risk misinterpreting relationships and mixing up the effects of different types of institutions.

What is more, considering the importance of educational institutions to outcomes of great social relevance, the political underpinnings of these institutions need to be studied in their own right. This is particularly necessary as these policy decisions typically imply the handling of difficult trade-offs that pertain to fundamental political questions.

The argument that we have to take the institutional character of education seriously carries significant weight for the dilemmas of education portrayed above. That is, to be able to make well-informed policy decisions on these matters, we must first uncover the true nature of these dilemmas and distinguish actual relationships from conceptual misunderstandings or empirical fallacies. If we make judgements based on incomplete institutional information, we may, for instance, respond to a perceived trade-off when there is actually a way of escaping it entirely.

Methodology

An empiricist always has to make compromises and adapt a pragmatic approach to methodological dilemmas. The different approaches in this thesis have aimed to strike a balance between some of the central ideals of empirical research; in particular how to prioritize between a focus on the narrow and particular versus the broad and general. How to find this balance is often put to a head in regard to the opportunities for causal inference. This issue might be referred to as the classic conflict between internal and external validity; research often confronts the dilemma of either saying something precise about a restricted or peripheral phenomenon or compromising somewhat on empirical precision to have better chances for generalization. However, this is also a matter of the scope or relevance of a research undertaking from a policy perspective. That is, the subject of generalization may in itself be more or less general in terms of societal relevance.

Naturally, these considerations are inherently difficult, and there are no definite answers. Nonetheless, there may still be well-founded reasons for choosing a particular path. This thesis, as with most research, hovers between the particular and the general. However, if anything, it does lean towards the latter, prioritizing somewhat broader approaches over very detailed accounts of narrow phenomena. This applies to the overall level of analysis, but with regard to the main focus of this work – educational insti-

tutions – great concern has been taken to be as precise as possible within the scope of a more general approach. I claim that this approach is in line with the argument of this thesis and the state of the field of comparative educational research. On a more detailed note, I would like to bring forth three arguments that support this approach.

First, considering the emerging character of the field of comparative institutional analysis of education, there is a need to identify broad and general relationships by generating and testing new hypotheses. That need applies to relationships between institutions and outcomes, the interactions between institutions, and the explanations of institutions. When these basic relationships have been revealed, further research may test them more in detail, scrutinize the different links in the causal chains, examine individual mechanisms, etc.

Second, as the complex multifaceted nature of education – including the study of possible trade-offs – is a key aspect of this piece of research, it is essential to be able to study several outcomes jointly. This aim is greatly advanced if I contrast different outcomes within the same empirical framework of a single study. Such an approach does, however, necessitate some compromises in the level of detail of the analysis of each outcome.

Third, this thesis aims to contribute to some of the fundamental policy issues regarding education. That is, I have been guided by the conviction that this research ought to engage with questions of general relevance to contemporary society and its underpinnings, even though those questions might present challenges for the empirical analysis. This ambition consequently implies a focus on issues and outcomes that play out at a rather general level that may speak to policy makers.

The details of the methods and data of the different studies are laid out in each essay. In addition, this section will outline and provide the rationale behind the methodological strategies in the three essays and discuss some of the main empirical questions and dilemmas that the studies have in common.

A common argument applied through different empirical approaches

The three essays answer different questions and make distinct contributions to partly different literatures, but the essays share the centrality of educational institutions as their point of departure. The diverging focuses of the essays warrant differing empirical approaches, but there are also commonalities.

All three studies make use of a cross-country comparative perspective. The main argument for this choice is that the major institutional differences in education are found between countries. While within-country studies are well suited to studying the effects of specific institutions, as it is often easier to

acquire high-quality data for a single country and other confounding factors are typically held constant, such studies also have clear limitations. The empirical analyses become restricted to those institutions that have been subject to reform and to countries that have carried out reforms. This is so because decisions on educational institutions in most countries are made nationally and that the available within-country variation, consequently, is attributed to national reforms over time. Moreover, it is often the case that such reforms imply an institutional shift that is of a more limited scope than what is found between countries. We thus effectively exclude the study of the more substantial institutional differences in education. Furthermore, findings from a single-country study may be dependent upon certain unobserved country-specific characteristics, such as the functioning of the labour market, and it is thus difficult to assess whether certain effects would also be found in other countries. A cross-country approach may incorporate a study of several reforms in different countries and thus allow a comparison of how different types of reforms affect outcomes. With a larger set of reforms and countries that represent quite different contexts, we also obtain better support for generalization.

What is more, the argument of this thesis stresses that educational institutions are not monoliths; they interact with one another and with related institutions in shaping outcomes. In addition, this work emphasizes the study of the political underpinnings of educational institutions. These parts of the argument of this thesis also lend strong support for a cross-country approach. Most of the variation in the related institutions of the labour market and the welfare state is also found across countries. To find variation in these institutions and educational institutions within a single country would be nearly impossible. A similar argument also applies to the study of the political explanations of educational institutions. A substantial part of the variation in the strength of political parties is found between countries, and we could, at most, find a handful of larger institutional reforms of education within a single country. This fact implies that it hardly would be possible to study general relationships between partisan politics and educational reforms without a cross-country approach.

To maximize variation, and in agreement with the broad and general ambition of this thesis depicted above, a rather wide selection of developed countries has been included in the empirical studies. There is, however, a clear dominance of European countries, but these extend beyond western Europe and include several eastern European countries. The number of countries vary somewhat between the individual essays, from 16 in Essay II to 31 in Essay III. The selection of countries is based on two main premises: first, data availability regarding both individual-level variables and macro-level institutions, and second, a focus on Europe is warranted because institutional tracking is mainly a European phenomenon that is particularly common in

some continental European countries (e.g., Bol and Van de Werfhorst 2011; Brunello and Checchi 2007; Shavit and Müller 2000b).

Any research design is a matter of prioritizing certain aims and compromising with others. The different research questions of the three essays have thus implied varying opportunities and restrictions for the empirical approaches.

Essay I prioritizes the study of how the institutions of the labour market and the welfare state condition the effects of educational institutions on two different understandings of equality, as this is a gap in previous research. However, to acquire comparable data across a large number of countries for a wide set of institutions is challenging. It was therefore not within the reach of this study to extend these data over time to make use of the time dimension in the analyses, as it would have been necessary to use a rather long time horizon for such data to contribute with meaningful additional variation. This is the case since many of the more substantial educational reforms regarding tracking were carried out in the 1960s and 1970s (see Essay III). To collect data for all institutions, beginning at these decades would have been very demanding, if at all possible, for a wide selection of countries. That is, when this essay states that the institutional variation in education has been limited over time, it thus refers to a considerable shorter time period than Essays II and III. Essay I, consequently, differs from the two others in that it does not exploit any time variation in institutional arrangements. It instead centres on differentiating institutions that previous research has often mixed up and on how these education institutions interact with institutions outside of the educational system. The data in Essay I portray the institutional setting at the beginning of the 21st century.

Essay II focuses on how educational attainment and tracking affect social trust. The limited research on the topic that offers good ground for causal inference, despite a huge literature on education and trust, provides strong reasons for an empirical approach that takes the issue of causality seriously. In this essay, I use a method that exploits educational reforms as quasi-experiments, which gives strong support to causal conclusions regarding how educational attainment and tracking affect social trust. More precisely, I examine compulsory schooling reforms and detracking reforms, comparing affected and unaffected birth cohorts. However, this approach implies that I due to data restrictions have to compromise regarding also studying how other institutions could possibly condition these relationships. Moreover, that the research design relies on educational reforms and studying how these reforms affect different birth cohorts necessitates a focus on reforms that were implemented some time ago. That is, those affected by the reforms have to become adults and finish their education before outcomes may be studied. Data availability to measure these outcomes in turn also affects the studied time period. Effectively, this means that I may include reforms that were carried out from the 1940s to the 1990s, affecting birth

cohorts from the 1930s to 1980s. In addition, for the reforms to work as quasi-experiments, I have to be quite restrictive in the selection of reforms, in particular, the structure of reform implementation is decisive for whether a reform actually approximates an experiment. However, the empirical approach in this essay is less dependent upon including a large set of reforms than Essay III, as I examine how the reforms affect individuals rather than study the instance of reform as such. These considerations result in that there are much fewer reforms in the data in Essay II than in Essay III, as well as a focus on a significantly earlier time period than in Essay I.

Last, Essay III studies political explanations of tracking instead of the effects of tracking and other institutions. Since educational institutions are rather sticky and seldom reformed, I in this study have had to prioritize finding enough institutional variation for quantitative analysis to be worthwhile. The empirical analysis among else investigates which political parties have carried out detracking reforms. As addressed above, the selection of such reforms is much wider in this essay than in Essay II, as the differing research questions and designs set up different conditions for whether a reform may be included. In Essay III, I do not have to consider that reform-affected pupils need to become adults and finish their education or that the reforms should be implemented in a quasi-experimental way. In this study I may thus include educational reforms occurring as late as 2013. However, data availability and limited resources restrict the start of the studied period to 1960. On the other hand, the focus on partisan politics in this essay excludes the inclusion of reforms carried out under non-democratic circumstances, whereas such reform still may be suitable for the research design applied in Essay II.

It is about institutions

In line with the general focus of this thesis, institutions have been at the centre of study in all three essays. I have chosen to study institutions directly to be able to differentiate between how distinct institutions as such, and through interactions with other institutions, affect outcomes; this approach also allows an examination of how specific institutions evolve and are related to partisan politics. An alternative approach would be to examine regimes (Esping-Andersen 1990) or types of countries (Hall and Gingerich 2009; Hall and Soskice 2001a). While such an approach has its advantages, in that it creates opportunities for broad analyses of how a whole set of institutions jointly affect outcomes or evolve over time, it does not allow for any institutional precision in the analysis. It becomes impossible to reveal the effects of individual institutions, and it becomes hard to separate institutional effects from other country-level variables (cf. Allmendinger and Leibfried 2003; Beller and Hout 2006; Esping-Andersen 2005). In addition, such an

approach does not allow the exploration of any specific interactions between institutions. Direct institutional effects are also of particular interest from a policy point of view, as formal institutions may be changed through political action.

Due to similar reasons as in the case of regimes, I have also refrained from summarizing different institutions through indices (cf. Bol and Van de Werfhorst 2011, 2013). Interpreting an institutional index based on several institutional characteristics is difficult, and it becomes impossible to study the nuances of different – but related – institutions.

With regard to measuring institutions, I have aimed to use ‘true’ institutional measures. That is, measures of formal institutions that only pertain to institutional characteristics and do not also, for instance, include behavioural aspects. I have, to the largest extent possible, avoided using measures of enrolment to different types of educational institutions or average levels of educational attainment, which are otherwise quite common in the literature (e.g., Bradley et al. 2003; Bussemeyer and Iversen 2012; Estevez-Abe et al. 2001; Rothstein and Uslaner 2005). There are several drawbacks of using such in-direct measures. These measures do not account for institutional differences in how you acquire a certain level of educational attainment or for institutional differences within types of education; for instance, the institutional organization of vocational education varies widely between countries. Furthermore, these measures are ‘intermediate outcomes’ that may very well be effects of other institutional or country-level variables, which clearly impedes causal inference.

Limited institutional variation

The main argument of this thesis, to clearly differentiate interrelated educational institutions and their distinct effects, definitely amounts to an empirical challenge. The available variation in these institutions is limited both because the availability of good-quality data restricts the number of countries that can be included and because most educational institutions have been rather sticky over time. In addition, even though most of these institutions may vary independently, they in fact tend to go together, which further limits the available variation.

This empirical dilemma is further pronounced in relation to the fact that this thesis also aims to study how educational institutions interact with related institutions. It is a considerable challenge to differentiate educational institutions as such but even more so to study how the effects of these individual institutions in turn may be conditioned by welfare state and labour market institutions. This challenge puts a strain on the available institutional variation.

Thus, in practice, I have had to compromise somewhat with my general ambition to separate different educational institutions while also considering how they interact with themselves and related institutions. It is simply not possible to be both precise and broad at once and certainly not so in all respects.

The educational institutions that are in focus in the essays are by no means a complete account of all of the possibly relevant institutions. Some theoretically relevant institutions have had to be left out due to the fact that they are difficult to empirically separate from related institutions, even though there is a clear difference from a strictly theoretical perspective. A case in point would be the dual study programmes that are common in Germany and Austria that combine school and work-based learning through apprenticeships (Shavit and Müller 2000b). These programmes have been shown to be related to positive labour market effects (e.g., Bol and Van de Werfhorst 2013; Van der Velden and Wolbers 2003) but are highly correlated with tracking institutions incorporating early selection, and these institutions are thus difficult to discriminate in practice.

The limited variation also restricts the breadth of the interactions that may be explored between institutions. From a substantial theoretical standpoint, a large number of intriguing institutional interactions may be hypothesised. In addition, there are strong empirical reasons for including a rather broad spectrum of ‘control interaction’ terms to minimize the risk of spurious relationships at the interaction level. However, estimating models with a considerable number of interactions between variables with limited variation usually implies that it is impossible to acquire any precision in the estimates and that the point estimates become sensitive to single observations. I thus have had to restrict the number of interactions I actually include in my empirical models and focus on those that are most relevant for the arguments of the individual essays. Alternative approaches are also tested in the appendices of the essays.

Causal inference

All three of the essays have an explanatory approach and aspire to discuss causal relationships. Nevertheless, combining research designs that allow stronger causal claims, with the aim of this thesis being to distinguish different educational institutions, is a challenge. The preferred method to find good support for causal inference is to find a source of exogenous variation in the main independent variables. Exogenous variation is a powerful approach since it, in principle, rules out risks of spurious relationships and reversed causation. Optimally, such variation would be created through random assignment in an experimental setup, as that would ensure the exogenous character of the variation. However, exogenous institutional variation that may

be exploited for empirical analysis is quite rare, and it is difficult to incorporate a study of several institutions and institutional interactions within such an effort. In other words, an exclusive focus on exogenous variation would clearly limit the scope of the institutional analysis and thus partly come in conflict with the aim of this thesis.

In consequence, I have also on this point settled for a mixed approach where the three essays make use of different empirical designs, and each design has advantages and disadvantages. Essay I focuses on studying how a relatively large set of institutions interact to condition outcomes regarding equality of educational opportunity and equality of income. This broad approach is important for the main argument of this thesis but does imply somewhat weaker support for a causal interpretation of the established relationships. Even though considerable care has been attributed to the empirical specification of these models, I cannot completely rule out that unobserved country-level variables could affect the results.

In Essay II, I use educational reforms as a source of exogenous variation to obtain better support for causal conclusions. While these reforms do not perfectly resemble a controlled experiment, it is an approach that provides substantially better support for causal inference than most possible alternatives and existent research on the topic. However, this approach implies a more restricted institutional account. I cannot discern more fine-grained differences in institutions but have to collapse similar reforms to common categories to obtain a reasonable number of reforms and observations. Essay III differs in that it studies political explanations of educational institutions rather than effects of institutions. In this case, exogenous variation in the strength of political parties is hardly an option. However, the fact that the data cover actual political decisions still strengthens the case for causal inference. That is, with this kind of data, the 'causal chain' between the studied variables become rather short, although it is a matter of correlational evidence. However, it should be noted that the aim of Essay III is not only about causal inference. Considering the novel character of the empirical data and study, there is also a clear descriptive contribution.

A topic of some concern is how the findings of each of the essays may influence the assessment of the empirical approaches in the other essays, especially regarding the grounds for causal inference. A careful reader may, in particular, raise questions about what the results of Essay III mean for Essays I and II. That is, in Essay III, it is shown that there is a political dimension to the level of tracking and the prevalence of detracking reforms in a country. While Christian democratic governments tend to retain traditional tracked systems, social democratic governments have been the main proponents of detracking reforms. Put differently, these reforms are demonstrated to be endogenous in relation to government partisanship. It might be argued that this political dimension of institutional differences in education could pose a challenge to the empirical approaches of Essays I and II, in particular, the ex-

ogenous character of the reforms exploited in Essay II. While this argument needs to be discussed, I claim that there are good reasons to assess this as a minor issue.

Starting with Essay I, the empirical approach in this essay focuses on how country-level institutions condition the effect of individual-level variables for outcomes regarding equality of educational opportunity and wage differentials. The findings from Essay III might give rise to the worry that a government would be able to both reform educational institutions and affect the outcomes studied in the essay in other ways. That could then potentially mean that the established relationships between the institutional variables and the outcomes in this essay would depend on these other measures. It is less of an issue if the outcomes would be affected through the educational institutions, as it would just mean that government partisanship is further back in the causal chain, rather than that the established relationships are spurious. Admittedly, the empirical design of Essay I does not rule out the possibility that the government can affect the outcomes in other ways, but I argue that it is unlikely that such a mechanism would explain the findings in the essay. First, we have to recognize the empirical model in Essay I. This model focuses on the cross-level interaction between individual- and country-level variables, such as parental education and institutions, applying country fixed effects. Thus, we do not need to worry about the possibility that unobserved country-level variables could directly affect the outcomes; rather, the issue would be if there are unobserved country-level variables that affect the relationship *between* the individual- and country-level variables that are studied and that are also correlated with the country-level variables in these interactions (cf. Brunello and Checchi 2007). Considering the findings of Essay III, this possibility could be the case if the government is able to both reform the level of tracking, and simultaneously take other measures that, for instance, imply that parental education matters less for educational choices. While that is not unthinkable, the government would have much more indirect control over such relationships than reforming institutions. Second, the main results are robust to adding cohort-by-country fixed effects (see the appendix for Essay I). These fixed effects would absorb all average differences in the dependent variables within countries that depend on birth year, which could, for instance, include the effects of different governments during schooling. Third, there is rather robust support from previous research using different empirical approaches for that tracking has effects that are in line with those found in Essay I (Bol and Van de Werfhorst 2013; Brunello and Checchi 2007; Pfeffer 2008; Schütz et al. 2008; Van de Werfhorst and Mijs 2010). As I am able to reproduce these relationships, the validity of the empirical approach is corroborated.

The findings of Essay III may appear more troublesome for Essay II, considering that the exogenous character of the reforms is central to the contribution of the essay. Nevertheless, I would argue that, if anything, it is

less of an issue in this essay than for Essay I. The key is understanding how the reforms are exploited in Essay II, as well as how they are implemented. The empirical approach in Essay II builds on the fact that educational reforms in general come into effect starting with a certain birth cohort; thus, whereas those born one year follow the old educational pathway, those born the years thereafter follow the reformed system. By then comparing adjacent birth cohorts, we may evaluate the impact of the reform on outcomes. For this approach to work for the identification of a causal effect, it is critical that there are no other systematic differences between the cohorts. If reform implementation coincides with a certain government coming into power, it could possibly bring this assumption into question, as the new government may affect outcomes. However, I assess this risk as small, considering the empirical setup. First, for most reforms, there is a considerable time period between the reform decision and reform implementation. This period could be anything from a year up to ten years. Consequently, the timing of the reform decision, which is studied in Essay III, usually differs substantially from when school children start to be affected by the reform. A sudden political change connected to the reform decision would seldom coincide with the actual reform implementation. Second, in most cases, we would deem sudden changes of attitudes such as social trust directly connected to government turnover as unlikely. Such attitudinal changes would rather be part of continuously ongoing trends. As the model specification in Essay II controls for time trends over cohorts, such long-term effects should largely be absorbed by the controls. Changes in attitudes over time would effectively only be an issue if there is a sudden change in direct connection to reform implementation, which again differs from the actual political decision on the reform. Third, most of the reforms would affect children at rather young ages, often between 10 to 15 years old. To the degree that these reforms would coincide with government turnovers that could affect attitudes, you would expect these changes to mostly affect older children or perhaps mainly the parents. Naturally, the parents could in turn have an impact on their children. However, it appears unlikely that the degree to which parents would be affected would be strongly dependent on whether their own children are part of the cohorts that will be exposed to the reforms. In other words, you would expect both cohorts affected and unaffected by a reform to be exposed to such possible changes in attitudes, which would largely mitigate the issue from a causal identification point of view.

Conclusions

The point of departure for this thesis has been that educational institutions are understudied in previous research and that the variation in the institutional design of educational systems carries much weight for decisive social

outcomes. The main argument has thus been that we need to take this institutional variation seriously when discussing the effects and evolution of education.

I argue that the three essays in this thesis all make important contributions that support this argument. These essays show that educational institutions matter for some of the most central political questions of the modern society and that there is a political dimension to the development of these institutions. These three independent essays study separate topics, but in doing so, each of them also highlights a distinct aspect of the main argument. That is, these essays show the relevance of the argument for three rather different research questions. Naturally, this does not imply that the argument is valid for all outcomes in all contexts, but I claim that these findings provide good reasons for future research to seriously consider the institutional character of education. However, each essay also has significant implications for research of a more specific character. In addition, the findings carry weight for policy.

This concluding section of the introductory essay consequently starts by discussing the research implications of the findings in this thesis. Then, topics for further research are brought up. The section finishes with a discussion of the policy implications of the findings.

Research implications

Essay I examines how the institutions of education, the labour market and the welfare state jointly condition equality of educational opportunity and equality of income. This essay contributes with three central insights to research. First, vocational enrolment – very common as a single measure of an educational system – does not adequately discern institutional differences. Just using this measure to study how the character of an educational system affects outcomes means a serious risk of mixing up the effects of different institutions. Thus, the case in point is that it is important to go beyond coarse institutional measures that are as much outcomes of other institutions as true institutional indicators. Second, tracking and wage bargaining institutions interact in deciding outcomes. The effect of each of these institutions on equality of educational opportunity and incomes of vocational graduates is conditioned by the other. In other words, not considering how related institutions interact with one another implies a risk of drawing premature conclusions about the effects of institutions. Third, the results for the two outcomes, equality of educational opportunity and equality of income, on the one hand give some support for that a trade-off may exist regarding the effect of tracking in some institutional contexts. That is, tracking could adversely affect equality of educational opportunity while still contributing to better incomes for vocational graduates. On the other hand, this trade-off is not inescapable, as a high-level of wage bargaining coordination together

with little tracking is related to both relatively equal educational opportunities and relative income equality. Again, this finding would not have been revealed without a joint institutional analysis.

Essay II contrasts how individual educational attainment and institutional tracking affect social trust. By exploiting educational reforms as a source of exogenous variation, this study allows stronger causal conclusions than earlier research on the topic of education and social trust. There are three main research implications of this study. First, the essay gives no support for that educational attainment per se has a positive effect on social trust. Previous findings of such a relationship may be spurious and depend on that education correlate with other socio-economic factors and dispositions. Second, decreasing the level of tracking has a substantial positive effect on social trust. That is, the institutional effect trumps the educational attainment effect. In other words, it could be as important to consider the institutional context of education as pure educational attainment. Third, this study differentiates educational reforms out of their institutional content, more exactly depending on whether they decrease tracking or not. It has been common in earlier research to only consider similar reforms as a source of exogenous variation in educational attainment, which effectively means assuming that the reforms only affect outcomes through educational attainment. However, the differentiation of the reforms out of how they affect tracking reveals that tracking may be more important for some outcomes than education per se. This finding means that the practice of only considering these reforms as a source of exogenous variation in educational attainment may lead to biased results. Put differently, institutional effects would, in this case, be mistaken for educational attainment effects. This finding could potentially be rather detrimental for earlier research that has relied on the assumption that only educational attainment counts.

Essay III explores political explanations to differences in tracking. This essay has two major implications for research. First, government partisanship does matter for how tracking has evolved over time in developed democracies. Christian democratic governments stand out as strong defenders of tracking through early selection, effectively blocking institutional reforms that postpone selection. Conversely, social democratic governments are those that have been most prone to carry through reforms that generally aim to decrease the level of tracking and educational stratification. Second, the political dimensions regarding tracking are more complex than might at first be expected and differ from what is usually expected with regard to social policy issues. While Christian democrats appear to pursue similar policies as for welfare state institutions by encouraging stratification and non-universal institutions, conservatives, liberals and social democrats end up in dilemmas where the interests of their constituents may come into conflict with their ideological roots. Thus, we cannot draw parallels between the political economy of the welfare state to educational institutions, in particular so

for tracking. Educational institutions need to be studied separately from the welfare state and singled out internally, as distinct educational institutions may draw on rather different coalitions for political support. That is, even in this case, we need to go beyond coarse measures of educational systems regarding regimes or enrolment and actually break down the character of educational systems to an institutional level.

Suggestions for further research

The argument of this thesis clearly has a much broader resonance than what has been possible to accommodate within the limits of this piece of research. On an overall level, there is a large set of studies to be conducted starting from the conviction that educational institutions need to be taken seriously. The essays in this thesis are limited in two general ways. These essays have a particular focus on tracking among educational institutions, and they study only a couple of outcomes. While I have argued that tracking is a most decisive educational institution, there are clearly ample opportunities for exploring other educational institutions with regard to how they affect outcomes and their political underpinnings. Such studies have recently been published (e.g., Braga et al. 2013; Garritzmann 2016; Jungblut 2016; Van de Werfhorst 2017), but arguably, there is much that remains to be done. For example, how the institutions regulating private education and educational financing affect various outcomes. I would, however, also argue that the role of tracking for outcomes other than socio-economic equality and social trust would be most interesting to examine closer. There is, for instance, much to do in regard to attitudes on tolerance and political views. Another promising avenue for further research would be to explore how tracking affects equality with respect to factors other than social class, such as gender, race or ethnicity.

There are practically no limits to what may be done on this general level, particularly if we also consider how educational institutions interact internally and with the institutions of the welfare state and the labour market. Nevertheless, each of the three essays also suggest further research of a more specific character.

Essay I focuses on the differences between general and vocational education in different institutional contexts in terms of equality of educational opportunity and equality of income. However, an issue that would need more attention is the alternative of not pursuing either option but rather dropping out of secondary school. This is clearly the most problematic educational outcome from a policy point of view, and a discussion on vocational education needs to take this aspect into consideration. Possible research questions here include how different institutional arrangements regarding tracking, vocational education and labour market institutions affect

drop-out risks. There is some support that decreasing tracking on the upper secondary level may result in more students dropping out (Hall 2012), but this is something that needs to be examined closer in different institutional contexts and at different educational levels. Another rather central question from Essay I is how the social status of different educational alternatives is affected by institutions. Any sociological account of educational choices would attribute much importance to the social status effects of different educational trajectories, and we would thus expect social status to be of central relevance for educational stratification. This is of particular significance for vocational education, which for many could only be an alternative if it carries a reasonable social status. The common understanding within sociology is that the social status (or prestige) of different occupations differs little between countries (Ganzeboom and Treiman 1996; Treiman 1977), but this is a matter that should be more closely scrutinized. A key for such an analysis is to closely consider the role of educational institutions and labour market institutions. An additional suggestion for future studies would be to see how income inequalities between the genders would be affected by different ways of organizing vocational education, not the least with respect to tracking. There is also room for interesting studies on how educational institutions affect the degree of gender segregation of the labour market.

Essay II studies how educational attainment and detracking affect social trust. The mechanism behind how detracking contributes to higher levels of social trust calls for more research. This essay argues that intergroup contacts are vital for this effect, but that could not be adequately tested in the essay. An empirical approach that satisfactorily could test this proposition would be most interesting. It would also be highly relevant to explore how it comes that the positive effect of detracking largely was found among only children with poorly educated parents. Moreover, there are rich opportunities for examining the differences between the genders in regard to attitudinal effects of tracking. What is more, the finding that the institutional content of an educational reform may be as important as whether a reform extends compulsory education would be crucial to explore for other outcomes. As was mentioned above, this result could cast doubt on a number of findings from previous research that has not paid attention to the institutional aspect of educational reforms. To further distinguish institutional and educational attainment effects would without doubt be a prioritized topic for additional research. On a broader level, it would also be of considerable interest to study whether the positive effects of detracking on social trust extend to other circumstances where heterogeneous groups meet and interact, for example, military service and sport associations with broad recruitment.

Essay III examines the political dimensions of tracking policies. Arguably, the identified relationships from the quantitative analysis would open opportunities for several intriguing case studies of how political parties actually have reasoned in reform decisions. Such studies could possibly confirm the

Christian democratic logic put forth in the essay and cast light on the more complex roles of conservatives, liberals and social democrats in tracking policies. It would also be of clear significance to go beyond the study of single parties and rather explore the political coalitions that stand behind detracking reforms.

Policy implications

What may we learn regarding policy out of the findings of this thesis? First, tracking has been a particular focus. The results give considerable support for limiting the degree of tracking. Less tracking fosters equality of educational opportunity, and this effect is not conditioned upon other institutions. In addition, decreasing tracking has a positive effect on social trust. As these two outcomes are both highly valued by most political perspectives and almost certainly carry positive instrumental value through, for instance, enhanced meritocracy and lower transaction costs, these findings provide good reasons for avoiding heavy tracking. However, it is harder to say what the 'right level' of tracking would be. As has been discussed above, some degree of tracking is necessary in any modern educational system. I would also like to stress the role of the institutional context, meaning that what role tracking plays is dependent upon other institutions. Thus, the right level of tracking very well might differ with the institutional context. Countries with educational systems and labour markets where specific skills play an important role probably are wise in being more cautious with large-scale reforms of tracking.

In relation to this point, I would also like to expand on the role of wage bargaining coordination. A higher degree of wage coordination may reinforce the more equal educational opportunities of weakly tracked contexts and lessen income differences between general and vocational graduates. Allegedly, whether the latter result should be regarded as positive differs among political standpoints. However, wage coordination would most likely make vocational education a more attractive option, which might be preferred due to labour market demand. This could give policy makers reasons to defend collective wage bargaining institutions.

Do policy makers then confront a trade-off regarding tracking – having to choose between educational stratification and labour market stratification? My results would say no, at least if a high level of wage bargaining coordination is a viable alternative in a country. These countries are able to combine relatively equal educational opportunities with smaller income differences between general and vocational education graduates. Nonetheless, without any wage coordination, tracking appears to represent a 'second best' regarding labour market stratification, as vocational graduates may fall back on spe-

cific skills. There is thus some support for a trade-off but only in contexts with low levels of wage bargaining coordination.

In any policy decision, it is also central to consider what are not effective measures for achieving a certain objective. Essay I indicates that vocational enrolment as such is of limited relevance for educational and labour market stratification, particularly in relation to the large role it has been given for these outcomes in previous research. It is rather the institutions that define the nature of vocational education that affect these outcomes, such as tracking and coordination. Essay II quite strongly tells us that increasing compulsory education is not warranted out of a concern for fostering higher levels of social trust. No effect is discernable of increased education per se. Naturally, there might be other reasons for prolonging compulsory education, but for promoting social trust, a review of tracking institutions is rather called for.

To conclude, policy decisions on education are characterized by diverging aims and difficult trade-offs. Perhaps the most central dilemma is how to design educational institutions so that they cater to individual variation in interests and talents on the one hand, and give individuals equal opportunities for pursuing their life courses and to participate in society on the other hand. I would argue that this dilemma is what tracking is all about. One way of viewing this issue is to see it as a question of when freedom of choice should be maximized. More choice at an early time point means that children will have more time for subjects that potentially are in line with their aptitudes, allowing them to cultivate their talents. Nonetheless, this approach comes with the cost that such early selection typically will impede choice at a later time point. This dilemma may also be phrased in the question: for how long may the state force children to follow the same educational trajectory, both for the sake of their own development and for the sake of acquiring civil skills? Arguably, these questions are, to a large degree, a matter of political and moral judgement. However, this is not the same as saying that these issues are not for research to engage in. Quite the opposite is true; I would argue that exactly such difficult questions should be top priorities for scholars. Research may discern the empirical and theoretical consequences of different political decisions, which makes clear what is at stake in these decisions.

This thesis has made an effort in line with this conviction, but much remains to be done in the study of education. However, I hope this thesis may serve as an inspiration for how the study of educational institutions may be further developed for trying to solve some of the inherent dilemmas of education. That is, so we someday may have acquired the knowledge to set up our educational institutions so the school can live up to its potential in being 'the most effective and benignant of all the forces of civilization'.

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