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The Political Economy of Higher Education: Preferences, Inequality, and Policy Change

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Preface

Abstract

This dissertation is a contribution to the on-going debate about the political economy of higher education and its distributive consequences. It seeks to explain variation in institutional design between countries and across time, elucidate tradeoffs in policy-making, and analyze determinants of inequality in access to higher education. To this end, institutional design is conceptualized as the combination of enrolment, degree of access inequality, finance mechanisms and quality. The introductory chapter first presents this conceptualization and describes variation in system design from a comparative perspective. The following papers apply it to explanations of both policy outputs and outcomes.

This cumulative dissertation consists of the following papers written in **sole authorship**:

- The Trilemma of Higher Education and Equality of Opportunity: Social Background, Access to Higher Education and the Moderating Impact and Public Subsidization (previously published in: M. Wulfgramm, T. Bieber & S. Leibfried (Eds.), *Welfare State Transformations and Inequality in OECD Countries*, (pp. 157-183). Basingstoke: Palgrave Macmillan)
- Explaining Institutional Change in UK Higher Education: Towards a Partisan Theory?
- The Role of Parties in the Distributive Politics of Higher Education

The preceding Introductory Chapter embeds the dissertation in a broader research context, discloses conceptual underpinnings and explicates how the three individual papers relate to one another.

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Chapter 1

Introductory Chapter

In times of the on-going transition towards service-oriented, knowledge-based economies, the provision of higher education^[1] is becoming increasingly vital. In recent decades, enrolments have expanded considerably all over the (Western) world in order to provide an increasing proportion of the population with high-level skills and ensure competitiveness in a globalizing world. As such, it might be intuitive to assume higher education tracks previous developments in primary and secondary education, both of which have long since become universal - at least in advanced economies. However, as of yet, the empirics tell a different story. As opposed to broadly convergent primary and secondary schooling systems, the post-compulsory nature of higher education has led to considerable variation in system design between countries. This applies to enrolment, where across advanced economies, participation rates vary from 53% in Switzerland to 94% in Finland (Lee & Lee, 2016).^[2] It is also true for other characteristics of national higher education systems such as public and private financing, within-sector stratification, governance mechanisms and degree structures.

It is only natural then, that scholars - particularly those who are interested in political economy - have begun to scrutinize this variation in system design. It stands to reason that structural differences between countries as well as over time may impact and in turn be impacted by economic institutions, policy preferences, and economic inequality. In the past few years, a burgeoning literature on these topics has emerged within which two questions are looming large.

First, how can the observed variation in system design be explained? For example,

¹The terms “higher education,” “tertiary education” and “academic education” are used interchangeably in this dissertation.

²This figure excludes Luxembourg, which only in 2003 founded its first university and primarily relies on international student mobility for human capital formation in the tertiary sector.

what factors lead to expansion of enrolments and under which circumstances does the higher education sector experience stasis? Likewise, what compels policy-makers to invest or refrain from investing public financial resources in higher education? Regarding these questions, theorizing the distributive implications of higher education systems has proven fruitful. While early work on the matter has emphasized the role of higher education in effecting upward social mobility, more recent approaches have used the fact that access to universities is stratified by class to argue that public spending on higher education amounts to a regressive transfer of resources from the poor to the rich. As aggregators of preferences, political parties are in turn expected to design or change higher education systems with the distributive consequences for their constituencies in mind.

Yet other approaches de-emphasize the role of partisan agency and alternatively ascribe policy change to socio-economic problem pressure, the on-going internationalization of education policy or, most prominently, historical path dependencies. As a consequence, while our understanding of (change in) national higher education systems has improved markedly in the past few years, a clear-cut consensus has not yet emerged. This is at least partly due to the fact that with increasing complexity of the theoretical underpinnings, it has become more and more difficult to adequately operationalize and measure central concepts.

With policy *outputs* as the central dependent variable in the aforementioned strand of the literature, the second question is concerned with policy *outcomes*. Here, the focus lies on the effects higher education systems have on topics as diverse as the structure of labor markets, economic growth and individual policy preferences. Given the above discussion of distributive implications, an especially salient question is whether higher education system either reproduce or alleviate inequalities with regard to educational opportunities and material outcomes such as wages. While the effect of system variation in secondary education (particularly with regard to tracking) on inequality levels is well established, there is little research on possible independent effects of the institutional design of the higher education system. Rather, the literature often assumes that enrolment expansion is synonymous with decreasing inequality.

In this cumulative dissertation, I address both of these open research questions in the young but productive field of the political economy of higher education. In doing so, my contribution is three-fold. First, I put inequality levels in access to higher education front and center of my analysis. I am doing so both because of its normative implications and because, I argue, inequality levels may figure prominently into questions of institutional change and design. In this sense, they are not merely a

measuring stick against which to judge the performance of education system as an outcome, but also influence how policy-makers view the distributive consequences of higher education in particular. In this context, I argue and show empirically that there is no automatic link between increasing enrolment and decreasing levels of access inequality and that equating the two concepts is therefore problematic. In a similar vein, I recognize that great strides have been made in conceptualization and operationalization of characteristics of higher education systems, but argue that further differentiation can help us understand the dynamics of higher education policy making even better. Along with levels of access inequality, I argue that the quality of higher education might structure partisan preferences over policy and - given the variable but consistently upward trend of enrolment expansion - could be where parties of different sides of the political spectrum diverge most clearly from one another. Finally, I ask scholars to reconsider the effect direction of path dependencies on institutional design. The existing literature, in line with Pierson's (1993) seminal work, almost exclusively assumes increasing returns of policies, resulting in a lock-in of existing institutions once enough time has passed. Far from denouncing the importance of such positive feedback effects, I merely suggest that it can be helpful to conceptually allow for the possibility of negative feedback, undermining the institutional structure and opening up rather than closing down on avenues for policy change. Given the dynamic trajectory of enrolment and its often direct bearings on public expenditures, higher education policy might actually be a prime candidate for such negative feedback effects.

The dissertation consists of this introductory chapter and three papers. The papers appear in the order that they have been written in my time as a doctoral student. While this does not lead to neat sequence of policy outputs first and policy outcomes second, I decided to do so because the papers build on one another both theoretically and empirically.

The first paper, titled *The Trilemma of Higher Education and Equality of Opportunity: Social Background, Access to Higher Education and the Moderating Impact of Public Subsidization* comparatively analyzes inequalities of opportunity in access to higher education across 22 European countries. Using multilevel regression techniques, I find that parental background consistently structures the likelihood to enter higher education, though the size of this effect strongly varies between countries. I exploit this variation to assess whether the institutional design of the national higher education system - more expressly the level of enrolment and public subsidization per student - has an effect on the observed patterns of inequality. My findings suggest

that enrolment levels do not lead to a decreasing gap in the propensity to enter higher education relative to parental background, contrary to what is typically assumed in the literature the political economy of higher education. The level of per-student public subsidization, on the other hand, demonstrably reduces access inequality. These results suggest that public investment in higher education can meaningfully reduce inequality of opportunity.

In the second paper titled *Explaining Institutional Change in UK Higher Education: Towards a Partisan Theory*, I aim to elucidate trade-offs and choices policymakers are faced with in reforming higher education systems. First I set up a conceptual multivariate framework in an attempt to capture the institutional design of higher education system. I argue that the dimensions of finance mechanisms, quality, enrolment and degree of inequality of access meaningfully describe higher education policy. As a second step, I apply this conceptualization to a single-case study, tracing the development of British higher education from 1963 to 2015. I show that it has transitioned from a publicly financed elite system with high levels of per-capita student subsidization and access inequality to an average-sized system with limited subsidization but comparatively equitable access. Interestingly, this has been achieved despite (and one might even argue because of) the introduction of private financing mechanisms. Regarding the driving forces behind institutional change, I identify a mixture of problem pressure, feedback effects, but also partisan agency.

The last paper - named *The Role of Parties in the Distributive Politics of Higher Education* - seeks to apply insights from the UK case study to a larger group of countries in order identify whether patterns of partisan preferences are generalizable across time and between countries. Combining insights from the start of the art of the literature, I theorize partisan preferences to be conditionally dependent on both the type of spending and the existing structure of national higher education system. Taking this framework as a reference point, I theorize that national governments of different ideological leanings strive to change spending patterns conditional on the degree of inequality in access to higher education. I test these assumptions based on a sample of 20 European countries, again using multi-level regressions as the principal analytic tool. While I do find scattered evidence of partisan effects, results suggest that spending patterns are more fundamentally related to structural characteristics such as national wealth and overall patterns of public spending.

This short introduction serves the purpose of contextualizing the remainder of this chapter, which is structured as follows: First, I review existing research on the political economy of (higher) education in more detail in order to embed the papers of my

dissertation in the literature. Building on this section, I secondly elucidate how I have come to understand the dynamics of higher education policy-making over the course of my studies. This conceptualization constitutes the common thread connecting the three papers of my dissertation. In this section I also present some descriptive empirics demonstrating the trajectory of higher education systems from a comparative perspective. I conclude by critically assessing contributions to the literature, making transparent limitations of my research and highlighting avenues for further research.

1.1 Conceptual underpinnings

This section grounds my dissertation in the field of political economy and traces the evolution of research on (higher) education policy in the past few decades. The central argument of this section is that despite an impressive process of increasing analytical differentiation, higher education policy has not yet been conceptualized in a way that holistically describes variation in system design between countries and across time. I explicate what I consider to be conceptual gaps before setting up my own framework in the following section.

1.1.1 Political Economy as a Guiding Framework

This dissertation is squarely grounded in the field of political economy. At the most general level, the term political economy as understood in this dissertation addresses the interplay between individual behavior, political as well as economic institutions and public policy (Weingast & Wittman, 2009). The field has a decidedly multi-disciplinary perspective and boasts a wide variety of theoretical as well as methodological approaches. One unifying theme of these approaches, however, is that they emphasize the role of politics in explaining institutional origin and change. Whereas economics as a field has tended to abstract away from government, political economy views the structure of the political system and the partisan composition of government as the central independent variables explaining variation in how resources are allocated to different uses (Iversen & Soskice, 2006).

The second theme concerns the process of political decision-making. In political economy, voters are typically conceived of as broadly rational actors that are policy-oriented and express their preferences on the basis of their relative position in society (Dewan & Shepsle, 2011). Their preferences are exogenously given based on the distributive impact of different policy options, with voters supporting whatever option

materially benefits them the most. Political parties, then, serve as transmission belts for the preferences of their voters. However, the need to prioritize policy objectives, feedback effects from existing policies and the design of the political system constrain parties in the ability to effect reform even when in government.

Finally, political economy consistently accentuates the interrelatedness between politics, policy outputs, policy outcomes, and individual behavior. Moreover, it is often argued that institutions develop in lockstep and are complementary to one another. For example, the core contention of the influential Varieties of Capitalism (VoC) approach (Hall & Soskice, 2001) is that two distinct types of market economy have developed just around the principle of how firms solve coordination problems. Whether this is done through inter-firm cooperation (*Coordinated Market Economies*) or competition (*Liberal Market Economies*) goes hand in hand with, for example, the structure of the labor market, wage bargaining mechanisms, social protection policies and, as we will see later in this chapter, which skills individuals are incentivized to invest into. In this context “one set of institutions is said to be complementary to another when its presence raises the returns available from the other” (Hall & Gingerich, 2009, p. 450).

This notion of self-reinforcing positive feedback implies a strong bias towards institutional continuity. It does not preclude change from happening altogether, however, but is best understood as a constraining force on policy-makers ambitions to reform (Thelen, 2009). Moreover, this dissertation also allows for negative feedback effects leading to institutional erosion, as will be detailed later in this chapter.

For the purpose of this introduction, the central take-away from this literature is that the policy process is circular. More specifically, the institutional setup of a given policy field leads to policy effects that in turn structure the preferences of individuals, interest groups and economic actors alike. Partisan actors then aggregate their voters preferences and - when there is a sufficiently high degree of mismatch between the status quo and the preferred institutional setup - try to effect corresponding policy reform. This broad understanding of political economy is stylized in *Figure 1.1*. It serves as the starting point for the following survey of the literature on the political economy of education.

1.1.2 Tracing the Evolution of the Field: A Literature Review

In order to demonstrate the central conceptual tenets underlying my research, it is essential to critically appreciate the maturation of the related literature. While there

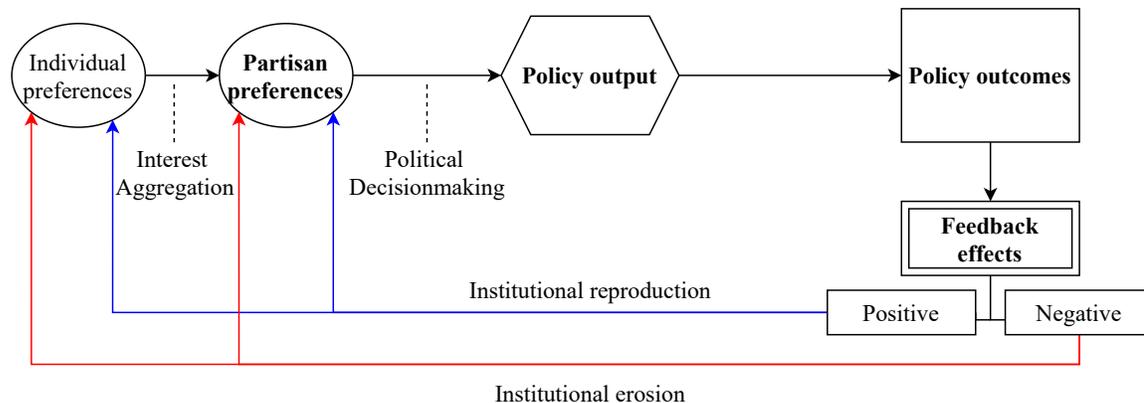


Figure 1.1: Illustration of Political Economy

is no longer a research tradition of education policies in comparative political science (Busemeyer & Trampusch, 2011; Jakobi, Martens, & Wolf, 2009), in the last 15 years or so the field has grown substantially. This growth has given rise to a process of differentiation - both into the different sub-domains of education (primary, secondary, tertiary, vocational) and into particular policy components (e.g. finance and governance mechanisms). As a consequence, the literature is now too wide to neatly summarize in a few pages. Though I recognize the contributions made in fields such as the internationalization of education policy (see, for example, Martens & Windzio, 2022), I limit myself here to scholarship that has directly informed my understanding of education politics and the framework of political economy discussed above.

The pioneering studies on education from a political science perspective were firmly embedded in welfare state research. As such, they tended to view education as a component of social policy more broadly and mainly explored variation between countries in terms of spending patterns. For example, in one of the first cross-national studies investigating the determinants of public education expenditures, Castles (1989) finds that spending levels between 1960 and 1981 could primarily be explained by a mixture of national wealth and politics. While the former had a positive impact both on levels and change of educational expenditures, Castles identifies a negative effect of the parliamentary strength of Right parties. As a consequence, the author argues that while education differs from other welfare state programs in that it promotes equality of opportunity rather than equality of condition, partisan rationales for investment into education are not manifestly different from, for example, unemployment compensation: while Right parties believe public investment to be inefficient and an impediment to economic growth, Left parties see it as means to promote equality and support the poor. While from today's perspective Castles' results would be met with skepticism

on the basis of his purely cross-sectional approach to regression modeling, Boix (1997) analysis - with the benefit of 18 additional years of data and a more sophisticated time-series cross-section methodology - boasts similar findings. Again, GDP per capita, conceptualized as a proxy for economic development, robustly drives spending levels. With regard to politics, Boix finds a positive impact of Social democratic / socialist control of government. The theoretical argument underpinning this result is that partisan preferences are reflected in differing supply-side economic strategies. Both left and right parties aim to maximize economic growth, but only Left parties believe this is best achieved by raising the productivity (and, consequently, wages and taxes) of workers through public investment into human capital. Right parties, on the other hand, believe in a system of perfect market competition and view an interventionist agenda as “theoretically unsound, inefficient and damagingly redistributive” (Boix, 1997, p. 818).

The early studies authored by Castles and Boix both understood education policy as part of the welfare state proper. As such, the distributive consequences of education spending were ultimately conceived of as indistinguishable from other progressive tax-and-spend policies. By contrast, Hega & Hokenmaier (2002) argued there exists a trade-off between government spending on education the one hand and social programs on the other. Drawing from the welfare state typology introduced by Esping-Andersen (1990), they contend that “particular kinds of welfare regimes have given political and budgetary preference to social insurance programs over educational programs, tending to limit spending on the expansion of of public education and, therefore, the opportunities for social mobility” (Hega & Hokenmaier, 2002, p. 145). More specifically, the expectation is that liberal welfare states, through their focus on individualism and social mobility, spend the highest *percentage* of their overall public spending on education. Social-democratic welfare states, mainly concerned with de-commodification, spend a lower proportion of overall public spending on education. Given their preference for public over private investment more generally, they are, however, expected to spend a larger amount than liberal welfare states when the dependent variable is conceptualized as educational spending as a percentage of GDP - not, as before, as a percentage of overall public spending. Finally, Conservative welfare states are hypothesized to lag behind the other regime types in both measures because investing in social mobility would run counter to their emphasis on the the preservation of the status quo in the socio-economic order.

Using a mixture of descriptive statistics and repeated cross-sectional regressions, Hega & Hokenmaier provide moderate support for the argument of national education

policy profiles co-varying with membership in the welfare regime types. Notably, while Social-Democratic states invest most public resources in education, there is no difference in spending between the Liberal and the Conservative. In light of this finding, the authors speculate that more meaningful variation between Liberal and the other welfare state types could lie in patterns of *private* spending on education - suggesting a corresponding analysis for future research. Regarding partisan politics, the authors find no effect of Socialist party strength on education spending when controlling for welfare regime type membership. This contrasts with the previous state of the art in the literature that had placed Left parties as expansionists of education spending. Rather, the study by Hega & Hokenmaier was the first to investigate possible institutional complementarities, arguing that nations have over time developed distinct social policy profiles that are resilient to diverging governmental preferences. This insight mainly ascribes explanatory power to the socio-historical origin of welfare states and emphasizes path dependency over the political mood of the day.

The corresponding literature on institutional complementarities between education and other realms of policy in my view is best represented by an article written by Iversen & Stephens (2008)³ It posits that *three worlds of human capital formation* have emerged, caused by a combination of welfare production regimes and partisan politics: the first world is characterized by heavy investment in public education and a focus on redistribution; the second by less public spending but strong support for vocational training and high levels of social insurance; and the third by mostly private investment into education and low levels of redistributive spending. Taken together, the combination of prevalent patterns in education and social protection spending form incentives for skill investment on the individual level. Starting with the third world of human capital formation - the one that is characterized by low levels of spending and protection and is found in English-speaking Liberal market economics - individuals need to self-insure against labor market risks by obtaining high-level so-called *general* skills that are portable across firms and industries. They do so by pursuing higher education, financed privately through tuition fees. Though this does mean incurring considerable private debt, the absence of redistributive tax policy and social protection programs translates to a comparatively high wage premium for obtaining higher education. This outcome, in turn, leads the upper and middle classes to continue to support the status quo and effectively prevents fiscally costly policy measures designed to increase educational mobility for the lower class.

³For a more thorough account of this literature, see also, for example, Estevez-Abe, Iversen, & Soskice (2001), Iversen & Soskice (2006) and Ansell & Gingrich (2013).

This outcome is explained by the existence of majoritarian electoral institutions in Liberal market economies that have led empirically to a dominance of right-of-center parties in government (Döring & Manow, 2015; see also Iversen & Soskice, 2006; Manow, 2009). In Continental Europe, the presence of proportional representation institutions have tended to engender class-coalitions between the poor and the middle class, leading to structurally higher degrees of public spending and more redistributive tax policy. The crucial distinction between the two remaining worlds of human capital formation comes down to whether the Left (Social Democrats) or the the Center (Christian Democrats) dominated in these coalitions. In the Nordic countries, the dominant Left aimed to lift the level of general skills of the entire population through heavy investment in all types of education - from day-care to higher education. In Continental Europe, where Christian Democrats have played an important role, there is a preference for vocational education, which emphasizes firm-specific over general skills. In sum, Iversen & Stephens argue for a historical explanation of education policy, which they define more broadly than previous studies that had only focused on public spending. The combination of electoral institutions and the presence of a strong Christian Democratic party has given risen to three distinct worlds of human capital formation that are all in equilibrium because of supporting institutions such as the degree of wage compression and social protection policies. Under this explanatory framework, institutional change is unlikely, though the authors recognize that economic developments such as technological advances might threaten the stability of the three worlds. In particular, they argue that political conflict will increasingly be about investment in higher education as demand for high-level general skills increases.

Taken together the scholarship exemplified here by Hega & Hokenmaier (2002) and Iversen & Stephens (2008) shaped our understanding of comparative education in three ways. First, it showed that partisan preferences over policy are moderated in important ways by characteristics of the political economy - for example, the structure of the labor market or electoral institutions. What follows from this is that, second, countries with similar institutional arrangements have moved in unison, leading to the formation of distinct clusters regarding the delivery of education and the goals it serves. Third and perhaps most importantly, this scholarship has shown that the existing practice of examining overall levels of public spending on education is conceptually insufficient. Instead, it has compelled the field to disassemble education into its constituent parts and expand the horizon to measures of policy output other than public spending.

Building on these insights, Busemeyer (2009b) was among the first to specifically

differentiate between spending on non-tertiary education on the one hand, and higher education on the other. His main argument is that Social Democratic parties are compelled to increase spending in higher education despite its limited redistributive capacity due to inequality of access. They do so in order to forge cross-class coalitions between the lower and the middle classes, satisfying their core constituency while at the same time reaching out to prospective new voters. Investment in public higher education appeals to the middle class because it reduces the price they have to pay for academic education vis-a-vis systems that emphasize private financing. For the lower class, public investment becomes attractive when it is flanked by a credible commitment to reduce inequality of access. This, in turn, can be achieved by expanding enrolment. The result may be, from the perspective of Leftist parties, a virtuous circle in which “working-class parents increasingly favor expanding public higher education institutions in order to send their children to universities, who in turn become supporters of the continuing expansion of public higher education” (Busemeyer, 2009b, p. 111). The author tests this proposition by estimating the effect of cabinet seat share of Social Democrats on four dependent variables: overall public spending on education, public spending on non-tertiary education (including primary, secondary and post-secondary education), public spending on tertiary education and gross tertiary enrolment. Results suggest - in line with what previous research had found - a positive overall relationship between Leftist government strength and overall public spending on education. However, effect strength varies significantly when spending is disaggregated into education sectors and is by far the strongest for public spending on higher education. Additionally, Busemeyer finds a positive relationship between left party strength and enrolment expansion, indicating that Left parties have also held up their end of the bargain with their core constituency. This effect is less pronounced than the increases in spending, however, which the author ascribes to the more limited influence government typically has on a slow-moving outcome variable such as enrolment vis-a-vis more immediate budget-making.

Busemeyers lasting contribution certainly is the insight that we need to distinguish between primary, secondary and higher education when theorizing determinants of policy and policy change. Conflating these sectors, as had been standard procedure in the literature, quite simply overlooks the fact that while access to the former has long been universal, beneficiaries of the latter are a more selected group. This, in turn, has crucial implication for the distributive consequences of higher education which is addressed the inclusion of the level of enrolment as an additional measure of institutional design.

However, the study left further progress to be made by future scholars on three fronts. First, in order for the theoretical assumptions of Left parties as higher education champions to work, it assumed that public spending on higher education is automatically associated with decreasing inequality of access. This assumption, as we will see later in the next section as well as in *Chapter 2* of this dissertation, empirically rests on shaky foundations. Second, it theorized the strategy of Social Democrats only. It is unclear a priori why Conservative parties would not pursue a similar strategy to forge a cross-class coalition between the upper and middle classes, the only exception being a lesser focus on reducing access inequalities. Finally, it assumed partisan preferences to be uniform across all countries and corresponding institutional setups. In this framework, the strategy of the Left would be to increase public investment *ceteris paribus*, irrespective of the institutional environment they were confronted with.

Consequently, the next step in the evolution of scholarship was to analyze *conditional* effects of partisan preferences on policy output. Against this backdrop, Ansell (2008, 2010) argued that the existing structure of the higher education system is key in understanding the trajectory of reforms. They conceptualize national higher education systems as the combination of the values of three interrelated variables. The first, *Enrolment*, is defined as the proportion of young adults entering higher education. Secondly, *Public Subsidization* measures the amount of public money spent on each student currently enrolled in higher education. The third and final variable, *Overall Public Cost*, is effectively the arithmetic product of Enrolment and Per-Student Subsidization, with increasing levels at either variable resulting in a higher overall burden on the public purse.

Building on this conceptual foundation, Ansell posits that policymakers are faced with a ‘trilemma of choices’ when designing (or reforming) national higher education system. At any point in time, they can logically fulfill two of three possible goals that directly relate to the three variables described above. For example, when policymakers wish to expand enrolment, they must choose between increasing the total burden on public coffers in order to conserve the rate of per-capita subsidization, and decreasing subsidization in order to avoid escalating public cost. Similarly, if value is placed on low levels of overall public spending, this can only be achieved by either limited enrolment expansion or acceptance of decreasing levels of per-capita subsidization. Resolutions to this trilemma, according to Ansell, have resulted in three distinct ideal types: the elite model, the mass public model, and the partially private model. In the elite model, per-capita subsidization is high but enrolment is

comparatively low, leading to moderate overall public expenditure on higher education. The mass public model also generously endows students with public funds, but admits a much larger proportion of young adults into the higher education system. Such a large and publicly-financed sector is costly to governments and tax-payers alike, however. In order to avoid such massive expenditures, in the partially private model a sizable proportion of the cost associated with the provision of HE is incurred by households rather than the government, i.e. via tuition fees. By keeping individual subsidization low, these systems can support high enrolment rates without being too much of a burden on the public purse.

Using formal modeling, Ansell goes on to develop a (re)distributive theory of class-based partisan preferences. Crucially, they suggest that the provision of higher education is typically regressive because of the non-universal nature of higher education and the corresponding access bias towards the wealthy. In this context, it is assumed in the formal model that the relationship between enrolment and inequality of access is perfectly linear, meaning that enrolment always expands from the richest person in a society to the threshold household.⁴ Because of this logic, elite models - which in the postwar period were ubiquitous - are sustained by an unlikely cross-class coalition between the lower and the upper classes. The upper class is unwilling to expand enrolment both because of the increased tax burden and because they would stand to lose the comparative advantage they enjoy vis-a-vis the other classes. The lower class also is not keen to finance expansion, quite simply because they would not receive higher education until enrolment approaches universality. However, macro-economic pressure to increase the level of human capital has resulted in enrolment expansion in all industrialized countries, albeit to varying degrees. Given this fixed trend, governments are faced with the choice to either move towards the mass public or the partially private model. Because spending at low levels of enrolment is particularly regressive, Ansell argues that Leftist parties prefer to effect expansion through private investment in order to avoid taxing their core constituency for a benefit they will not receive. Right parties, on the other hand, view expansion as a rare opportunity in which they can target social spending specifically towards their voters all the while offering an electoral incentive to the middle class, which stands to gain most from initial expansion. This pattern of partisan preferences is the opposite of what standard theories of welfare spending suggest and stands in contrast to the rest of literature that had recognized the regressive nature of higher education provision but nonetheless found spending increases to be associated with Leftist governments.

⁴This means that at 50% enrolment, the median household gains entrance to higher education.

However, the pattern reverses once enrolment reaches 50%. At this point, additional entrants into higher education belong to the constituency of the Left and since the tax burden lies chiefly with wealthy, Leftist governments will tend to increase public spending and edge the system towards the ideal-typical mass public model, effectively turning higher education into a public good. The Right, on the other hand, is no longer willing to accept that costs continue to increase proportionally with enrolment and will thus scale back public spending in favor of private funding mechanisms. From their perspective, this has the added benefit of slowing down the rate of expansion due to the fact that new entrants - given their position in the income distribution - are sensitive to private cost.

The central hypothesis, a significant interaction effect between government and enrolment level, is confirmed using a standard panel data regression model. The corresponding marginal effect yields that Right parties have increased public spending up to a threshold of (depending on the model) roughly 40% enrolment. Once enrolment increases beyond this threshold, Right parties on average have scaled back public funding, just as the model predicted (through the threshold arrived earlier than the formal model suggested).

The formal model developed by Ansell is analytically useful, offers a compelling account about how political conflict over the provision of higher education plays out and is supported by later studies (Rauh, Kirchner, & Kappe, 2011). Its central claim - that partisan preferences may be conditional on the structure of the existing system - dispels the notion of uniform effect directions prevalent in the literature up to this point. However, its parsimony necessarily led to some simplifying assumptions that are unlikely to hold empirically. For example, Ansell treats enrolment levels as exogenously given, with varying degrees of macro-economic problem pressure leading to expansion. While it is true that all industrialized countries have undergone expansion in recent decades, the considerable degree of cross-national as well as temporal variation cannot causally be attributed to problem pressure alone. Even if the need for providing highly-skilled human capital is the driving force, it does not magically lead to more students in more universities. Rather, both the degree of and the means by which enrolment expansions is being organized is more than likely determined by politics.

Additionally, conceptualizing higher education systems as a combination of the three variables in Ansell's trilemma only might not suffice in explaining the formation of partisan political preferences. In particular, the practice of using overall public spending (or, as Ansell does, the proportion of spending on higher education on all

education sectors) as a catch-all indicator for the distributive consequences of higher education systems can be improved upon. In this regard, an important contribution - and the last one detailed in this literature review - comes from Garritzmann (Garritzmann, 2015, 2016). Their key proposal is to disentangle the distributive implications of higher education by differentiating between spending on higher education institutions on the one hand, and on student subsidies on the other. Spending on institutions includes resources available to universities to provide higher education, for example teaching grants or staff wages. These directly affect the quality of higher education for those who have already gained access. Given access is stratified, this is the component of higher education spending that is regressive in nature, since those who are privileged enough to pursue higher education are being supported by tax money. However, spending on institutions need not be public, as tuition fees - payable by private households - often make up a significant proportion of resources available to universities.

Spending on student subsidies, defined as financial aid provided to students in the form of grants or subsidized loans, is also part of the standard measure of overall public spending but has decidedly different distributive implications. Garritzmann argues that spending on subsidies is fiscally redistributive because it relaxes financial constraints of poorer students and thus increases their probability to pursue higher education. For this reason Left parties aim to establish or increase the generosity of existing student aid programs as a means to enable social mobility and realize equality of opportunity. Right parties, on the other hand, oppose student subsidies because of their progressive nature and because aid reduces the exclusivity their constituency enjoys over higher education as a good. Regarding the question whether to finance higher education institutions from public sources or via tuition fees, partisan preferences effectively reverse. Right parties see the introduction of tuition fees as a way to preserve the comparative advantage of their constituency because less privileged individuals are also less likely to buy their way into receiving higher education. Leftist parties are aware of this deterrent and thus oppose tuition fees.

Taking this framework as a reference point, Garritzmann develops a “Time-Sensitive Partisan Theory,” essentially arguing that long-term balance of power and the specific timing of partisan spells in government have led to the evolution of four distinct worlds of student finance from a common starting point of low subsidies and no tuition. Where Left parties exerted long-term dominance (i.e. the Nordic countries), their preferences (high level of subsidies and no tuition fees) are both fully realized. In structurally Conservative countries, governments established regimes in which

subsidy spending is low but high tuition fees were introduced (e.g. in Japan). In countries where Left parties were only in power for short periods in time, their efforts to establish student subsidies were nullified by subsequent Conservative governments (e.g. in Germany). Finally, in countries where Left governments were in power long enough to establish student subsidy regimes *and* have them in place enough so that they generate positive feedback effects, later Conservative governments were not able to retrench spending but had to resort to a second-order preference of effecting high tuition levels (e.g. the United States). Garritzmann finds evidence for this model using both historical case studies as well as quantitative analyses on public opinion, party positions and government effects on cross-national patterns of subsidies and tuition fees.

Garritzmann's model strongly emphasizes positive feedback effects and argues that the composition of governments in the immediate post-war period was much more important than in subsequent decades. They contend that in recent decades, higher education systems have become path-dependent, as public opinion and, consequently, partisan preferences increasingly support the status quo. In other words, the menu of policy options available to decision makers is extremely limited, limiting the prospects for wholesale political reform and leading to stable finance regimes.

From my perspective, Garritzmann's main contribution to the field is the disaggregation of types of expenditures into spending on institutions and student subsidies. This differentiation makes it possible to make a nuanced argument about the distributive consequences of higher education provision. Together with Ansell's argument of preferences being conditional on the existing institutional design, it forms the backbone of my research. However, I diverge from their line of thinking in two respects. First, Garritzmann claims they endogenize enrolment by explicitly incorporating spending on student subsidies into the model, assuming that student aid generosity drives enrolment levels. As such, student aid is a panacea for Left parties because it effects social mobility by reducing income dependence of access *and* making higher education available to a larger proportion of young adults. While it is empirically true that spending on subsidies reduces the relative impact of parental background on the propensity to enter higher education (see *Chapter 2* of this dissertation), it is only marginally related to enrolment expansion. In disentangling the distributive implications of higher education, it is therefore important to distinguish between enrolment and inequality of access. Second, the temporal within-country variation in institutional design that can be observed in the last few decades alone belies the notion that higher education systems are governed almost exclusively by a logic of increasing

returns. For example, the United Kingdom has over the course of the past 25 years moved from what Garritzmann would characterize as a low-tuition low-subsidy regime into into the high-tuition high-subsidy ideal type (see *Chapter 3* of this dissertation). Additionally, as the next section will show, even countries where wholesale reform is absent have undergone significant institutional change regarding enrolment, inequality of access and finance mechanisms. As I hope has become clear, the field has progressed

Studies	Castles 1987, Boix 1997	Hega & Hokenmaier 2002, Iversen & Stephens 2008	Busemeyer 2009, Garritzmann 2015 & 2016	Ansell 2008 & 2010
Key contributions	<ul style="list-style-type: none"> • Pioneering studies • Investment in education not manifestly different from other social policy arenas • Left parties favor investment in human capital formation 	<ul style="list-style-type: none"> • Membership in country clusters predicts levels of education spending • Notion of institutional complementarity • Complementarity leads to institutional reproduction 	<ul style="list-style-type: none"> • Politics of Education vary between sectors • Higher Education: Further differentiation between spending on subsidies and spending on institutions 	<ul style="list-style-type: none"> • In higher education, dilemma between containing costs and high levels of per-student subsidization • Impact of partisanship conditional on existing institutional design of higher education system

Degree of analytic differentiation

Figure 1.2: Evolution of the Literature on Higher Education Policy

significantly since the pioneering studies in the late 1980s. The maturation of the literature has brought about an ever increasing degree of differentiation both in terms of how higher education systems can be described conceptually and what factors are driving institutional change (see *Figure 1.2*). Most importantly, progressing from using public spending on all education levels first to distinguishing between education sectors and second to spending on higher education institutions and student subsidies allowed researchers to theorize the complicated distributive implications of higher education. The central insight in this respect is that since access to higher education is de-facto stratified by class, public investment into higher education has fiscally regressive components. The degree of regressivity, in turn, is determined by how the higher education system is set up. Here, the basic argument is that enrolment levels approximate the degree of class-based inequality of access, though I will show in the next section the two concepts are related but do not co-vary perfectly with one another.

The degree to which the provision of higher education is regressive is then assumed to shape the calculus of political actors who are tasked with aggregating their constituencies preferences and converting them into policy. While the older literature hints at the special distributive implications of higher education, it uniformly argues that Left parties are proponents of public spending. The more recent advances described

above, on the other hand, argue that at least in some institutional environments, Right parties tend to be the ones investing in higher education.

Even though preferences over the provision of higher education are assumed to be dynamic based on the type of spending and the institutional context, another recurring theme in the literature emphasizes higher education systems are essentially static due to the existence of institutional complementarities and the power of path dependency. In this line of thinking, the trajectory of higher education was determined several decades ago and has since accumulated returns that make wholesale political reform increasingly unlikely.

1.2 Bringing it together: Conceptualizing the distributive political economy of higher education

This dissertation builds on the conceptual evolution observed in the literature. Combining the insights presented in the previous section and filling what I consider to be blind spots of the literature, my goal was to develop a holistic understanding of the institutional design of higher education systems in advanced democracies, with a particular focus on their distributive implications. In this section, I explicate how I have come to view this distributive political economy of higher education over the course of my research by discussing central institutional characteristics and presenting quantitative data describing variation in system design across the industrialized world. More specifically, in this framework the following components capture institutional design: (i) Enrolment, (ii) Inequality of Access, (iii) Finance Mechanisms, and (iv) Quality. This conceptualization makes it possible to trace the trajectory of higher systems over time and serves as the common thread binding together the following papers this chapter. For reasons of data availability, I focus on the time period of 1997 through 2016. In contrast to the notion of largely path-dependent systems, this analysis shows considerable variation not only between countries, but also across time. With two exceptions, all data come from the OECD *Education at a Glance* series and have been scraped using the *tabulizer* package (Leeper, 2018) in the statistical software *R* (R Core Team, 2021). Enrolment data are taken from the UNESCO database and the level of access inequality is estimated by myself manually. Coverage of the data is decent, though the inequality of access measure is limited to 21 European countries whereas the OECD data includes non-European industrialized nations as well. Where necessary, missing data have been imputed using an expectation maximization

algorithm designed specifically to deal with time-series-cross-section data (Honaker, King, & Blackwell, 2011).

1.2.1 Enrolment

The level of Enrolment is defined as the number of students currently enrolled in tertiary education as the proportion of the five year age group following the official age of secondary-school leaving. In contrast to corresponding data provided by the OECD, this indicator includes all students in the numerator of the calculation, not only those that entered tertiary education directly after obtaining secondary education. While this approach could theoretically lead to enrolment ratios in excess of 100%, it counts deferred entrants which in some countries make up a sizable portion of those enrolled. *Figure 1.3* shows the trajectory of enrolment patterns in between 1997 and 2016. It

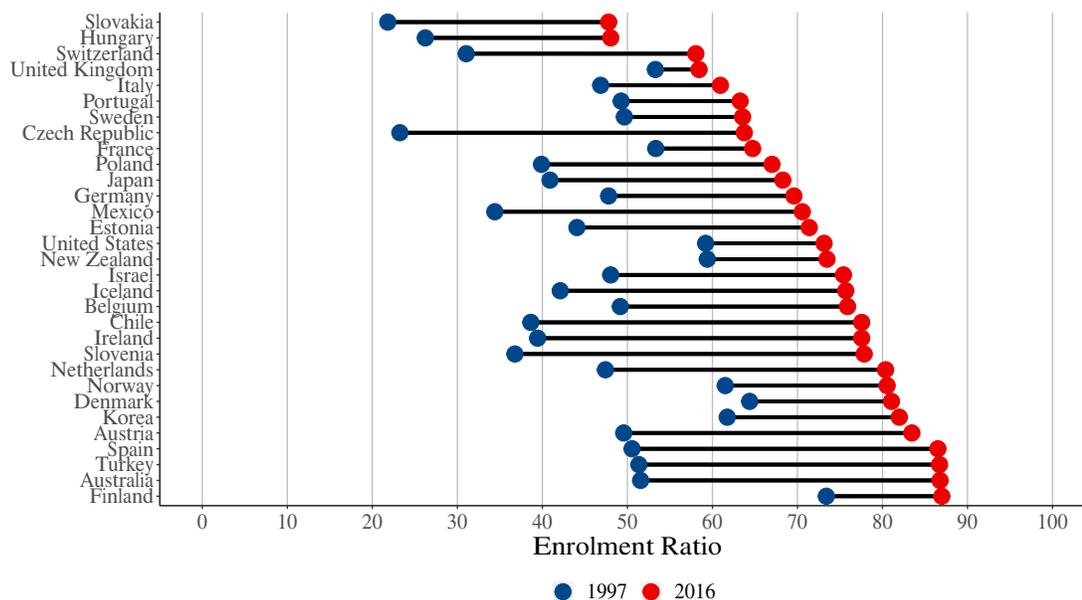


Figure 1.3: Enrolment Ratios in 1997 and 2016

immediately becomes apparent that just in the 20 years under investigation here, there has been a massive expansion in the provision of higher education. In fact, the mean level of enrolment at 75% in 2016 was higher than the maximum value in 1997 (Finland at 73.3%). Across the sample, enrolment expanded by 28 percentage points on average. The degree to which expansion took place, however, is vastly different

cross-nationally and follows no obvious pattern.⁵ Interestingly, the Nordic countries - often seen as prototypical mass models - all expanded enrolment at below average rates and, with the exception of Finland no longer belong to the leading group of countries. In contrast to the assumption of, for example, the three worlds of human capital approach, country clusters are not readily discernible. For instance, Liberal market economies can be found at all levels of the enrolment distribution *and* have expanded access at varying rates.

The implications of these developments are manifold. First, virtually all countries can now be characterized as mass (but not universal) models in that they have expanded access to more than 50% of the population, reaching well beyond the constituency of any one party family. From a distributive perspective, this development reduces the exclusivity of higher education as a good, potentially decreasing the degree of fiscal regressivity of public spending. In addition, if expansion is accompanied by public investment (either on higher education institutions or on student subsidies), the overall fiscal burden increases concurrently.

This overarching trend of *recent* enrolment expansion contrasts with the notion of higher education systems in stasis. Leaving the question aside of whether expansion is driven by structural factors or politics⁶ this observations forms the backbone of one of the core arguments of this dissertation: While the existing institutional design certainly matters, the focus on path dependency and positive feedback effects has narrowed our view to question of institutional origin and continuity. Regarding enrolment, we observe drastic change, however. Given the fiscal and distributive consequences of this change, the trajectory of enrolment is likely to produce *negative* feedback effects, undermining the existing institutional setup and producing pressure for reform. This notion is more fully developed in *Chapter 3*.

1.2.2 Inequality of access

In the literature, the degree of access inequality is consistently conceptualized as a linear function of enrolment. In other words, the more people have access to higher education, the less pronounced is class-based inequality. While there is a correlation

⁵To some degree, one can observe a catch-up effect of countries lagging behind in 1997. In a bivariate regression, countries with 30% enrolment in 1997 are predicted to have increased enrolment by 40 percentage points while countries with 70% enrolment only add an additional 13 percentage points to their basis figures.

⁶Own analyses not shown here reveal that enrolment levels can primarily be explained by the level of employment in the service sector and that there is no relationship between partisan strength and government and degree of expansion.

between the two concepts, equating them is a simplification of consequence. Consider the following fictional example: In countries A and B, 50% of young adults enter higher education. In both countries, the lower, middle and upper classes are uniformly sized and make up a third of the population each. Country A has *no* access inequality, meaning the individual probability to enter higher education is 0.5 irrespective of class. In Country B, access is highly stratified. Class-specific entrance rates are 90% for the upper class, 50% for the middle class and 10% for the lower class. Focusing on enrolment only, existing research would lump both countries together and assert interchangeable degrees of access inequality.

While this example is extreme for illustrative purposes, empirically class-based propensity to enter higher education do vary wildly between countries, independent from the effect of enrolment. Comparative data on such a measure are not available, so I manually estimated country-year specific rates of access inequality using pooled waves of the European Social Survey (ESS). The ESS is the only cross-national survey allowing such an analysis because it provides a theoretically sound proxy for class membership (parental education) and allows to reconstruct the individual decision on whether or not to enter higher education. I estimate the probability to have entered higher education conditional on parental education, with effects allowed to vary by both country and country-year.⁷ The resulting combined logit coefficients then serve as the values for the degree of access inequality.⁸ *Figure 1.4* displays the mean values of access inequality for the 21 countries in the sample across the time period of 1997-2016. Increasing coefficients denote higher levels of access inequality. The mean of the sample countries is 1.3, which translates to the following interpretation: Compared to individuals whose parents have not obtained a tertiary degree, the odds of individuals with at least one parent holding a degree to themselves enter higher education are roughly 3.7 times ($e^{1.3}$) higher. The results again show remarkable variation, with particularly low levels of access inequality in the Nordic countries (along with Slovenia). Above average levels are primarily found in Eastern Europe and the Iberian peninsula, but also Austria.

Inequality of access is clearly correlated with enrolment but, notably, the association is not as clear-cut as expected in the literature. *Figure 1.5* shows the bivariate

⁷In the sample, 62% of individuals with a parent who holds a tertiary degree have entered higher education versus 29% of individuals who do not.

⁸A more detailed description of this approach can be found in *Chapter 4* of this dissertation, where it serves as the central variable moderating the impact of partisanship on spending patterns. Additionally, the estimation procedure has been documented online and can be accessed under the following URL: <https://1drv.ms/u/s!A11HvVZ1eo2nhsFgOAEhXKA2SNznmw?e=r1z1N3>

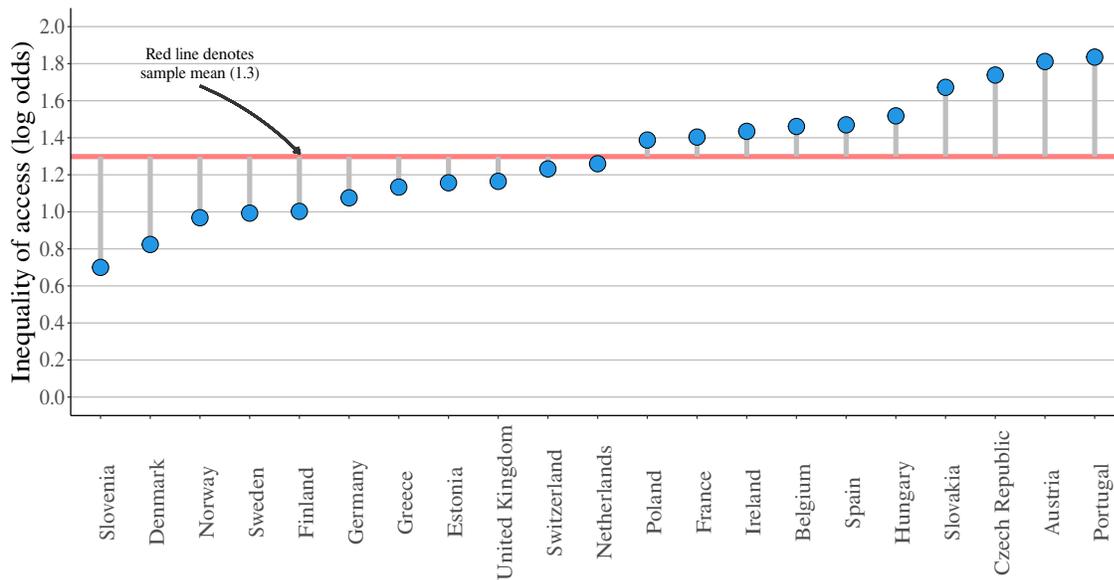


Figure 1.4: Mean Values of Inequality of Access, Logit Coefficients

relationship between the two variables, with mean values for enrolment plotted on the x-axis and inequality of access on the y-axis. The relationship is negative, as higher levels of enrolment as expected are associated with lower degrees of access inequality. A one standard deviation increase in enrolment (roughly ten percentage points) leads to a decrease of access inequality by 0.6 standard deviations - thus a sizable chunk of the variation in inequality remains unexplained. This fact is further illustrated by the residual distance between individual countries and the line of best fit. Net of the effect of enrolment, inequality is particularly high in Portugal, Austria and Spain. On the other side of the spectrum, the Scandinavian countries (but not Finland) but interestingly also Germany and Switzerland have low levels of enrolment-independent access inequality. Aside from the fact enrolment and access inequality are related but separate concepts, what else do these empirics signify? First, enrolment expansion is not necessarily a panacea for policy-makers aiming to achieve social mobility through the provision of higher education. Prevailing levels of inequality are also related to the generosity of student subsidization programs (see *Section 3.3* and *Chapter 2* of this dissertation) and to factors outside of the realm of higher education policy. For instance, the structure of the *secondary* schooling system has consistently been linked to inequality of access, with comprehensive schooling leading to more equitable outcomes (Shavit, Arum, & Gamoran, 2007). This means that, second, policy makers

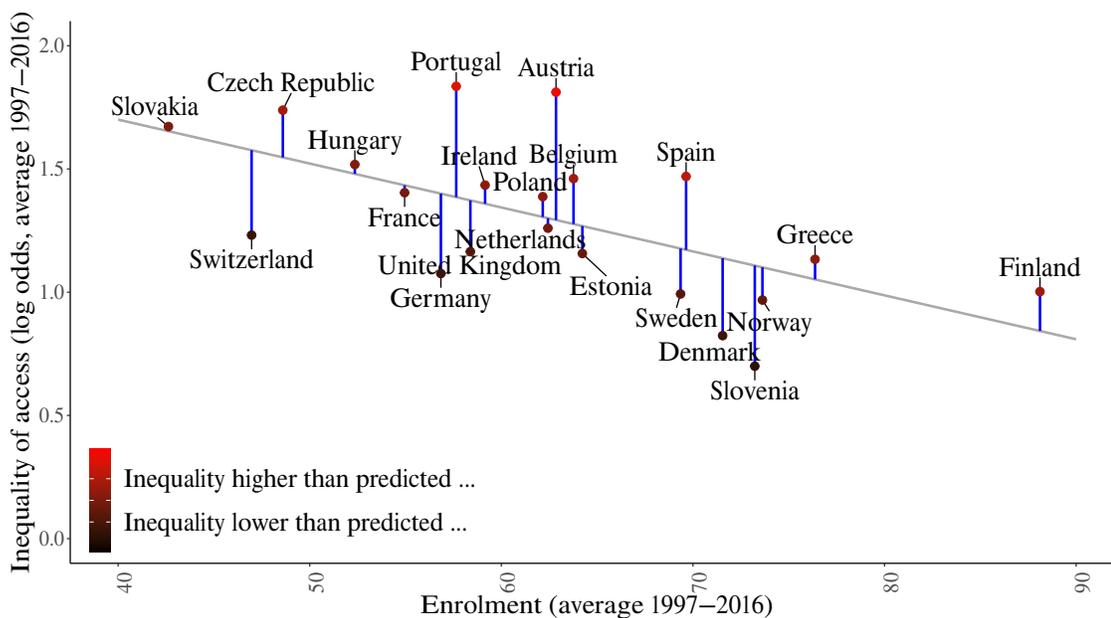


Figure 1.5: Relationship between Inequality of Access and Enrolment

have limited control over inequality and thus might be forced to adapt to prevailing levels rather than try to change them.

1.2.3 Finance Mechanisms

The funding structure of national higher education systems is central to deducing its distributive implications as a whole. The question of whether higher education has regressive effects or is a vehicle for social mobility cannot sufficiently be answered looking at overall public spending levels. Rather, two differentiations are needed. The first is between spending on higher education institutions on the one hand, and spending on student aid on the other. To reiterate, the latter is assumed to have fiscally progressive effects (as shown in *Chapter 2*) while the former, given stratified access, disproportionately benefits the upper class. However, following Ansell's arguments, the degree of these effects varies with higher education supply (i.e. enrolment) and the rate of access inequality given in a country. The second differentiation concerns the inclusion of a measure of *private* spending on higher education institutions in addition to public investment. Private financing, in essence the existence of tuition fees, quite obviously has different effects and implications than public spending. First, young adults with a low socio-economic status are likely to be sensitive to the presence of tuition fees, altering their skill investment calculus and leading to a depressed

propensity to enter higher education, especially in the absence of generous student subsidies.⁹ Second, since tuition fees are payable on per-person basis, their presence insures that at least a fraction of funding available to universities increases linearly with enrolment - whereas public budgeting of institutions is typically not directly tied to student numbers, but represents lump-sum transfers (Eurydice, 2015). This in turn affects the quality of higher education, as will be discussed in the section following this one.

These arguments are developed further in *Chapters 3 and 4* of this dissertation. For a broad comparative overview, *Figure 1.6* depicts the most recent data on spending on higher education institutions from both public and private sources. Combined spending levels range from 0.8 % of GDP in Ireland to 2.46 % in the United States, again demonstrating stark variation between countries. Broadly, the division of labor between the two funding sources is tilted toward private contributions in the English-speaking world (with the exception of the aforementioned Ireland) and the two Asian countries in the sample, Japan and Korea. There also appears to be a positive association between the share of private on overall financing on combined spending levels, meaning that where private financing is prominent, more overall resources are available to higher education institutions. This suggests there is no substitution effect between the two funding sources. In the remaining (mostly European) nations, the majority of funding comes from public sources, with tuition fees playing a minor but non-negligible role. In terms of absolute levels of funding available to universities, a bifurcation becomes apparent. With a sample wide mean of just below 1%, the Nordic countries as well as Austria all endow universities with disproportionately high amounts of public monies. By doing so, they largely manage to have above average levels of combined spending even in the absence of significant private contributions. Another group of countries from Continental Europe, for example Switzerland and the Netherlands, provide a similar level of combined spending by complementing above average public financing with the collection of a larger proportion of funding from private sources. Finally, starting with Poland once can find countries displaying below-average levels of both spending measures at the right side of the graph.

Analyses of funding levels are incomplete when the size of the higher education sector is not considered. In *Figure 1.7*, therefore, the relationship between the average values for enrolment and combined spending from public and private sources is shown. The plot reveals a positive but moderately sized trade-off between enrolment and

⁹For a detailed description of how cost affects the expected utility from entering higher education versus paid employment after secondary school-leaving, see *Chapter 2*.

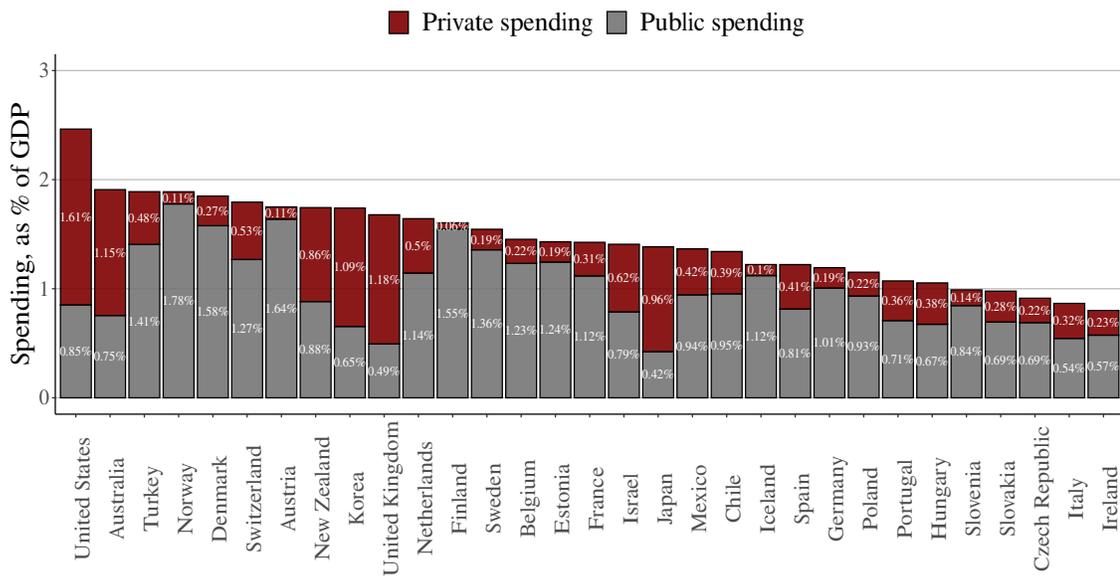


Figure 1.6: Spending on higher education institutions from public and private sources, as % of GDP in 2016

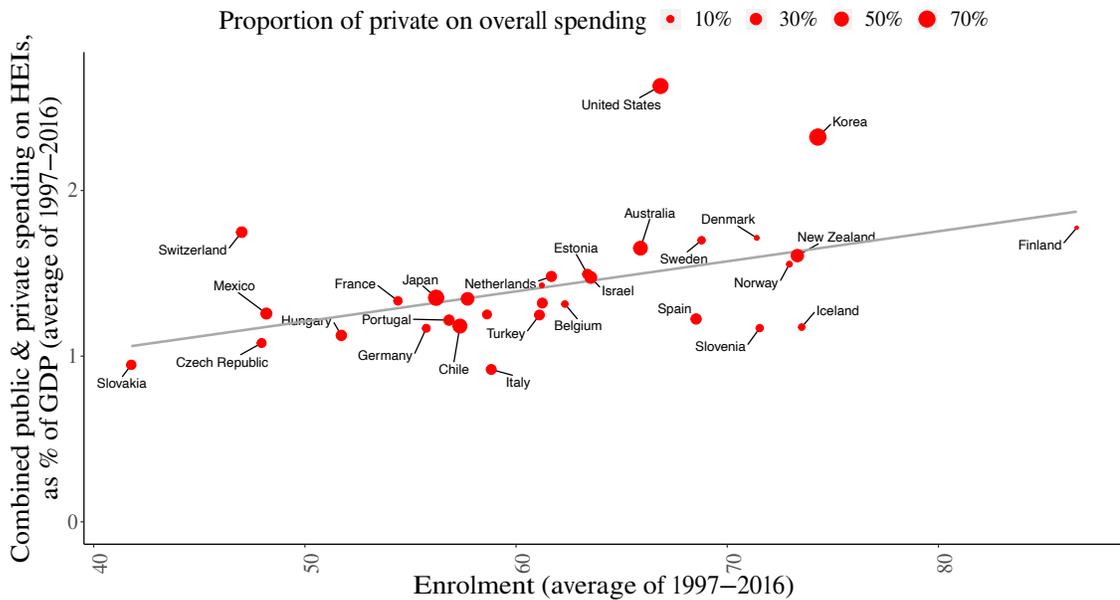


Figure 1.7: Relationship between Enrolment and Combined Spending on Institutions

funding. According to the bivariate linear fit, for every ten percentage points added to the enrolment scale, combined spending as a proportion of GDP is predicted to rise by

0.18 percentage points. In terms of predictive power, just above 20% of the variation observed in funding levels can be attributed to size of the higher education sector. What is more, the proportion of private on overall funding sources has no measurable impact on this effect. Thus, countries with high levels of enrolment have not necessarily resorted to private financing mechanisms in order to contain costs. This suggests that policy-makers have decided to neither finance expansion via the introduction of tuition fees nor by increasing the burden on the public purse. Rather, funding available to each individual student tends to have been decreased with expansion (see next section).

This notion is supported by bivariate analyses of temporal dynamics, in which *changes* in enrolment and combined spending were only moderately (and non-significantly) related to one another (see [Figure 1.8](#)). In keeping with shifting

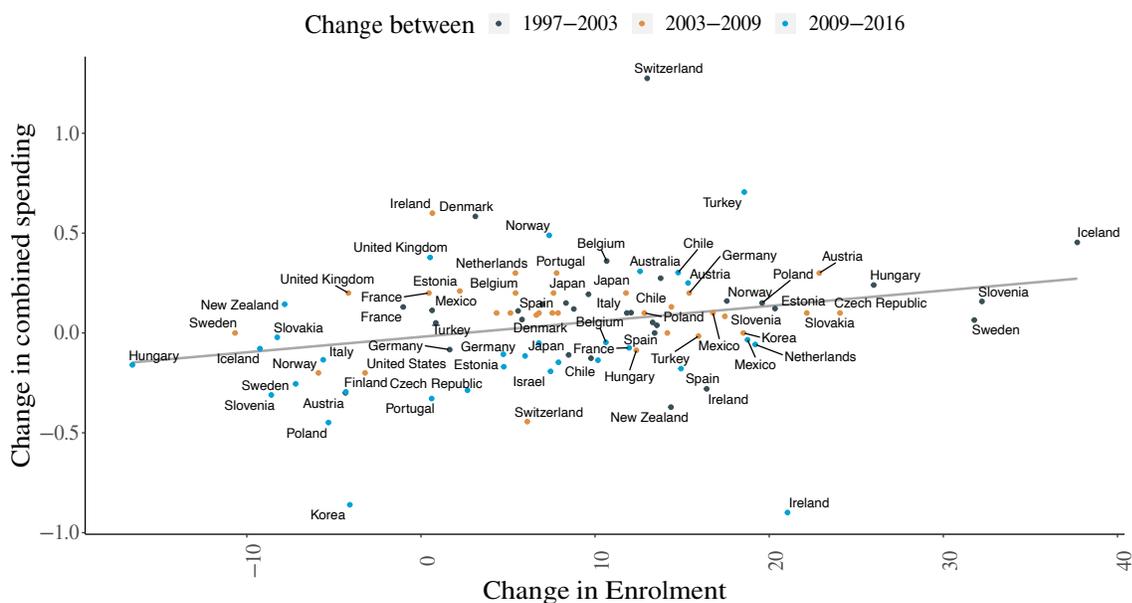


Figure 1.8: Relationship between Changes in Enrolment and in Combined Spending on Institutions

patterns over time, [Figure 1.9](#) depicts the trajectory of public and private sources of funding for individual countries in between 1997 and 2016. The data show that spending patterns over time are highly variable within countries, again contradicting claims of higher education systems in stasis. At the same time, the random seeming directions of the arrows do not evidence any kind of uniform trend. There are countries who have increased spending from both sources (e.g. Switzerland) as well as some that have scaled back funding on the same measures (e.g. Poland).

Perhaps more interestingly, the plot also reveals a number of countries that have upended the division of labor between public and private funding sources. Take Korea, for example, which has severely cut tuition fees by up to 50% following student protests in 2011 all the while replacing at least some of the revenue lost with the public purse (Shin, Kim, & Choi, 2014). On the opposite side, countries such as the United States, Australia and the United Kingdom have all scaled back public funding but more than replaced these resources by introducing or increasing tuition fees. The remarkable shift observable in the United Kingdom is extensively discussed in a single-country case study in *Chapter 3*. Having elaborated on trends and patterns on funding for

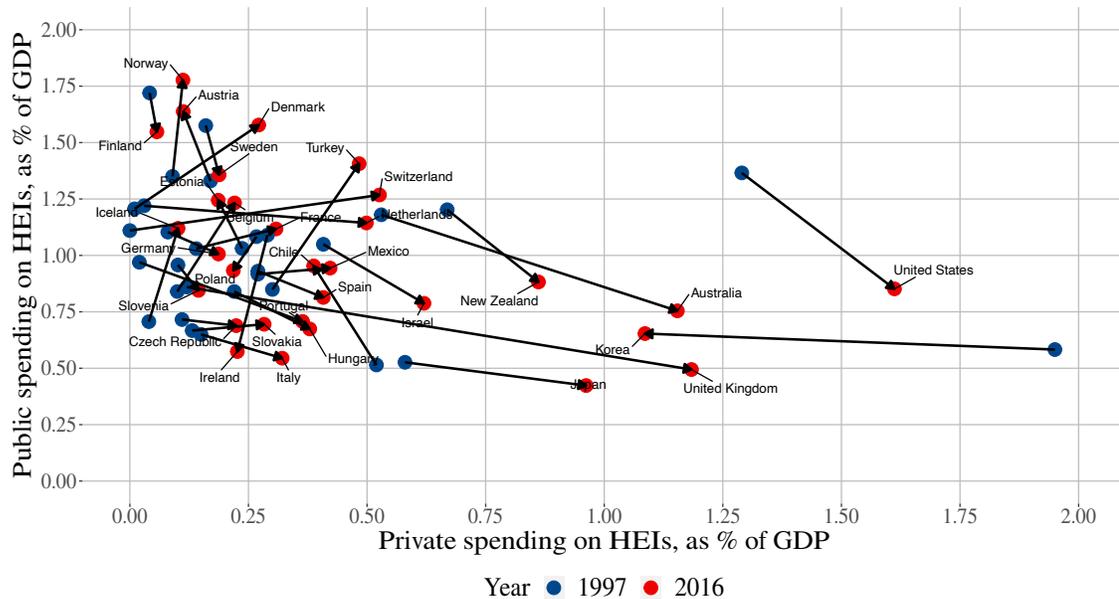


Figure 1.9: Trajectory of Public and Private Spending on Institutions, 1997-2016

institutions, I conclude this section by presenting data on the level of and changes in spending on student subsidies. Such spending is defined as public support for tertiary education to private entities as a percentage of GDP and includes scholarships, grants, and subsidized student loans.

First, *Figure 1.10* shows country-specific average levels of subsidy spending in between 1997 and 2016. Values range from 0.06% in the Czech Republic to 0.78% in Norway, with a mean of 0.26% (marked by a red line in the graph). Given the sample wide mean of public spending on higher education institutions comes in at just about 1%, student aid plays a tangential role in overall higher education finance. It is widely dispersed across countries, with Scandinavian and English-speaking countries (with the

exception of the United States) pulling up the sample mean. It is important to note that for the former group of countries, there is virtually no private financing whereas in the latter group, student aid is likely to be used to relax financial constraints at the point of entry into higher education by helping students pay tuition fees. Net of these effects, it could be argued student aid in countries with low levels of private financing is more generous even if the measure reported under student aid is at similar levels.

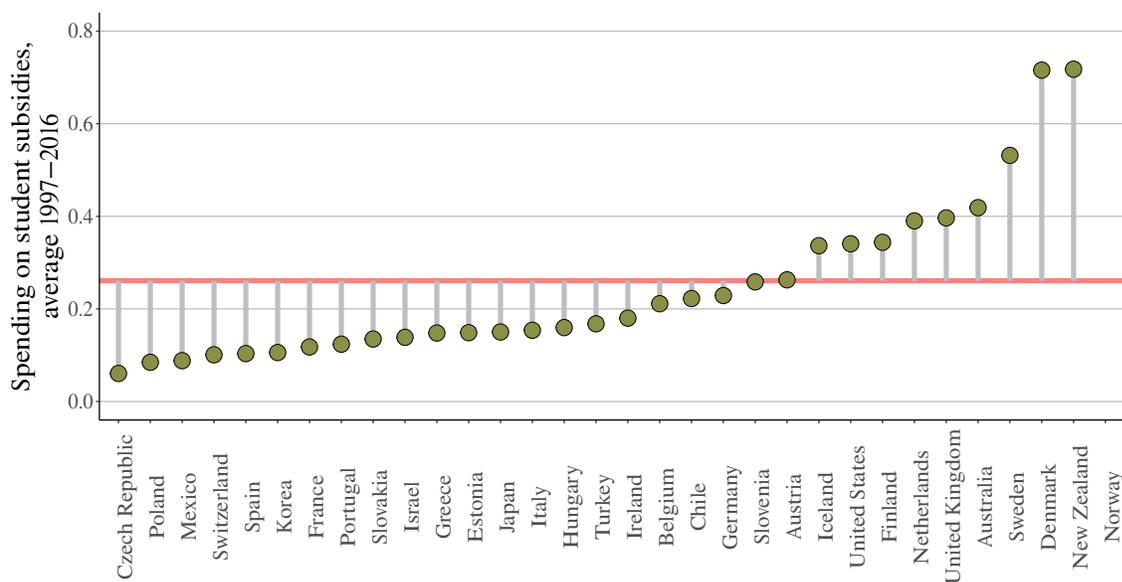


Figure 1.10: Average level of spending on student subsidies as % of GDP

In between 1997 and 2016, the trajectory of subsidy spending developed non-uniformly across the sample countries. As is shown in *Figure 1.11*, 18 countries lowered subsidy spending while the remaining 13 increased student aid. Average values across the sample stayed level because countries that increased spending typically did so to large extents (particularly the United Kingdom, the Netherlands, Chile and Australia). There is a moderate bivariate relationship between increases in private spending on institutions and student aid, so countries who have increased tuition fees have tended to accompany this policy change with expanding subsidies.

At the same time, against the backdrop of enrolment expansion in all countries (see above), the fact that spending on subsidies has in the majority of countries been decreased means there is no automatic link between the number of students and overall spending on student subsidies. This is indeed surprising as student aid is typically an

individual entitlement that, absent of changes in policy, should rise with the number of students. As a consequence, if more young adults enter higher education and subsidy spending stays level, this logically means that student aid has as a result of changes to the existing policy programs either become less generous or is being made available to a smaller fraction of the population. While data on per-student spending on subsidies is not available, the concept can be approximated by dividing subsidy spending by enrolment. Using such a measure, only 5 of the 32 sample countries have increased student aid relative to enrolment. As mentioned, spending on subsidies is assumed

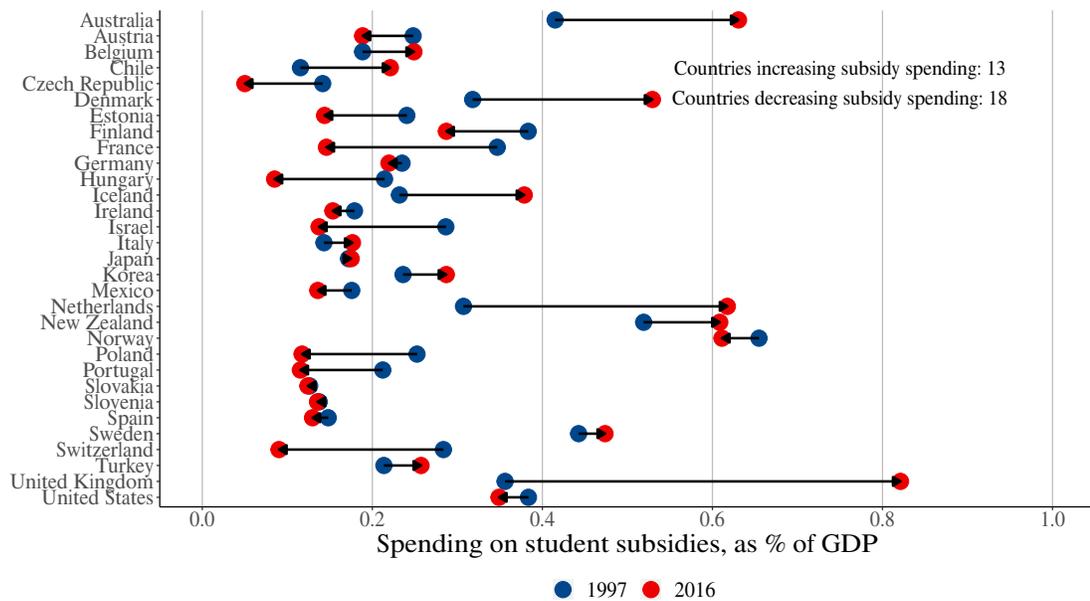


Figure 1.11: Trajectory of spending on student subsidies as % of GDP, 1997-2016

to have progressive distributive consequences because it reduces inequality of access. When testing for an association between these two variables, the assumption gains some empirical validation insofar this is possible with a cross-sectional sample of 21 countries (see *Figure 1.12*). In a bivariate regression, a one standard deviation increase in subsidy spending leads to a reduction of 0.6 standard deviations in the inequality measure. This effect is as strong as the impact the level of enrolment has on inequality levels (see above). Notably, since enrolment and subsidy spending are only weakly correlated, these effects are independent from one another. In other words, subsidy spending does not seem to be related to inequality by means of increasing enrolment, but through a direct effect (see *Chapter 2*).

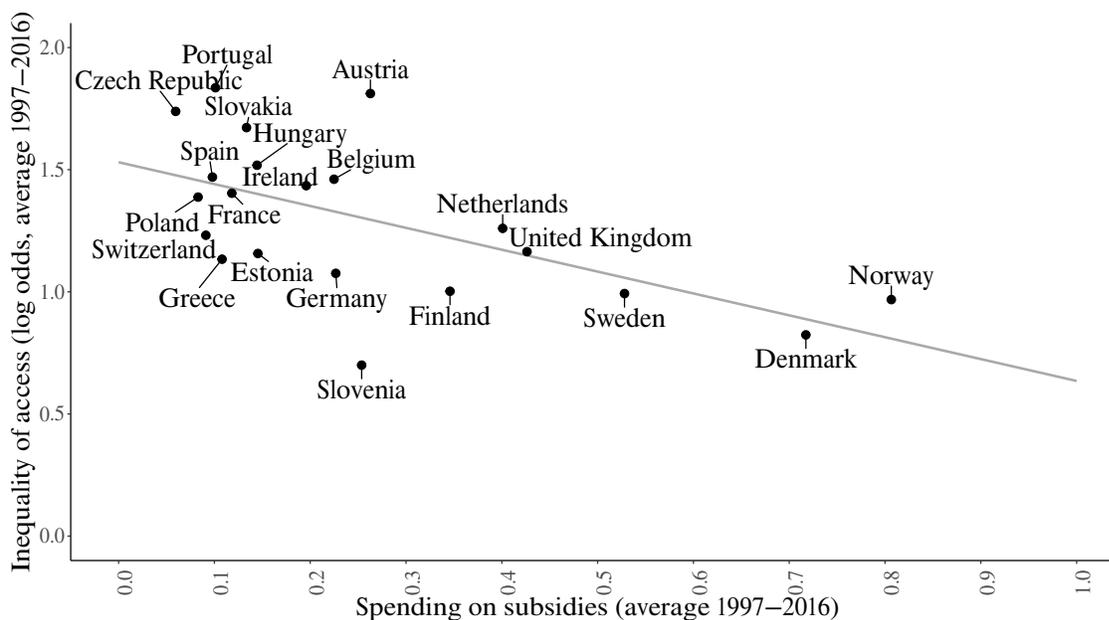


Figure 1.12: Relationship between Spending on Subsidies and Inequality of Access

1.2.4 Quality

The final component of my conceptual framework addresses the issue of quality of academic education. Identified as a ‘blind spot’ of the literature (Garritzmann, 2017), its inclusion offers a new perspective on the distributive consequences of higher education policy. More specifically, I have shown above that overall spending on institutions is at least partly driven by enrolment: The higher the rate of young people entering higher education, the more money is being spent on higher education institutions from both public and private sources. This association is often discounted in the literature, where increases in spending are interpreted as generosity and a higher priority for higher education more generally. However, under conditions of increasing enrolment, increases in spending might not be enough to even keep steady resources made available for the education of each individual student. This is where quality comes into play. While one could think of various ways to measure the concept, in the context described above, it can be conceptualized as a function of enrolment and both public and private spending on higher education institutions ($HE\text{Quality} = \frac{\text{Overall Spending on Institutions}}{\text{Enrolment}}$). In other words, the amount of non-subsidy per-student spending relative to GDP per capita is used as a proxy for quality.

In comparison to alternative approaches, explicitly incorporating quality into the

conceptual framework allows a more finely grained analysis of distributive implications of, and consequently partisan preferences over, higher education. Consider the preferences of Right parties, for example. Since access is stratified by class, their constituency benefits the most from higher education as a good - variation in enrolment and inequality of access notwithstanding. This group according to Ansell has two distributive goals. First, the upper class ideally wants to maintain a high degree of exclusivity by means of keeping enrolment as low as possible. Their second preference is to ensure a high level of quality so that investment into higher education pays off in the long term. As enrolment expands to other groups, both of these goals come under pressure. It decreases the exclusivity of higher education as a good and - given the fact spending on institutions does not increase linearly with the number of students - depresses quality. From these dynamics, a preference of the upper class for the introduction of tuition fees can be deduced. Aside from their preferences for low overall levels of public spending, since lower classes are likely to be much more sensitive to having to pay for tuition, they help in maintaining the comparative advantage the upper class enjoys. Additionally, as mentioned widespread tuition fees ensure that at least a fraction of spending on institutions increases linearly with enrolment, guarding against deteriorating quality in the face of expansion. In *Chapter 3* of this dissertation, the United Kingdom case study, I argue that a prime motivation for the Tory's push to both increasing tuition fees and making them variable across universities was to ensure a high level of quality, particularly in elite institutions such as Oxford and Cambridge.

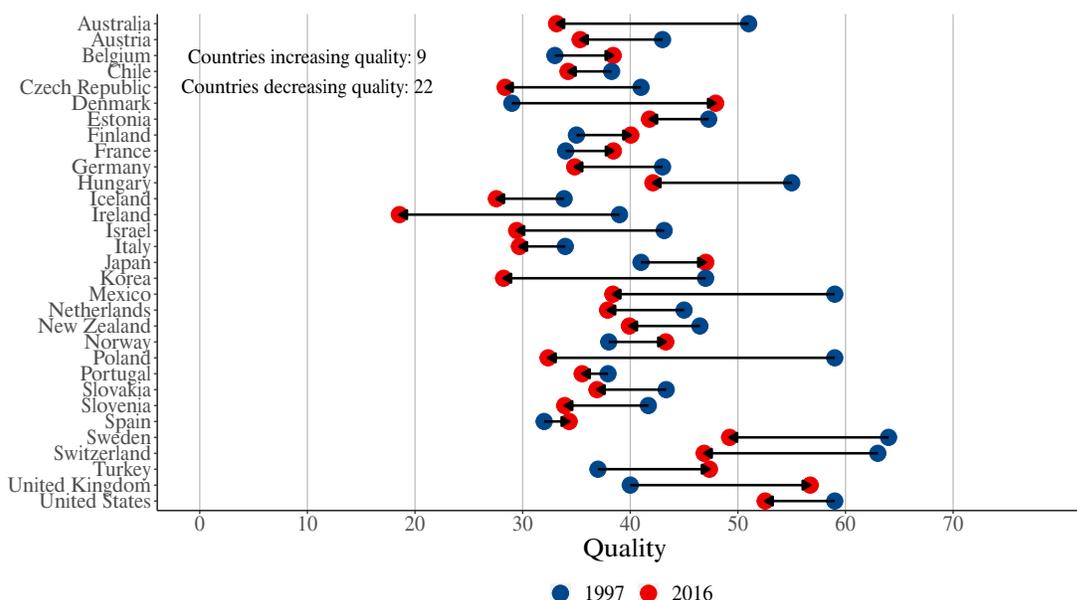


Figure 1.13: Trajectory of Higher Education Quality, 1997-2016

The trajectory of higher education quality between 1997 and 2016 is depicted in [Figure 1.13](#). Roughly two thirds of the sample countries have decreased the level of quality, with an average 11.6 point reduction in non-subsidy per-student spending relative to GDP per capita. The remaining third of the sample display a higher level of quality in 2016 than in 1997, with an average increase of 8.3 points. The aforementioned United Kingdom at +16.7 points is the clear leader in this group. Interestingly, though, all other members in the ‘Liberal’ group of English-Speaking cultures display decreasing levels of quality even though tuition fees had in contrast to the United Kingdom already been commonplace. There is also variation in the trajectory of other country clusters that again undermines arguments centered around path dependencies. For example, the German-speaking group shows similar starting points in 1997, but wildly divergent trajectories in the time since.

As can be expected on the basis of the arguments outlined above, a trade-off between the trajectory of quality and enrolment expansion can be observed. On average, the higher the degree of expansion, the more likely decreasing quality is to occur and the more stark the decrease is (see [Figure 1.14](#)).

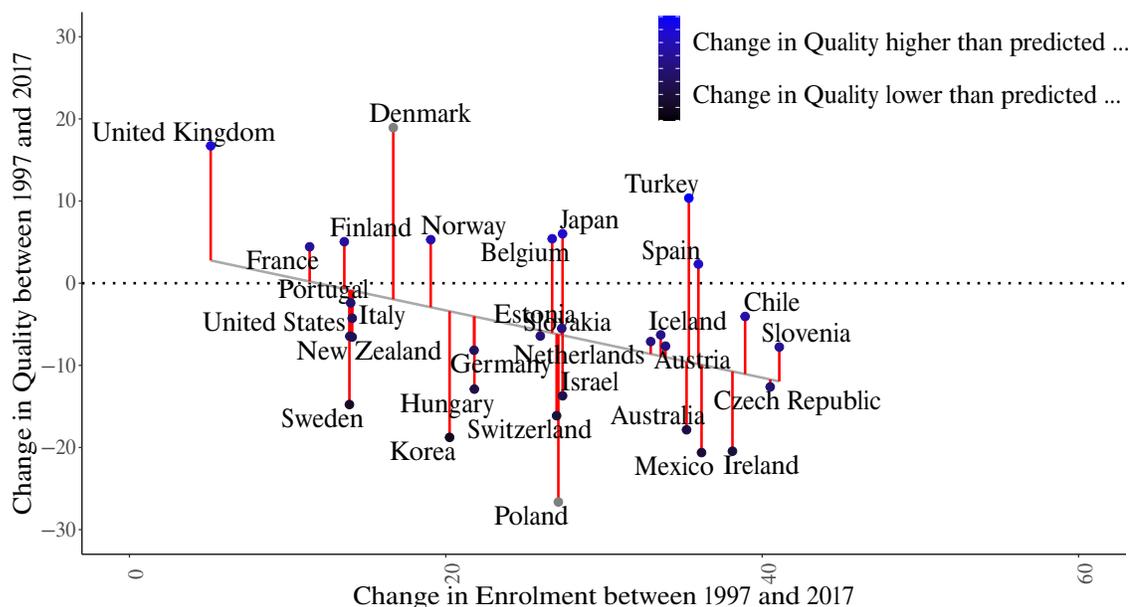


Figure 1.14: Changes in Quality against Changes in Enrolment

Enrolment again does not deterministically drive quality, however, leaving room for political steering. Consider neighboring Sweden and Denmark, for example. These countries increased enrolment at rates that would predict steady quality levels. Denmark, however, massively increased quality while Sweden is a clear outlier in the other direction.

As a consequence, there is more than one pattern explaining changing quality levels. In [Figure 1.15](#), the nine countries increasing quality are compared to the average of countries that lowered quality on the three dimensions of enrolment and public as well as private spending on higher education institutions. Values below zero signify that these countries have changed the levels of these variables at below average levels in the time period between 1997 and 2016, and vice versa. Unsurprisingly, six of the nine countries increased quality at least partly by expanding enrolment at below average rates. However, in almost all cases, the restraint in expansion is accompanied by above average changes to the funding made available to universities. Three distinct approaches become apparent. In the first, in what was conceptually perhaps the likeliest option, increasing quality is driven by an expansion of private financing mechanisms, aka tuition fees. This approach can be observed in Japan, and the United Kingdom and thus comprises only a fraction of this particular sample. The second approach leaves private spending levels largely intact and instead drives up quality by virtue of public spending. This pattern can be observed in Belgium

and Norway. Finally, the last group has increased both sources of funding at above average levels when compared to the average and is comprised of England, France and Turkey. In sum, these data suggest that quality has empirically been preserved by a combination of below average enrolment expansion and increases in either or both private or public finance mechanisms.

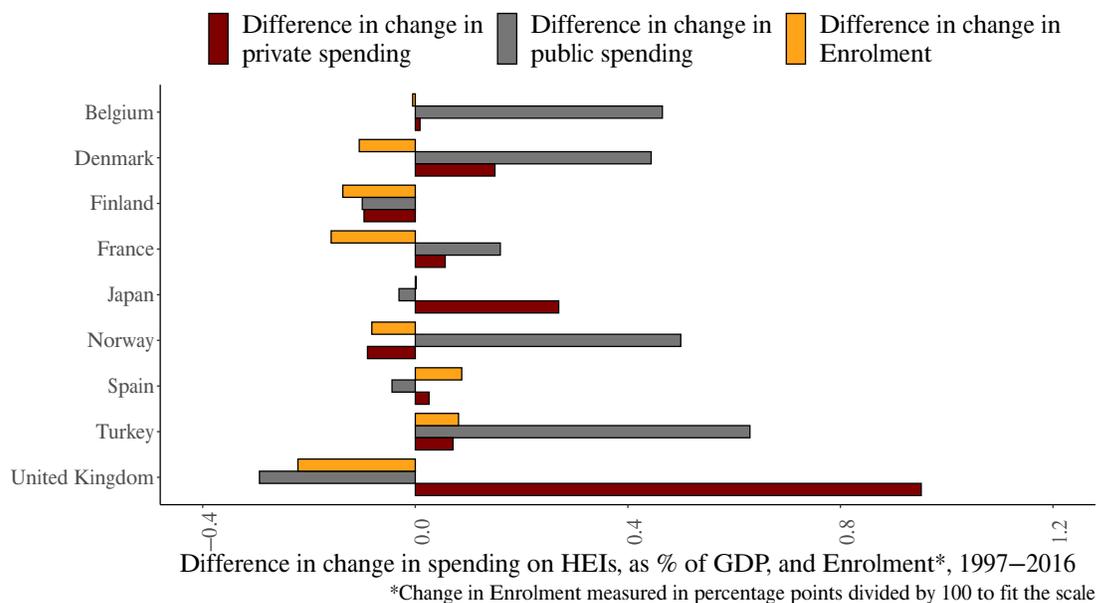


Figure 1.15: Profile of countries increasing higher education quality

1.2.5 Summary

This concludes the introduction of the analytical framework underpinning the three papers of my dissertation. By including enrolment, inequality of access, finance and quality as separate but interdependent concepts, I believe that my framework is well placed to describe institutional change over time and elucidate the distributive consequences of higher education policy. It is not an entirely new framework, but rather integrates insights generated by three decades of research on the political economy of (higher) education. It follows the pattern of increasing analytic differentiation and makes two key contributions. First, I introduce the degree of inequality of access - often understood as a key motivation behind the preferences of Left parties - as a concept in its own right rather than conflating it with the level of enrolment in higher education. This view structures the research design of all three papers included in this dissertation. In order to be able to so, I generate empirical estimates of the

level of access inequality in 21 European countries, allowing the effect of parental education on the propensity to enter higher education to vary both between and within countries over time. To the best of my knowledge, this approach is novel both conceptually and methodologically. Second, I explicitly include the quality of higher education in my analytical framework. While the notion of quality was already touched upon in the literature, corresponding measures tended to be confounded either by the inclusion of student aid (Ansell, 2008) or by a failure to adjust for the size of the higher education sector in terms of enrolment (Garritzmann, 2016). By operationalizing quality as the amount of non-subsidy per-student spending relative to GDP per capita, it becomes possible to theorize preferences over quality independent from these confounding influences. *Figure 1.16* situates this conceptualization in

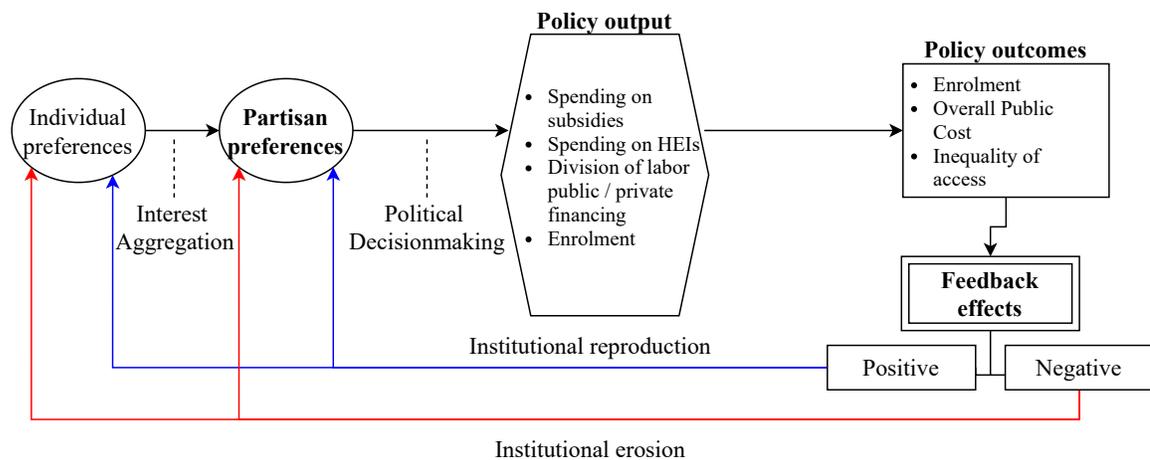


Figure 1.16: Illustration of Political Economy of Higher Education

the broader framework of political economy discussed earlier. Finance mechanisms - including spending on subsidies and on higher education institutions as well as the division of labor between public and private financing - belong to outputs of the policy-making process. Enrolment plays a hybrid role in that it can be conceptualized both as a policy output as well as a policy outcome. It is an output in the sense that the supply of higher education is ultimately determined through the political process, irrespective of whether the driving forces behind expansion are political or structural. In the distributive political economy of higher education, enrolment is also a central outcome because it determines the proportion of the population that benefits from the provision of higher education. Enrolment also is an important driver of overall public costs and interacts with the system of higher education finance to determine the level of quality as well as inequality of access.

In addition to presenting the conceptual framework, I presented comparative data

on the trajectory of higher education systems for the time period of 1997 through 2016 in this section. This time period in the literature is largely characterized by one in which countries have settled in or the other ideal type, with little or no room for political reform. Based on the data, however, it is straightforward to argue that individual countries are still undergoing massive shifts in how their higher education systems are being organized. For one, there is an uniform trend towards the massification of higher education, with an average increase of 28 percentage points in the time period under investigation, though the pace of expansion is highly variable between countries. With this trend as a backdrop, one can also observe sharp shifts in the other categories of the framework, and particularly so in patterns of spending both on institutions and on subsidies. For example, both the level on overall spending on institutions as well as the division of labor between public and private sources (see *Figure 1.9*) is highly variable across time. What is more, it emphatically does not follow the logic postulated in the larger literature in which clusters of countries with similar characteristics move in the same direction with regard to policy outputs. Approaches emphasizing institutional complementarities (such as the *Varieties of Capitalism* perspective) might be useful in explaining the historical origin of human capital formation regimes, but are limited in attempts to account for the variable patterns observed in these data. Similarly, approaches that focus on increasing returns and path dependency arguments have little to contribute in understanding the prevalent degree of institutional change. In this context, I suggest we are better served to understand path dependency not exclusively as a linear path towards ever-increasing patterns of institutional reproduction, but also allow for the possibility that the current institutional design has *decreasing* returns, leading to institutional erosion and forcing decision-makers into political reform. The overarching trend towards massification in higher education is a prime candidate for such an argument, because enrolment invariably affects either spending patterns or quality. The notion of decreasing returns is more fully developed in *Chapter 3*.

In summary, I hope to have presented a conceptual framework that makes it possible to holistically trace the institutional design of higher education systems across time. The proposed framework is not a priori married to a particular theoretical argument and thus does not selectively emphasize one component over the other. Its aim is simply to describe higher education systems with a particular focus on its distributive consequences. In doing so, it becomes apparent that there is ample variation that can be exploited to test the impact of partisan preferences and non-political factors on institutional change in higher education.

1.3 Paper Summaries

In this section, the three papers of this dissertation will be summarized and linked to the distributive political economy of higher education as an overarching framework.

1.3.1 The Trilemma of Higher Education and Equality of Opportunity: Social Background, Access to Higher Education and the Moderating Impact of Enrolment and Public Subsidization

The first paper examines individual-level policy outcomes of the institutional design of higher education systems. More specifically, it analyzes class-based inequalities in access to higher education and seeks to answer the question to what extent levels of enrolment and per-student subsidization affect the probability of young adults to enter academic education.

From a theoretical perspective, it is assumed that individuals conduct a cost-benefit analysis when weighing the transition into either higher education or paid employment. This calculation is strongly colored by social background, as individuals of low socio-economic status on balance assert a lower probability to successfully complete higher education as well as a higher relative cost. While the probability to enrol in higher education is therefore assumed to increase with social status in all countries, the individual cost-benefit analysis additionally may also be affected by country-specific contextual variables that alleviate or exacerbate the degree of inequality.

Using data from the European Social Survey (ESS), I estimate the effect of parental education on the probability to enter higher education using multi-level logistic regression techniques. Across the sample of 22 European OECD countries, I find an extraordinarily strong effect: while individuals both of whose parents hold a higher education degree are estimated to have a 62 per cent chance to enter higher education, this value drops off precipitously with decreasing values of parental education - to 17 per cent for individuals whose parents have not completed secondary education. This is just an average effect, however. When the assumption of a fixed effect is relaxed through the inclusion of a random slope for parental education, pronounced variation between the sample countries become apparent. Along with factors outside of the scope of the paper, chief of which is the structure of the secondary education system, I hypothesize that the institutional design of higher education may explain this country-specific variation. Drawing from Ansell's (2008) framework, I argue the individual

cost-benefit calculus may be affected by the level of enrolment as well as the degree of public subsidization per student. This proposition is tested by adding cross-level interaction effects between parental education and the country-level variables to the model. This analysis yields no significant moderating effect of enrolment, meaning that the probability gap by social status does not decline with increasing overall participation. However, the estimates show a pronounced catch-up effect for the lower social strata under conditions of high levels of public subsidization.

These empirics suggest that the institutional design of higher education does indeed impact on inequality of access. While this study does not expressly investigate longitudinal effects, the results imply that increasing per-student subsidies can be an effective strategy to effect social mobility. However, in the time-frame of analysis, the majority of countries have expanded enrolment at the expense of per-student subsidization. As a consequence, the paper warns this reduction may lead to exacerbating inequality.

In conclusion, even though this paper investigated inequality as a policy outcome, it was an important prerequisite for the following papers that are focused on policy outputs. First, it developed the methodological foundations necessary to estimate cross-national levels of inequality, which is an important component of the my conceptual framework and became particularly relevant in *Chapter 4*. Second, the results contradicted the existing literature that had consistently assumed that enrolment expansion is synonymous with decreasing inequality.

This paper has been published as part of the 2016 volume *Welfare State Transformations in the 21st Century: Effects on Social, Economic and Political Inequality*, edited by Melike Wulfgramm, Tonia Bieber, and Stephan Leibfried (Fulge, 2016).

1.3.2 Explaining Institutional Change in UK Higher Education: Towards a Partisan Theory?

Within the stylized illustration of the political economy of higher education, the second paper refocuses attention on questions of institutional design and the interplay between policy outcomes and outputs via feedback effects. As its title suggests, it qualitatively traces the development of the British higher education system for the period between 1963 and 2015, seeking to link institutional change to the partisan composition of government.

This paper develops my understanding of the distributive political economy of higher education in more detail and fleshes out the interdependencies between enrolment, finance mechanisms, inequality of access and quality. I assume that the

distributive outcomes of particular arrangements of institutional design produce both positive and negative feedback effects that shape the political calculus of parties seeking to effect policy reform.

Using a diverse case-selection strategy, British higher education is well suited for a case study because there is ample variation on the outcome dimensions of the conceptual framework as well as on the partisan composition of government. More specifically, four periods of reform are identified, with Labour and Tories both in charge for two of these spells. Over the 50 years under consideration, the UK has moved from an elite system with generous public funding relative to the number of students to an average sized system with comparatively small public support. Policy-makers were able to maintain high levels of quality by introducing private financing mechanisms while at the same time decreasing inequality of access by making higher education free at the point of entry through a rather expansive loan scheme.

Regarding drivers of change, I find that enrolment expansion was generally considered to be good policy by both main parties, with ensuring the competitiveness of the British economy as a key rationale. Likewise, public divestment on higher education was pursued by both parties on the heels of a realization that maintaining high levels of funding would under conditions of expanding enrolment be too high a burden on the public purse. However, partisan preferences diverged in other respects. Labour consistently acted on the need to “widen access” to underprivileged groups, for example by covering tuition and cost of living with a generous loan system, with repayment conditions contingent on later income. The Conservatives, on the other hand, were much more concerned with ensuring a high level of quality. They did so by trebling tuition fees in order to have funding for institutions increase linearly with students and by repeatedly pursuing within-sector stratification strategies, granting comparative advantages to prestigious universities and, by extension, their highly selective student body.

The empirics of this paper demonstrated that institutional change in higher education can indeed be fruitfully traced using the conceptual framework I propose. It allowed a detailed reconstruction of the state of higher education time as well as the trade-offs governments were confronted with at any given point. In particular, including quality and inequality of access, a large part of the added value of my approach, helped in illuminating partisan preferences over institutional change.

1.3.3 The Role of Parties in the Distributive Politics of Higher Education

The final paper seeks to generalize the insights derived from the case study on the UK to a larger group of countries while also linking back to the state of art of the literature. It aims to combine recent methodological advances on multi-level regression modeling and the operationalization of partisan strength in order to contribute to the unconsolidated understanding of partisan effects on policy outputs in higher education.

Again, I argue the diverging results of existing studies are due to insufficient theoretical consideration of the distributive effects of education spending. To this end, I distinguish between spending on student subsidies and public and private spending on higher education institutions as well as quality as dependent variables. I theorize and test for unconditional partisan effects but also assume that partisan preferences may be conditional on the structure of the given higher education system. More specifically, levels of enrolment and inequality of access are used as moderating variables.

Methodologically, I estimate mixed-effects regressions with random country intercepts using a sample comprised of 20 European OECD countries. The time span under investigation includes 19 years (1997-2016). The mixed-effects framework as used in this paper offers a much higher degree of flexibility compared to standard fixed-effects modeling. Through the inclusion of country-means for all explanatory variables, I am able to source both longitudinal as well as cross-sectional variation. This allows a differentiated assessment of short- and long-term effects and makes possible to interact the longitudinal component of one predictor (e.g. change in the composition of government) with the cross-sectional component of another (e.g. the mean level of inequality), arguably resulting in a more realistic approximation of the policy-making process.

I find relatively little evidence that the partisan composition of government is systematically linked to patterns of higher education spending. I do find a positive association between Left party strength and student subsidies, but only when the United Kingdom as an outlier is excluded from the analysis¹⁰. In addition, I also find that Left parties tend to decrease levels of private spending on higher education institutions and there is weak evidence they increase public spending on institutions

¹⁰From the case study in *Chapter 3*, I was aware that a sudden jump in subsidy spending under Prime Minister Cameron was not due to a change in policy at all, but rather to the implementation of new accounting rules the estimated loss of loans issuances due to non-repayment could no longer be spread out over the loan's life, but had to enter the budget right away.

under conditions of high enrolment. Strength of Right parties, on the other hand, is associated only with increasing levels of quality.

Thus, the partisan patterns observed in British higher education could only partly be generalized to a broader sample. In particular, the prevailing level of inequality did not moderate partisan effects in any of the models. Nonetheless, the empirical estimation of inequality levels across a wide variety of countries methodologically breaks new ground and is one of the main contributions of this dissertation.

1.4 Conclusion

In this dissertation, I explored the political economy of higher education in industrialized nations. In order to be able to do so, I set up a conceptual framework containing the four separate but interrelated dimensions of enrolment, inequality of access, finance, and quality. The framework combined analytic progress made in the larger literature with own contributions with the goal to develop a holistic understanding of higher education policy. This allowed me to describe variation in system design between countries as well as over time and explicate distributive effects on different social strata. I argue that both public and private spending on higher education institutions have regressive effects whereas spending on student aid is progressive. However, these effects are moderated in important ways by levels of enrolment and inequality of access.

In contrast to notions of path dependency and institutional complementarity that are prominent in the related literature, I show that in the past 25 years or so, higher education systems across the OECD world have undergone substantial transformations. Generally, a clear trend towards enrolment expansion can be observed. Resulting changes in patterns of finance, access inequality and quality are highly variable, even within groups of countries that typically have broadly convergent policies.

In the individual papers of the dissertation, I applied this framework in attempts to explain both policy outcomes and outputs. Regarding outcomes, I find that the institutional design of the higher education system has an independent impact on inequality of access. More specifically, generous public student subsidization is associated with a catch-up effect for individuals with low levels of parental education in the likelihood to enter higher education. The level of enrolment itself, however, does not independently reduce relative differences between social strata.

Turning to policy outputs, I use my conceptualization to describe trade-offs in the making of higher education policy. I hypothesize that particularly the uniform trend

towards enrolment expansion produces feedback effects that force policy makers to choose between several available options. Which path is ultimately taken might in turn be colored by the ideological composition of government. Conducting an in-depth case study of the development of British higher education and applying its insights to a macro-quantitative approach yields moderate evidence that the main parties resolve trade-offs in institutional design in different ways. While Left parties prefer high levels of spending on student aid and largely resist private financing of higher education institutions, Right parties tend to privilege a high level of quality.

1.4.1 Limitations

Of course, this dissertation comes with its set of limitations. While the conceptual framework was set up with all industrialized nations in mind, the analyses in the individual chapters are all limited to European countries. This is due to the fact that levels of access inequality could only be estimated for countries taking part in the European Social Survey. Other cross-national survey programmes either do not regularly include suitable proxies for parental background or do not allow to reliably assert whether individuals enrolled in higher education. In principal, this shortcoming could be remedied by incorporating national surveys into the model, however.

In addition, the conceptual framework focuses exclusively on the design of higher education systems and makes no assumptions about how country-specific institutional characteristics outside of the realm of higher education affect trade-offs in policy-making. For example, policy outputs are likely to also be affected by the number of veto players, the separation of powers in education policy or electoral institutions. Regarding the latter in particular, the analyses in this dissertation only theorize partisan preferences on a left-right continuum. Under proportional electoral systems, however, the cleavage structure over the provision of higher education may be more nuanced.

1.4.2 Further Research

Future research could obviously address these limitations to further our understanding of the political economy of higher education. Additionally, two avenues strike me as particularly promising.

First, this dissertation was to the best of my knowledge the first to explicitly incorporate quality, conceptualized as per-student spending on higher education institutions from both public and private sources. This measure captures *overall*

quality of the higher education system, but does not differentiate between different types of institutions. *Chapter 3* has shown, however, that higher education systems are not necessarily uniform but can be highly stratified into elite and mass universities. The case study also found that within-sector stratification was repeatedly pursued by the Conservative Party. cursory readings of the literature in other countries (see, for example, Börjesson & Broady (2016) for Sweden and Kehm (2012) for Germany) suggests this is not an isolated phenomenon. Conceptualizing and measuring within-sector stratification would therefore complement the framework and be particularly promising in testing for preferences of Right parties.

Second, one of the core arguments of this dissertation was that feedback effects of the existing institutional design need not be positive. This notion has implications not only for education, but for larger debates in political science. It could be developed more fully by explicitly linking policy outcomes to individual as well as partisan preferences. For instance, one could investigate whether decreasing levels of quality are associated with lower wage premiums or higher levels of dissatisfaction of students with their education. Similarly, for parties, it would be worthwhile to analyze the rationales for policy reforms, provided via manifestos or parliamentary speeches. Results may help to better conceptualize the conditions under which negative feedback is likely to generate reform.

Chapter 2

The Trilemma of Higher Education and Equality of Opportunity: Social Background, Access to Higher Education and the Moderating Impact of Enrolment and Public Subsidization

Compared to the attention given to classic social policies such as unemployment insurance or pension schemes (see the individual contributions by Dingeldey, Heisig and Schwander in this volume), education policy occupies a peculiar spot in welfare state research. While in Anglo-Saxon countries education has traditionally been understood as a central component of social policy provision, European scholars have long been reluctant to place it within the realm of the welfare state (Allmendinger & Leibfried, 2003; Flora & Heidenheimer, 1981; Wilensky, 1974); thus they have largely neglected it in their studies (Busemeyer & Trampusch, 2011). Re-conceptualized as central to the formation of skills and human capital, however, scholars have begun to analyze *complimentarities* (defined as interdependence and mutual reinforcement of existing institutional setups) between education policy, varieties of capitalism and social protection schemes (Busemeyer, 2012; Estevez-Abe et al., 2001; Iversen & Soskice, 2001; Iversen & Stephens, 2008).

One of the most interesting debates in this context revolves around the redistributive

implications of education policy. Debating the trade-off between public spending on education and other (plainly redistributive) social policies, two different schools of thought have emerged. One view is that heavy investment in public education offers protection from life risks and can thus be understood as an ‘intended alternative to other social insurance guarantees by the state’ (Hega & Hokenmaier, 2002, p. 3; see also Janowitz, 1976). The underlying notion of welfare in this view is that state policies should be directed towards achieving an equality of opportunity through education spending rather than a transfer-induced equality of condition (Castles, 1989, p. 43). Investment in education thereby forms one of the building blocks of supply oriented welfare states (see Starke, Wulfgramm and Obinger in this volume). In contrast, it has also been argued that investment in education – and particularly in *academic* education – amounts to a regressive transfer from the lower to the upper classes because privileged groups are much more likely to reap the benefits of receiving education in the form of higher lifetime earnings Busemeyer (2009a). According to this view, parents from lower social strata lack the social capital to stimulate the educational success of their children, resulting in little inter-generational social mobility and thus the need for more passive and overtly redistributive social protection schemes (Room, 2002).

Within this debate, higher education – defined as post-secondary academic education - is a particularly interesting case, spurring sizable academic discussion on the determinants of public spending in higher education (Boix, 1997; Busemeyer, 2007a; Rauh et al., 2011) and the institutional make-up of different higher education systems (Ansell, 2008; Clark, 1983; Dobbins, Knill, & Vögtle, 2011). However, though access to and participation in higher education certainly have an enormous influence on the future economic and social protection of an individual within contemporary knowledge-based societies, inequality research has rarely studied the transition from secondary to higher education in a quantitative and comparative way. In particular, scholars have seldom considered combining individual-level characteristics with institutional factors of the specific higher education system in which the transition takes place.

Therefore, the goal of this chapter is to comparatively analyze inequalities of opportunity in the access to higher education institutions. While most of the contributions in this volume focus on inequality of outcomes (for example, income inequality), inequality of opportunity refers to the antecedents of these outcomes. More specifically, it can be defined as the degree to which access to education is driven by factors outside of individual control (Bratti, Checchi, & Blasio, 2008, see also Gosepath in this volume; Roemer, 2000).

The theoretical points of departure of this chapter are the works of Boudon (1974)

and Ansell (2008, 2010; see also Ansell & Gingrich, 2013). From a sociological perspective, Boudon regards equality of educational opportunities as a function of social background, measured as the education level of parents. With regard to the institutional level, Ansell proposes a parsimonious framework in which three interacting factors determine the structure of different higher education systems: the level of enrolment, the degree of public subsidization and the overall public cost of higher education. Building on these sociological insights to educational inequalities and Ansell's framework, I hypothesize that characteristics of higher education systems moderate the relationship between social background and access to higher education. More specifically, I assess to what extent the individual likelihood to enroll in higher education is structured by the level of enrolment and the degree of public subsidization. The overarching research question of this chapter can hence be summarized as follows: How does the institutional set-up of higher education systems affect inequalities of access to higher education?

Methodologically, cross-national survey data is integrated with country-level data on enrolment and the degree of public subsidization to test these prepositions. In the spirit of this volume, I focus on current OECD countries, but for reasons of data availability, the analysis is restricted to those who participate in the European Social Survey (ESS).¹ I estimate a set of multilevel logistic regression analyses including both random intercepts and random slopes. The hypothesized conditional effects of accessing university are tested for by including interactions between the central independent variable (parental education) and the macro-level indicators, which are taken from the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics. Coinciding with the publication of the first five rounds of the ESS, the time frame of the analysis is from 2002 to 2010.

The chapter is structured as follows: after formulating the theoretical framework, I derive a set of research hypotheses, and introduce data and method. Subsequently, I present the results of the analysis and conclude with a brief discussion thereof.

2.1 Theoretical Framework

In order to investigate the micro-macro linkages between social background and institutional characteristics of higher education and their joint impact on the propensity

¹Countries included in the sample are thus: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, the Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

to pursue an academic degree, two strands of literature are combined. For the micro-level perspective explicating the causal mechanisms underlying the persistence of inequalities in education, I draw on educational sociology. The moderating impact of macro-level institutions is subsequently theorized by adopting recent insights from comparative political economy.

2.1.1 Inequality of Educational Opportunities

Educational sociology has a long tradition of researching the origin and the reproduction of inequalities in education (for an overview, see Becker, 2011). The findings of this literature, however, are remarkably similar: social background – generally measured as either parental education or parental income – consistently structures both access to and success in higher levels of education across both time and countries (Breen & Jonsson, 2005; classics include Coleman, 1968; Goldthorpe, 1996; Mare, 1980; Sewell, 1971). Thus, individuals from a low social background (or class) are fundamentally disadvantaged in accessing higher levels of education. Today, these inequalities are especially pronounced in higher education as the massive expansion of secondary education in recent decades has led to a catch-up effect for lower classes (Becker, 2011, p. 100). Higher education, however, remains highly socially exclusive (Shavit et al., 2007).

How can these persistent inequalities be explained? According to Raymond Boudon (1974), the impact of social background on educational access can be differentiated along the lines of primary and secondary social origin effects. In this view, primary social origin effects relate directly to the social capital of parents. In upper-class households, for example, children will on average have access to more books, and parents are more likely to actively stimulate their children’s cognitive abilities from an early age onward. At the point of entry into the education system, children from low socio-economic status backgrounds are therefore already disadvantaged compared to children from upper-class parents, irrespective of individual talent. With regard to access to higher education, this difference in starting position at the level of primary education is further compounded by secondary social origin effects. These effects come into play as individuals commence the transition from secondary education to either higher education or paid employment, weighing the expected utility of each available option. Formally, the decision scenario can be expressed as:

$$P_{HE} = (pU - C)_{HE}$$

The probability P of choosing a certain path – in this case pursuing an academic

degree - therefore depends on three factors, given in the formula by p , U and C : the (subjectively assessed) probability p of successfully completing higher education HE multiplied by its total utility U (for example, increased life-time earnings), less the cost C associated with choosing that path. Accordingly, high values for the total utility and completion probability and low values for cost would independently contribute towards the decision to take up higher education. This cost-benefit calculation, in turn, is affected by the social background of an individual. Naturally, relative cost is higher for low socio-economic status individuals, as low household income may make tuition fees for living expenses prohibitively expensive. Parents of high socio-economic status individuals, on the other hand, can more easily afford to pay for higher education. According to Boudon, the other two components of the skill investment calculus – probability p and total utility U – are more important in producing inequalities, however. First, because of disadvantages stemming from primary social origin effects, the probability of successfully completing higher education is depressed for low socio-economic status individuals. Second, in addition to financial returns, the utility of pursuing higher education is judged relative to the current social class of the parents. Concerned with preserving their social status, high socio-economic status individuals have an overwhelming incentive to pursue higher education. Their lower-class counterparts, on the other hand, have a lower utility from enrolling in higher education, since it is not required for the preservation of their social status (Bornkessel & Kuhnen, 2011, pp. 49–55).

While Boudon's model offers an explanation of why class-based inequalities persist, it neglects the supply side of higher education. The question this chapter addresses, then, is how different configurations of variables shaping higher education systems may affect the cost-benefit analysis of individuals faced with the decision to pursue an academic degree. In order to do so, Boudon's approach of educational sociology is supplemented by insights from political economy.

2.1.2 The Political Economy of Higher Education

As mentioned in the introduction, scholars of political economy have increasingly focused on how the formation of skills is organized in different nation-states and what repercussions corresponding institutional designs have on, for example, production modes (Iversen & Stephens, 2008), employment patterns (Ansell & Gingrich, 2013) and welfare state policy preferences (Busemeyer, Cattaneo, & Wolter, 2011). However, only recently have authors focused their attention on the complex relationship between

institutional arrangements structuring the set-up of higher education systems. Here, I draw on the framework proposed by Ansell (2008). In essence, the author proposes that decision-makers are faced with a trilemma when designing (or changing) higher education systems. At any point in time, higher education systems logically can fulfill only two of three possible goals: high enrolment (defined as the proportion of individuals pursuing an academic degree after leaving secondary school), a high degree of public subsidization (defined as the amount of public money spent on each higher education student) and low public overall cost. To illustrate, if policy-makers put a premium on high enrolment and at the same time want to keep the overall cost of the higher education system as low as possible, they will not be able to highly subsidize each student, transferring the cost of higher education to private households in the process. Likewise, if policy-makers value high levels of public subsidization, for example to provide for a level playing-field, they can only achieve it if they either limit enrolment or accept the overall cost of the higher education system to be a substantial burden on the public purse.

Accordingly, different configurations of two of the variables enrolment and degree of public subsidization lead to three ideal-typical models²: the elite model (low enrolment ratios and high public subsidization), the partially private model (high enrolment ratios and low public subsidization) and the mass public model (both overall enrolment and public subsidization high).

Along with identifying these ideal types, Ansell develops a redistributive theory, positing that preferences over which system to implement are class-based and run counter to usual intuitions over public spending. Describing the preferences of three social strata, Ansell argues that the lower class will tend to prefer higher education systems with low levels of public subsidization (elite or partially private) because they are unlikely to benefit from increased public spending in higher education and will thus want to avoid the tax burden associated with it. At the other end of the spectrum, the upper class prefer to maintain an elite system since they receive higher education at any rate and do not stand to profit from either increased enrolment or subsidization. On the contrary, they might suffer relative losses once higher education becomes accessible to other strata.

The middle class, finally, is perhaps the most interesting group within Ansell's redistributive theory because their preferences are contextually dynamic and thus are

²The third variable – overall cost of the higher education system – is essentially a function of the configuration of the other two. Put differently, overall cost increases as either enrolment or public subsidization increase.

the fulcrum for policy change: at elite levels of enrolment, the middle class prefers low levels of public subsidization, forming a cross-class with the lower strata. Once enrolment expansion has led to their inclusion in higher education, however, they have a strong preference for high levels of public subsidization (Ansell, 2008, p. 200). How

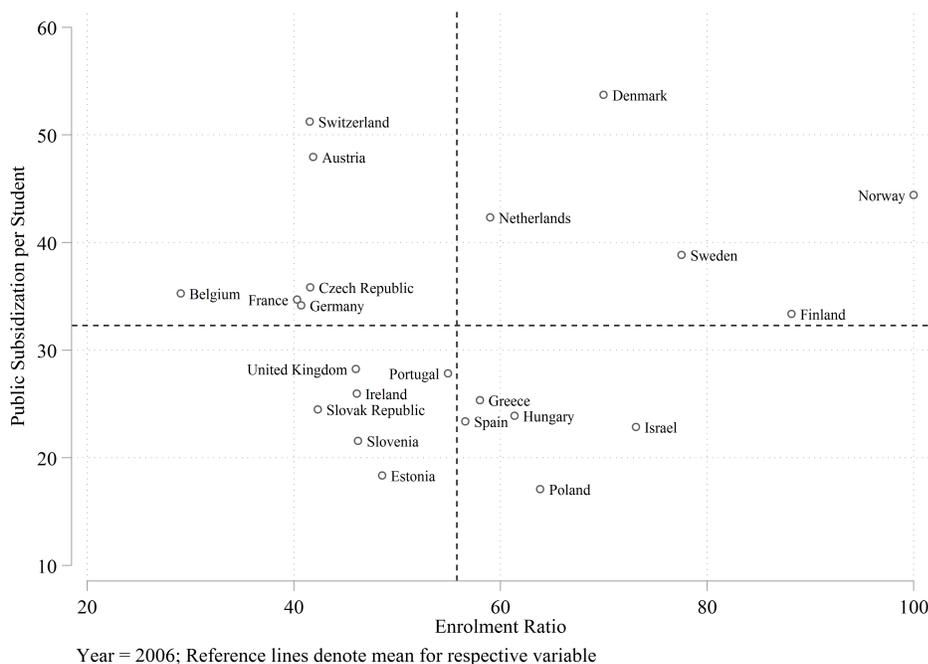


Figure 2.1: Illustration of higher education system ideal types

can different higher education systems be mapped according to these ideal types? In [Figure 2.1](#), the countries of the sample are plotted for the year of 2006 and along two dimensions characterizing higher education systems (public subsidization and enrolment). Data for both variables come from the database of the UNESCO Institute for Statistics.³ *Enrolment Ratio* – plotted on the x -axis – provides information about the number of individuals enrolled in higher education, expressed as a percentage of the total population of the five-year age group following the official secondary school graduation age. On the y -axis, *Public Subsidization per student* indicates public expenditures per student, expressed as a percentage of gross domestic product (GDP) per capita. As a proxy for public spending, it includes both direct funding of public institutions as well as stipends and other subsidies for students enrolled in private institutions. In addition, it is free of the confounding influence of enrolment because

³Data for Germany's degree of public subsidization unfortunately is not available in the UNESCO database. However, it was possible to calculate it to the UNESCO's definition by resorting to data provided by the federal statistical office of Germany.

of its focus on individual students rather than the entire student body. With lines denoting the mean values for the variables, the elite system can be found in the upper left quadrant. Unsurprisingly, it is most thoroughly realized in Austria and Switzerland, both of which emphasize vocational over higher education (Bernhard, Graf, & Powell, 2013; Busemeyer et al., 2011). Likewise, the mass systems can be found in the upper right quadrant, which is populated by the Scandinavian countries and the Netherlands. The partially private model, finally, appears in the lower right quadrant and is realized in a more diverse set of countries: Greece, Hungary, Israel, Poland and Spain. Another six countries are situation in the lower left quadrant. They thus constitute a fourth ideal type in which both enrolment and public subsidization take on low values and in which only one of the three overarching goals of higher education policy – low overall cost – is being realized.

This snapshot, taken at the middle of the time frame for analysis, roughly illustrates the sample countries' position within the trilemma of higher education. It does not show, however, the trajectory of higher education systems between 2002 and 2010. As shown in *Figure 2.2*, all countries except Estonia have expanded their higher education supply considerably within this span of time. The average increase in the enrolment ratio is almost 11 percentage points. Naturally the biggest changes occurred in countries with low initial enrolment ratios, as elite and countries from the residual ideal type display high growth rates. From a conceptual standpoint, therefore, the ongoing 'massification' of higher education as a fixed trend leaves countries with two choices within the trilemma: scale back public subsidization or incur escalating overall cost. As can also be seen in *Figure 2.2*, 15 of the 22 countries in the sample have decreased their per capita subsidization between 2002 and 2010, resulting in an average decline of -2.7 percentage points. This trend is especially apparent for elite model countries, where, with the exception of France, all countries have cut subsidization. These countries are moving towards the lower right quadrant of the plot, and if their trajectory persists they will end up with partially private higher education systems. This picture is more varied with regard to countries belonging to the other three ideal types, but a general trend towards the privatization of higher education costs can be stated.

In light of these trends, one might ask whether these higher education system variables affect equality of opportunity to access higher education by altering the cost-benefit analysis of individuals from different social backgrounds in weighing their decision to enrol at a university. The direction of this moderating impact, however, is not so clear a priori. Even when supply is high, prospective students from a low

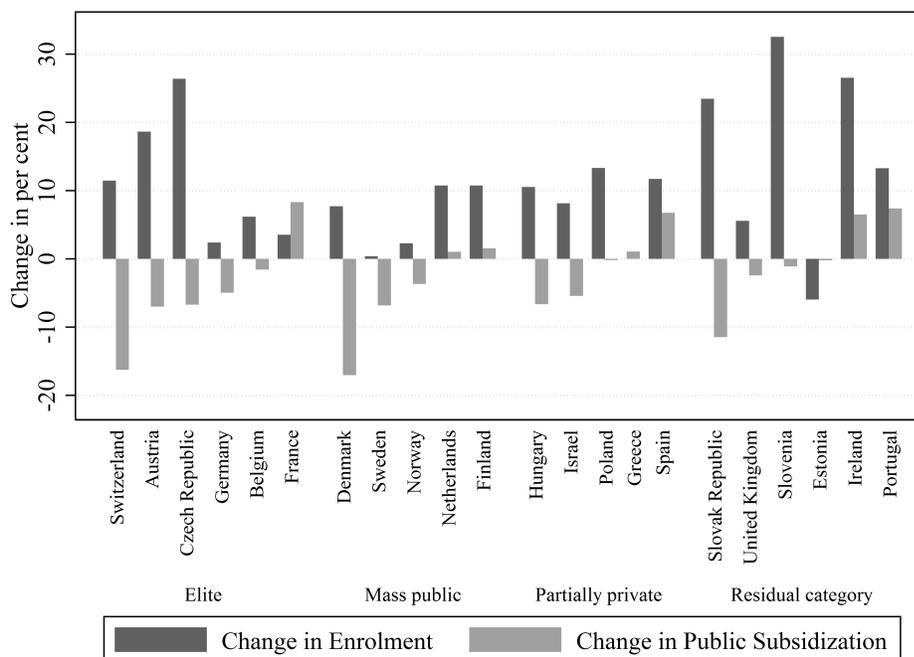


Figure 2.2: Change in enrolment and public subsidization, 2002-2010 (For reasons of data availability, the bars for Greece denote the change in between 2002 and 2006 only)

socio-economic background may still be disadvantaged in accessing higher education, especially if public subsidization is low and costs associated with pursuing therefore have to be incurred by private households. On the other hand, a high degree of public subsidization may generally be associated with a smaller impact of parental education on the likelihood to study, but this effect may very well depend on the supply side of higher education. If, for instance, only a small proportion of students have a chance to pursue an academic degree, it is perhaps unlikely that students displaying low levels of parental education will belong to the select few (hence the term elite model). Consequently, the question becomes what happens to the prospects of low-socio-economic status individuals when one takes into account the recent trajectory in which enrolment ratios are increased at the expense of per capita public subsidization.

2.1.3 Theoretical Assumptions

In line with sociological approaches on educational equality, the main theoretical argument of this chapter is that admission to the university sector is positively correlated with the parental status in education via primary and secondary social

origin effects. Put differently, young people leaving secondary schooling whose parents are well educated have a much higher likelihood of enrolling at a university than students whose parents are poorly educated. Thus, an overall effect of parental education on propensity to study for the entire cross-national sample is expected. However, because of unobserved heterogeneity between countries due to factors such as tracking in secondary education, it is also assumed that the effect magnitude of parental education may vary according to country. For instance, it is reasonable to assume that countries that put a premium on egalitarianism, such as Sweden or Finland, display a more moderate impact of parental education than stratified countries, such as Austria or France (see Schlicht, Stadelmann-Steffen, & Freitag, 2010; Teltemann, 2014). As will be elaborated later, varying effect magnitudes can be modeled by fitting random slopes for each country in the sample. I thus posit the following initial hypotheses:

H1: The level of parental education structures an individual's likelihood to enter higher education. The less educated one's parents, the less likely the individual is to be enrolled at a university.

H2: The effect magnitude of parental education on propensity to study varies between countries.

Drawing on the political economy literature on higher education, I secondly assume that access to higher education may not only depend on individual-level factors but also on characteristics pertaining to the institutional design of the higher education system. Here, the crucial variables are the enrolment ratio (defined as the proportion of individuals pursuing an academic degree after leaving secondary school) and public subsidization (defined as the amount of public money spent on each higher education student as a proportion of GDP per capita). I assume that these macro-level variables—in conjunction denoting the position of a country within the trilemma of higher education—moderate the impact of parental education on the dependent variable (via cross-level interactions). Since the impact of these variables on the equal distribution of educational opportunities is unclear a priori, the corresponding hypothesis is non-directional in nature.

H3: A country's enrolment ratio and its degree of public subsidization moderate the impact of parental education on the individual's likelihood of enrolment at a university.

2.2 Data and Method

In order to test these research hypotheses, cross-national comparative micro-level data as well information on the two macro-level variables thought to moderate the impact of parental education was needed. As is most often the case with secondary data not expressly designed to answer a given research question, I had to incur a set of trade-offs, as described below.

2.2.1 Individual-Level Data

The individual-level data are taken from the ESS, which is a large-scale cross-national survey financed by the European Science Foundation. It endeavors to track attitudes in 30 (mostly) European countries and has been carried out every two years since the year of 2002. In the following analysis, the first waves (from 2002 to 2010) have been pooled to obtain sufficient sample sizes and to make it possible to compare both between higher education systems and over time (European Social Survey, 2003, 2005, 2007, 2009, 2011). Non-OECD members were excluded, as well as countries that did not participate in the majority of the survey rounds (Italy and Turkey), leaving a sample size of 22.

As indicated in the previous section, I am interested in estimating the probability of university enrolment after secondary school. Accordingly, the population of the analyses is limited to the five-year age group after the official age of leaving secondary school in each country of the sample. By focusing on this age group, the goal is to adequately capture the competing options presented to young people after completing secondary schooling.

The dependent variable, therefore, would ideally be a dummy indicating whether the survey respondent at the time of the interview was a student in higher education. Perhaps surprisingly, most cross-national surveys including the ESS do not contain an item indicating university enrolment. I was therefore forced to deduce the information from two auxiliary items. First, I relied on a question asking respondents what their main activity was. Those who answered ‘education’ (as opposed to paid employment, apprenticeships or unemployment) to this item and at the same time had already obtained the qualifying degree in secondary education [as indicated by International Standard Classification of Education (ISCED) scheme] were coded as being higher education students. The dependent variable is thus a binary variable dubbed *Student*.⁴

⁴Individuals who at the time of the survey indicated they already held a higher education degree were also coded into the *Student category*.

This coding procedure may confound the analysis to a degree, but it does clearly distinguish between entering vocational or tertiary education, thus eliminating the most obvious source of bias. As described, the expectation is that the propensity to take up higher education is first and foremost structured by the level of parental education. While many studies exclusively focus on the father's education, my own preliminary analyses suggest that the level of education obtained by the mother also significantly and independently contributes towards study propensity.⁵ Therefore, an index comprised of the highest level of education of both parents, again as indicated by the ISCED scheme, was constructed. In this coding scheme, zero points were given to parents who obtained a higher education degree. Consequently, for the completion of upper secondary education, one point was allocated; for the completion of lower secondary schooling, two points were given; and for respondents whose father or mother do not hold a degree, the maximum score of three points was assigned. Results for both parents were then added to each other, resulting in an index ranging from 0 (both parents hold higher education degrees) to 6 (neither parent holds a secondary degree). This variable – called *Parental Education* – is the central independent variable of the analysis. Because the effect of the different combinations of parental education may be non-linear, this variable in all but one model is treated as categorical; meaning that coefficients have to be interpreted in relation to a predefined reference category – which in this case means the value of the index equals 0. Overall, diminished odds for the propensity to study are expected for all subsequent values of the index. Moreover, effect sizes should increase as higher values are compared against the combination of both parents holding a higher education degree.

In addition to the central independent variable, a set of control variables was included in the models. First of all, dummy variables for each year under investigation (2002, 2004, 2006, 2008 and 2010) were introduced as covariates. This might have captured systemic differences between years, but was mainly done to absorb unobserved heterogeneity associated with each respective year. This is especially important with regard to the macro-level variables introduced below and is designed to inspire confidence that their effects are not artefacts of concurrent developments over time. In addition, the migration background of an individual may be related to social background and have an independent impact on the propensity to study. The concept of migration background is captured by two variables. The first – *Foreign Born* – indicates whether a respondent was born in a country other than the one she is living

⁵In fact, in multilevel random intercept models, effect sizes and significance levels of father's and mother's education levels as explanatory variables were almost indistinguishable.

in (=1). The second – *Migration Background* – hearkens back to the importance of parental status and differentiates between both parents having been born in the respective country (= 0), one parent born elsewhere (= 1) and both parents as immigrants (= 2). Finally, a dummy indicating the gender of the respondent (*Female* = 1) is included.

2.2.2 Macro-Level Data

To reiterate, the central hypothesis of this chapter is that the degree of educational inequality with regard to access to higher education may be moderated by characteristics of the respective higher education system. Specifically, the two variables that, in conjunction with each other, determine to which higher education ideal type a country belongs are also assumed to exert an influence on the equality of opportunity in higher education. As described, these two variables are dubbed Enrolment Ratio and Public Subsidization per Student. Logically, these variables operate on the macro rather than the individual level, and corresponding data is thus collected on the basis of countries and years. For each OECD country included in the ESS, information on the macro variables was matched to the survey data. The hypothesized conjectural relationship is modeled by introducing cross-level interactions of the parental education variable in its categorical form with the two macro-level variables in the following analysis.

2.2.3 Method

In order to test the hypotheses in a statistically sound way, the hierarchical structure of the data set needs to be accommodated. In multilevel data, individual error terms are likely to be correlated within groups, violating the independence assumption of single-level regression analysis. In order to relax this assumption, I run multilevel models with random intercepts (see Luke, 2004; Rabe-Hesketh & Skrondal, 2012). I thus end up with a fixed component indicating the mean effect of independent variables across all groups and a random component designed to absorb unobserved heterogeneity between clusters.

In addition, since the dependent variable is binary, logistic regression is used. Essentially, then, the models predict the probability of being enrolled at a university, expressed as percentages between 0 and 100 and conditional upon the explanatory covariates. Formally, the regression equation for the random intercept model can be

written as:

$$\text{logit}\{Pr(Student_{ij} = 1 | x_{ij}, \zeta_j)\} = \beta_1 + \beta_2 x_{2j} + \dots + \beta_6 x_{6j} + \zeta_{2j} PARENTAL EDUCATION_{ij} + \epsilon_i,$$

where $\zeta_{2j} PARENTAL EDUCATION_{ij}$, as part of the random component of the equation, is the country-specific slope for the impact of parental education.

2.3 Results

I present the results of my analyses in consecutive steps. First, I demonstrate the country-specific impact of parental education on propensity to study. Then, I explore fixed effects for individual-level factors; finally, I introduce the cross-level interaction effects between parental education and the institutional environment of higher education systems.

Turning to the country-specific inequality of higher education access, a multilevel logistic model is estimated in which the coefficients of parental education is allowed to vary by country (*random slopes*). In this model, only the individual-level data taken from the ESS is used. For illustrative purposes, the explanatory variable parental education is treated as continuous in this model (in all other models, it is treated as categorical).

Because at this point I am not interested in the fixed overall effect of parental education, only the coefficients of the mean slope (fixed slope + random slope) are reported in *Figure 2.3*. On the *x-axis*, the steepness of the combined slopes can be observed for each country in the sample. Unsurprisingly, the model shows a strong impact of parental education on propensity to study for all countries in the sample, as all slopes have negative overall coefficients.

However, effect *magnitude* varies starkly between countries. On the one hand, the effect of parental education is strongest in Eastern European countries and Germany. On the other hand, the most equal countries are Sweden, the Netherlands and – perhaps surprisingly so – the United Kingdom and France. With regard to the higher education ideal types, no clear initial patterns emerge. While mass public models generally display low levels of inequality, the three countries with the biggest impact all belong to different ideal types. However, the volatility of the effect size by country (ranging from -0.18 in Sweden to -0.72 in the Slovak Republic) gives credence to the notion that equality of opportunity in access to higher education is

realized to very different extents in the sample countries. This raises the question as to whether, despite the initial impression, part of these differences can be explained by the institutional characteristics of the higher education systems. In order to answer

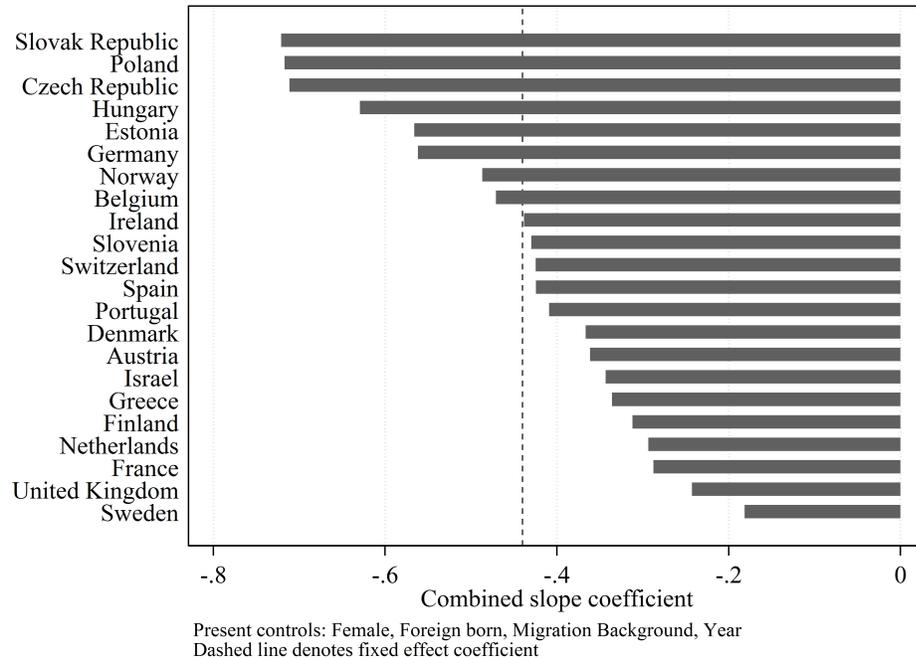


Figure 2.3: Effect of parental education on propensity to study, by country

this question, the results of the main analysis are presented in *Tables* [2.1](#) and [2.2](#). In Model 1, only the central independent variable (in its categorical form) is included in the regression. In Model 2, the other individual variables, *Female*, *Foreign Born* and *Migration Background*, are added to the equation. In Model 3, accordingly, the interaction terms with the macro-level variables are added. Coefficients are reported as odds-ratios, meaning that point estimates under 1 denote a negative relationship between the variable and the probability to study, and point estimates larger than 1 denote a positive one.

Irrespective of the specification, the models show a strong and highly significant impact of parental education on the likelihood to be a student.

Table 2.1: Multilevel regression results: micro specifications

	(1) Model 1	(2) Model 2
<i>Parental Education</i>		
Parental Education = 1	0.686*** (0.0422)	0.690*** (0.0181)
Parental Education = 2	0.338*** (0.0183)	0.339*** (0.0181)
Parental Education = 3	0.262*** (0.0174)	0.261*** (0.0171)
Parental Education = 4	0.189*** (0.0134)	0.190*** (0.0132)
Parental Education = 5	0.135*** (0.0154)	0.136*** (0.0151)
Parental Education = 6	0.0985*** (0.0091)	0.0986*** (0.0088)
Female = 1		1.328*** (0.0448)
Foreign Born = 1		0.854 ⁺ (0.0792)
<i>Migration Background</i>		
One parent born outside country		0.944 (0.0664)
Both parents born outside country		1.039 (0.0886)
Observations	16,886	16,278
Number of groups	22	22
SD of random intercepts	0.44	0.40

Exponentiated coefficients are reported. Standard errors in parentheses.

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Compared with the reference category (both parents hold a higher education degree), odds ratios are consistently below 1 and decrease with every additional category denoting a lower level of parental education. In addition, effect sizes barely change as more variables are added to the model, indicating little multicollinearity with gender and migration background. In order to illustrate the impact of each category of parental education more intuitively, predicted probabilities for each category were calculated for Model and are graphed in Figure [2.4](#). The model predicts a a 62 per cent likelihood of pursuing an academic degree for the five-year age group following secondary school-leaving for survey respondents both of whose parents hold a higher education degree – true across all countries and years. Interestingly, the predicted

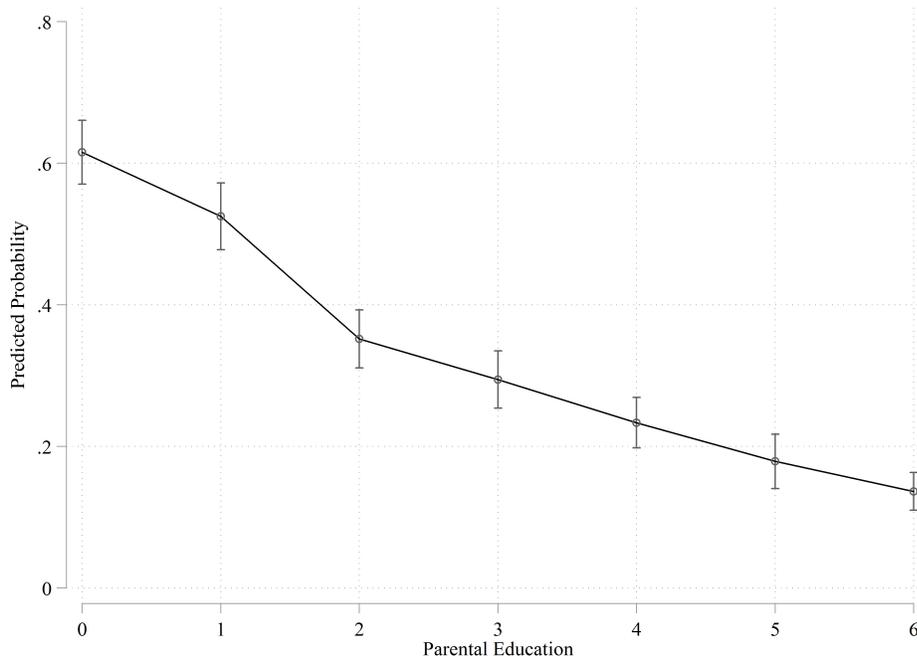


Figure 2.4: Predictive margins of parental education, Model 2

probability does not decrease linearly, as the drop-off from values 0 to 1 (essentially denoting that one parent holds a higher education degree and the other an upper secondary degree) is just 9 percentage points, but the drop-off from values 1 to 2 (which in more than 90 per cent of the cases denotes that both parents hold an upper secondary education degree) is much stronger at 17.3 percentage points. In other words, experience and success in higher education even by one parent leads to a considerably greater probability of an individual to pursue an academic degree. Once the level of parental education reaches the value of 2, however, the propensity to study decreases rather linearly, with higher categories associated with a decreasing likelihood of close to 5 percentage points each.

As for the control variables, the model predicts a highly significant ($p < 0.01$) effect for gender. According to the corresponding odds ratio, being female increases the likelihood of pursuing an academic degree by a factor of 1.3 as compared to males.⁶ With regard to migration background, the model detects a marginally significant negative effect for being born in a foreign country. The migration background of the parents, however, does not seem to impact the propensity to be a higher education student.

⁶When all other variables are held at their means, the coefficient translates into a predicted probability of 39.3 per cent for females and 32.5 per cent for males.

Table 2.2: Multilevel regression results: micro-macro specifications

	(1)		(2)	
	Model 3		Model 4	
Enrolment Ratio	1.0071 ⁺	(0.0042)	1.0045	(0.0036)
Public Subsidization per Student	0.9886*	(0.0047)	0.9871*	(0.0061)
<i>Parental Education x Enrolment Ratio</i>				
Parental Education = 1	0.9941 ⁺	(0.0031)		
Parental Education = 2	0.9966	(0.0028)		
Parental Education = 3	0.9997	(0.0035)		
Parental Education = 4	1.0055	(0.0040)		
Parental Education = 5	0.9978	(0.0085)		
Parental Education = 6	0.9960	(0.0071)		
<i>Parental Education x Public Subsidization</i>				
Parental Education = 1			0.9992	(0.0055)
Parental Education = 2			0.9950	(0.0049)
Parental Education = 3			1.0044	(0.0060)
Parental Education = 4			1.0218**	(0.0067)
Parental Education = 5			1.0229 ⁺	(0.0139)
Parental Education = 6			1.0349**	(0.0118)
Observations	16,203		16,203	
Number of groups	22		22	
SD of Random Intercepts	0.41		0.42	

Exponentiated coefficients are reported. Standard errors in parentheses.

Yearly dummies and constants are included in the models, but not reported

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Turning to the inclusion of macro-level variables in Models 3 and 4 (Table 2.2), the interaction between parental education and enrolment ratio is largely insignificant. The sole (marginally) significant coefficient is for Parental Education = 1. The corresponding odds ratio is 0.994, suggesting that with increasing values of enrolment ratio, the gap between individuals from that group and from the reference category widens, albeit at a small margin.⁷ Given the small effect size and the fact that the impact of parental education is not moderated by enrolment for any other group, the overall interaction is judged to possess little explanatory power. This is different, however, for public subsidization. Here, the model yields a moderating impact on the effect of parental education. More precisely, the interaction is significant for values

⁷Over the entire range of the enrolment variable, the gap increases from 4.9 percentage points (*Enrolment Ratio* = 25) to 14.9 percentage points (*Enrolment Ratio* = 100), with all other variables held at their means. As a reminder, the overall fixed gap between these two groups was 9 percentage points (see above).

4 through 6 in parental education.⁸ The positive odds ratios for these three groups gets smaller as public subsidization increases. Hence, respondents whose parents are not particularly well educated see their likelihood increase at high levels of public subsidization. To illustrate, marginal effects of Model 4 are plotted in Figure 2.5.

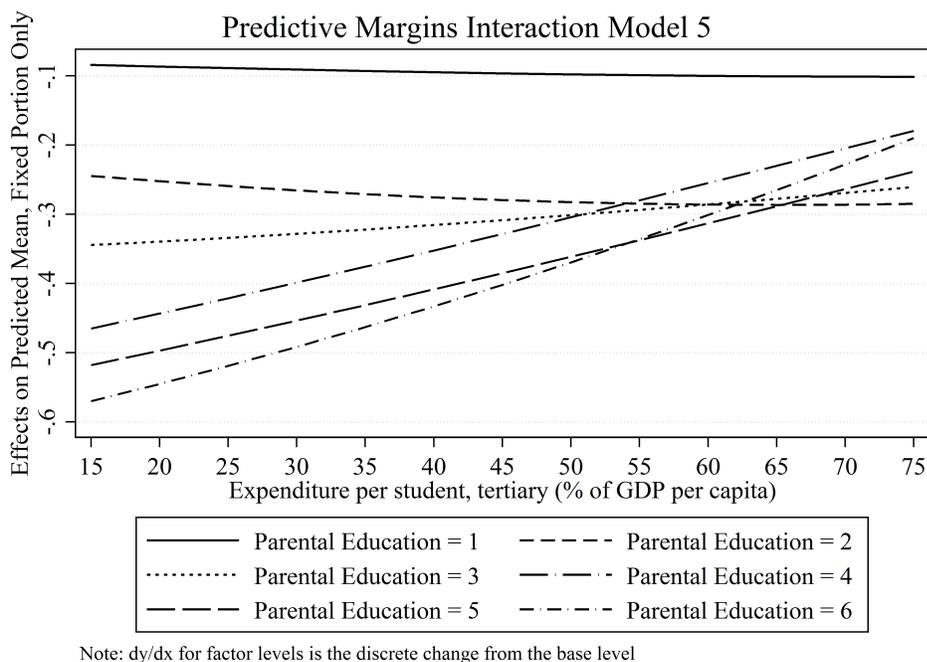


Figure 2.5: Interaction of parental education and public subsidization

Over the entire range of the variable, the effect of parental education is strongest for low levels of public subsidization, where there are marked differences between all seven groups. As public subsidization increases, the likelihood of individuals with parental education values 1, 2, or 3 to be students is relatively stable, compared to the reference group. However, the remaining groups with poor educational backgrounds catch up considerably. At a public subsidization rate of about 60 per cent of GDP per capita, there are no discernible differences between them and respondents whose parents have an aggregate education score of 2 or 3. At such a rate, these groups are 25 to 30 percentage points less likely to pursue an academic degree than individuals from the reference group. While there remains a decided advantage for individuals whose parents have successfully completed a higher education degree, the catch-up effect of low socio-economic status individuals under conditions of high public subsidization is

⁸The fact that the interaction is only marginally significant for the value 5 is most likely an artifact of the corresponding group. Only 610 respondents (3.6 per cent of the overall sample) belong to this category, naturally leading to larger standard errors.

remarkable.

2.4 Conclusion

How does the higher education system affect inequality of opportunity? To answer this question, I have employed multilevel logistic regression analysis in order to (a) estimate the impact of parental education on likelihood to pursue an academic degree across 22 European OECD countries, and (b) analyze whether this effect might be moderated by two variables characterizing higher education systems. These two variables were the proportion of individuals taking up higher education after leaving secondary school (*Enrolment Ratio*) and the amount of public money spend on each higher education student (*Public Subsidization*). To sum up the results, I find a strong relationship between the level of parental education and the individual likelihood of pursuing an academic degree. The propensity to study is highest when both parents hold a university degree and progressively decreases with lower levels of parental educational attainment. I also hypothesized that there should be stark differences between countries with respect to the effect magnitude of parental education. Letting the coefficient vary by introducing random slopes for each country, I find this strongly to be the case. The effect is least pronounced in Sweden, the United Kingdom and France, and most pronounced in Eastern Europe.

Turning to the impact of system-level variables, the data does not point towards a moderating relationship between the enrolment ratio and parental education on the propensity to pursue an academic degree. For public subsidization, however, I do find a moderating impact for the three highest categories of the parental education index (signalling poor levels of educational attainment). In countries with high levels of public subsidization, the effect of parental education – while still visible – is much less pronounced than in countries that for less spending. These results suggest that the social investment component of the welfare state can meaningfully reduce existing inequalities. In light of recent trends of decreasing levels of public subsidization (see Figure 2.2), however, the findings also imply that inequality in education is likely to actually intensify in many countries - even in the face of increasing enrolment rates.

Chapter 3

Explaining Institutional Change in UK Higher Education: Towards a Partisan Theory?

Though vast improvements have been made in recent years, a consolidated understanding of institutional change in higher education systems has not yet been established. In particular, theoretical progress linking higher education policy output to partisan and governmental preferences is lagging behind that of other sub-fields of education policy. This is not without reason as scholars - whether explicitly or implicitly – often grapple with three interrelated problems. First, the (re)distributive implications of higher education policy have been proven to be more complex and dynamic than originally anticipated. Second, higher education as a field has not been conceptualized in a way that allows to holistically describe and trace variation in system design between countries and across time. And finally, a focus on quantitative analysis using conceptually conflated dependent variables has led to wildly different conclusions regarding the determinants of higher education policy.

In this paper I therefore present an alternative framework through which higher education can be analyzed. I distinguish between enrolment, finance mechanisms, overall quality and prevailing level of access inequality in order to disentangle the distributive implications of higher education. Enrolment is defined as the proportion of secondary school-leavers that enters higher education. Regarding finance, I differentiate between spending on higher education institutions (HEIs) and expenditures on student subsidies on the one hand, and the proportion of public vs. private spending on the other. While spending on subsidies disproportionately benefits students from non-academic backgrounds and thus has progressive consequences, the effects of spending

on institutions and the division of labor between public and private sources are not as clear-cut. This is where the third factor, quality, comes into play. It is defined as a function of enrolment and both public and private spending on HEIs. In other words, the amount of non-subsidy per-student spending is used as a proxy for overall quality. If spending remains fixed or does not increase at the same rate as enrolment does the quality of higher education is thus reduced. Finally, the degree of access inequality is partly a result of how the higher education is set-up with regards to enrolment and spending on subsidies, but is also determined by outcomes in related fields, particularly secondary education.

Taking this conceptual framework as the reference point, I conduct an exploratory case study of institutional change in the higher education systems of the United Kingdom. More specifically, I trace policy reforms in British higher education in between 1963 and 2015. In doing so I am particularly interested in how governing parties act given the constraints imposed on them by the existing structure of the higher education system. The insights derived from the case study, I hope, will be instructive in linking partisan preferences to policy outputs in higher education and contribute towards a generalizable theory of higher education policy-making.

The remainder of the paper is structured as follows. First, I will in more detail describe the dimensions along which I conceptualize higher education policy. Second, I will briefly elucidate the analytical lens (a variant of historical institutionalism) that structures my approach to the case study. I then turn to tracing the policy developments in British higher education and end with a concluding section.

3.1 Conceptualizing (Change In) Higher Education Policy

Since in this paper I am interested in describing and explaining institutional change in higher education, it is crucial to define what characteristics of the higher education are subject to change in the first place. In other words, the questions structuring this section are: How can the institutional setup of the higher education system be meaningfully described, how are the different concepts of said setup related to one another and to what extent might the political system be able to change the parameters of that design?

In the pertinent literature, a simple measure of overall public spending on (higher) education as a percentage of GDP typically serves as the dependent variable in analyses

looking to ascertain, for example, the impact of partisan government composition on policy output (Boix, 1997; Busemeyer, 2007b, 2009b; Castles, 1989; Jensen, 2011). Results have been very contradictory - with some studies claiming either Right or Left parties as champions of higher education and others finding no partisan effects at all (see Garritzmann, 2017).

A notable exception to this approach comes from Ansell (2008), who has described institutional change within higher education systems as a function of enrolment, public per-student spending and overall public cost. Given a fixed trend towards enrolment expansion, governments face a trade-off between either providing high levels of per-student subsidization or keeping the burden on the public purse low. In this model, countries prioritizing low cost over subsidization are expected to introduce tuition fees, payable by private households, in order to keep funding at sustainable levels.

Ansell's model recognizes the crucial role the level of enrolment plays as a driver of institutional change. Concerning finance mechanisms, however, it subsumes all public spending under the umbrella term subsidization and thereby implicitly assume that the distributive implications of investment in higher education do not vary along the lines of which budget items the money is being spent on. Addressing this issue, Garritzmann (2015, 2016) differentiates between spending on student aid on the one hand and on HEIs on the other. However, since the focus of subsequent analyses lies with explaining patterns of student finance, the conceptual potential of this distinction is not fully realized.

In conclusion existing research paints an incomplete picture of higher education as a policy field. In order to disentangle its confusing distributive implications and trace institutional change, a more holistic view is needed. I aim to conceptualize higher education by differentiating between the dimensions of enrolment, finance mechanisms, quality, and inequality of access. *Figure 3.1* provides a broad overview of this framework and the interrelations it brings about.

Enrolment

The level of enrolment is defined as the proportion of young adults entering higher education after having completed secondary schooling. While participation in secondary education has become universal over the course of the 20th century, enrolment in higher education is highly variable across countries, though a general trend towards massification can also be observed. This trend, in turn, is likely to generate feedback effects that present governments with trade-offs in other realms of higher education policy such as finance and quality (see below). The choices governments make given these trade-offs might then prove helpful to deduce partisan preferences.

The distributive implications of enrolment are relatively straightforward. Generally,

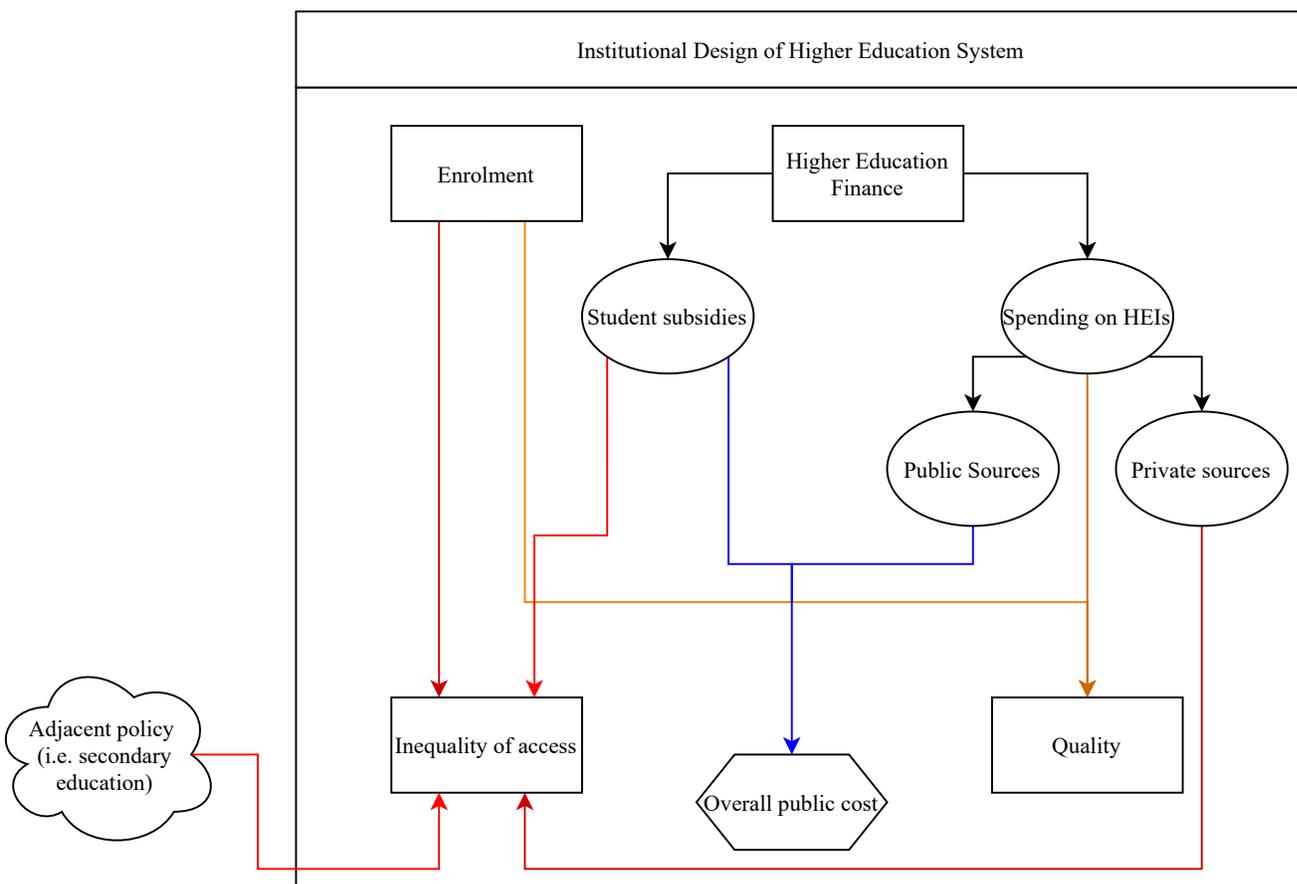


Figure 3.1: Conceptualization of Higher Education Policy

access to higher education is stratified by class, meaning that children of richer and better-educated parents are more likely to attend universities than children from less privileged backgrounds. Net of the effects of policies designed to reduce inequality of access (for example through student aid), the individual probability to attend higher education rises linearly with increasing enrolment.

Higher education finance

The funding structure of national higher education systems stands at the core of this conceptualization and is key in disentangling their distributive implications as a whole. Most generally, there are two views on the redistributive effects of public spending on education. One view is that investment in public education offers protection from life risks in all societal groups and is particularly helpful in reducing inequalities of opportunity between members from different socio-economic strata (Castles, 1989; Hega & Hokenmaier, 2002). A second assessment is that given the income dependence of access (particularly in higher education), a collectively financed education system

amounts to a regressive transfer of resources from the poor to the rich (Ansell, 2008; Iversen & Stephens, 2008; Jensen, 2011).

For two reasons, this debate cannot be resolved using overall levels of public spending as the dependent variable. First, it does not take into account the moderating influence of enrolment. Given that access is stratified by class, there is a negative relationship between enrolment and the degree of regressivity of higher education: if only the wealthy benefit, tax-funded provision of higher education is highly regressive, but it becomes gradually less so as enrolment expands to include members of additional social strata. Second, it does not differentiate the distributive consequences of what exactly public money are being spent on. Spending on student aid includes grants and subsidized loans that help cover the financial cost associated with pursuing an academic degree. Such spending is typically targeted explicitly to students from low socio-economic backgrounds with the goal to reduce barriers to access and effect social mobility (and even if eligibility is not means-tested, it helps the lower social strata the most). Consequently, spending on student subsidies reflects the view that public investment in higher education has progressive properties. On the other hand, expenditures on HEIs include the costs associated with the actual provision of higher education, such as teaching and staff salaries. As such, spending on institutions benefits those who have already gained access and, depending on the level of enrolment and inequality of access, represents the component of higher education finance that is inherently regressive in nature. Though the distributive consequences of these two types of spending may be divergent, taken together they reflect the overall burden of higher education on the public purse. Given the upward trajectory of enrolment, there is inflationary pressure on overall public spending. Setting fiscal priorities, policymakers then confront the choices of how much they are willing to invest in higher education generally and what should be the proportion of spending on subsidies versus spending on HEIs.

In this calculus, the introduction of private finance mechanisms (i.e. through the introduction of tuition fees) is an option to practice fiscal restraint without undermining the level of funding available to HEIs. If all students regularly contribute a set amount to their education, it logically follows that at least that proportion of funding increases linearly with enrolment. In addition, one could argue that insofar private finance mechanisms replace public spending on HEIs, they reduce the overall regressivity of the higher education system. On the other hand, in the absence of generous spending on student aid, it follows that tuition fees adversely affect equality of opportunities, since individuals from lower social strata are likely to be sensitive towards private

contributions. In sum, distributively, tuition fees pull in two directions and their precise effects are highly dependent on the institutional context (for example, the prevailing level of access inequality and the generosity of student aid). In deducing partisan preferences, it might also be important to bear in mind that the distinction between collective and privately financed skill formation regimes emphasizes different ‘world views.’ Evoking the concept commodification, Busemeyer (2015, pp. 30–31) states: “When a large share of education funding comes from private sources [...], individual educational choices are more likely to resemble the cost-benefit calculus depicted in human-capital theory. Conversely, when the involvement of the state in financing and providing education is high, the provision of education may be regarded as a social right and entitlement and as part and parcel of a comprehensive welfare state model.” The overarching funding structure of the higher education system might therefore not only be contested by parties due to its direct distributive impact but also because it reinforces (or undermines) their meta-philosophies on the political economy.

Quality of Higher Education

The next constituent part of this framework concerns the quality of higher education provision. It is defined as the level of spending on HEIs from both public and private sources relative to enrolment. In other words, quality equals the amount of non-subsidy resources spent on each individual student. Consequently, the trajectory of quality is governed by how policymakers resolve the question of finance in the face of pressure to increase enrolment. A high level of quality can only be preserved by (i) accepting a linear increase in overall public cost, (ii) transferring the burden of higher education provision to households or (iii) restricting growth in enrolment. Similarly, if spending from both public and private sources remains fixed or does not increase at the same rate as enrolment does, the quality of higher education is reduced.

In terms of its distributive consequences, a high level of quality benefits all who are enrolled in higher education and confers a comparatively larger advantage versus those who do not have access in terms of the acquisition of high-level skills. Since access is stratified, quality education particularly benefits individuals from privileged backgrounds. Additionally, since two of three possible strategies detailed above (ii and iii) adversely affect equality of access, preserving a high level of quality tends to also maintain exclusivity of higher education as a good.

Inequality of access

The final dimension along which institutional change be described is inequality of access to higher education. It is defined as the difference in probability of pursuing an

academic degree between individuals from different social backgrounds. Empirically, there is overwhelming evidence of parental background as a key variable in predicting access to higher education, but the size of this effect varies considerably between countries as well as over time (Breen & Jonsson, 2005). Importantly, this variation cannot be solely attributed to the level of enrolment as is typically assumed in the literature. Rather, it is also affected by at least two additional factors. First is the structure of the secondary education system. On balance, countries with comprehensive schooling display a smaller socio-economic gradient in access to higher education than countries where early-age tracking into ability-based school types is practiced (Shavit et al., 2007). Second, there is evidence that the class-based difference in access probability is smaller when generous student aid programs are in place (Dynarski, 2003; Fulge, 2016).

Thus, inequality of access is influenced both by the prevailing institutional design of the higher education system as well as by outcomes produced in the field of secondary education. For policymakers aiming to reduce inequality of access, the remedies on offer within the higher education system (increasing enrolment and / or spending on student subsidies) come at the cost of either escalating public costs or deteriorating quality (especially as one solution to increase quality in the face of expansion, the introduction of tuition fees, may impact negatively on equality of access).

Summary and tentative expectations

In sum the dimensions discussed above are an attempt to capture the institutional design of higher education systems and elucidate the choices and trade-offs presented to policymakers striving to alter the trajectory of higher education. In contrast to existing conceptualizations, this framework privileges a holistic perspective over parsimony, allowing to trace institutional change in detail.

A particular focus has been laid on the distributive consequences different configurations of the institutional design lead to. While the following case study is inductive in its approach, these can be used to tentatively state expectation regarding partisan preferences over higher education policy. Generally, in line with the *partisan theory* literature, I assume that parties aim to convert the preferences of their core constituencies into policy when elected into office. These constituencies mainly delineate along the lines of class, with Left parties representing lower social strata and Right parties as agents for more privileged groups (Hibbs, 1977, 1992; Schmidt, 1996). Thus, Left parties in their attempts to effect upward social mobility are assumed to prioritize measures to reduce inequality of access to higher education. This can include, for example, the introduction of generous student aid programs and a focus on enrolment

expansion. Right parties, on the other hand, may opt to preserve the comparative advantage of their constituency by limiting enrolment and privileging quality over reducing inequity. By contrast, partisan preferences over the degree to which HEIs receive their funding from public vs. private sources are likely to be more variable. For example, given the political Right's general preference for individual responsibility over government intervention, it might be reasonable to presume support for private finance mechanisms. On the other hand, due to the regressive nature of public spending on HEIs, partisan patterns regarding spending could also be reversed in the case of higher education.

3.2 Analytical Framework

Before applying this conceptualization to a case study tracing institutional change within the British higher education system, I proceed by elaborating on the analytical framework guiding my research. I use a variant of historical institutionalism strongly informed by the works of Kathleen Thelen (Mahoney & Thelen, 2010; Streeck & Thelen, 2005; Thelen, 1999, 2004) as the principal analytical framework. In short, Thelen's approach emphasizes the importance of timing and time in explaining institutional genesis and change, but also recognizes that arguments of path dependency are analytically limited when applied deterministically. In particular, Thelen has posited (i) that institutions are subject to continuous political contestation and incremental rather than abrupt change, (ii) that the distribution of power between relevant actors is crucial for the outcome of said contestation, and (iii) that policy feedback effects need not be positive.

In contrast to other variants of historical institutionalism, this view dispenses with the notion of punctuated equilibria according to which institutions reproduce themselves until an exogenous shock induces far-reaching change. The focus on such events undersells the tendency of institutions to display significant continuity even in times of turmoil as well as the political contestation and renegotiation in more settled times. It also analytically separates the question of change from the question of stability (Thelen 1999: 399). Rather, the trajectory of an institution is conceptualized to be evolutionary in nature and subject to continuous political tinkering, maintenance, and re-setting. In this line of thinking, path dependency does not refer to an inevitable "lock-in" of existing institutions, but to it being a constraining force limiting avenues for political action.

Regarding the importance of the distribution of power between relevant actors,

Thelen states that the prevailing structural and political context shapes the preferences and strategies of interested actors. Thus, while institutional re-setting is possible, powerful actors at an earlier time are often able to structurally tilt the playing field in their favor, highlighting “the way that policies initiated at one point affect which actors are around to fight the next battle, how they define their interests, and how and with whom they are likely to ally themselves subsequently” (Thelen, 2004, pp. 288–89). This sentiment is echoed by Busemeyer (2015) who argues that variation in the design of education systems can be explained by reflecting on the interaction between partisan politics and the institutional context and by separating out the effects of long-term balance of power and short-term government composition. Thus, the sequencing of political power becomes crucially important, with governments responsible for path initialization able to create an institutional framework to which subsequent governments have to adapt their ambitions for reform - also in terms of the vested interests and newly created constituencies they might encounter.

Finally, historical institutionalism in general has emphasized the importance of positive feedback effects and increasing returns in explaining institutional reproduction. Another important insight derived from the literature discussed here is that while positive feedback effects are rampant, institutions can also produce self-undermining negative effects that accrue over time and make policy reversal and change increasingly likely. For example, Jacobs & Weaver (2015) theorize various ways through which unintended consequences of institutional design lead to policy losses for important groups and thus create demand for change (for a slightly different perspective, see Callander & Martin, 2016). Because of ubiquitously short time horizons in politics, unanticipated changes in the social and economic context an institutions is embedded in, and building internal contradictions due to institutional layering, an institution itself may generate strong pressure for change.

In conclusion, the variant for historical institutionalism I employ in this paper compels us to expect institutional continuity in line with theorizing about increasing returns, but also makes it clear that institutions are not static, but are continuously contested and adaptable to new social, economic, and political circumstances. Importantly, the actors that seek to change an institution can never wipe the slate clean but have to work with how the institution has evolved over time. Effectively, then, policy-makers have a limited menu of options to select from when changing an institution.

How does this analytical lens structure my research? First it focuses attention on power relations and on those actors have had a hand in setting and re-setting policies

higher education systems. In the context of this paper, it seems reasonable to focus primarily on the influence of parties as aggregators of individual preferences as well as on organizations representing the interests of universities and students as secondary actors. I will also be mindful of both positive and negative feedback effects over time. With regard to the former, the most powerful feedback mechanism likely is that with increasing numbers of beneficiaries, higher education generates its own support and makes reversal of current policies electorally costly (similarly to what Pierson (1996) has claimed with regard to welfare state institutions). On the flip side, the expansion of enrolment also serves as the most likely source for negative feedback because it puts pressure on higher education systems in the sense that it either leads to deteriorating quality or becomes a burden to the public purse.

3.3 Higher Education in the United Kingdom, 1963-2015

Tracing the institutional development of higher education in the UK offers ample opportunities to analyze policy changes both big and small. In fact the higher education system has been described as the “most ‘tinkered with’ by national government in the world” (Watson, 2014, p. 36). As will be discussed below, at four periods of conscientious reform activity can be identified in the period between 1963 and 2015, with ample variation on the outcome dimensions of the conceptual framework as well as on the partisan composition of government. As such, this study consists of four separate cases that, taken together, reflect a diverse case-selection strategy (Gerring, 2007). The goal of this strategy is to capture the full range of variation on the variables of interest in order to generate hypotheses about relationships that lend themselves to generalization to large-N settings.

Institutionally, the UK is a Westminster democracy with majoritarian electoral institutions, centralized authority and pluralistic interest representation. Given the lack of institutional constraints, the translation of partisan preferences into policy can thus be assumed to be particularly swift, making the UK a suitable candidate for the deduction of initial hypotheses (Schmidt, 1996). In addition, the British¹ party system has been characterized to possess a particularly close link between class membership and voting patterns for the two main parties (Labour and Tories),

¹Through reforms in 1992 and 1999, responsibility for higher education has increasingly become a devolved policy issue in the UK. In tracing institutional change, from there on out I focus explicitly on policy developments in England.

though increasing societal heterogeneity has led to the emergence of a “two-and-a-half” party system including what is now called the Liberal Democrat Party (Siaroff, 2003; Webb & Bale, 2021).² Concerning the ideological orientation of these main parties (J. Fisher, 1996; Volkens et al., 2021), the Tory Party is comparatively right-wing and has consistently demonstrated a commitment towards economic liberalism and free markets. Labour originated from the tradition of Socialism, but has undergone an ideological transformation de-emphasizing welfarism and redistribution of wealth in favor of equality of opportunity (*New Labour*). The Liberal Democrats, finally, occupy the space between the two major parties, but are ideologically closer to Labour due to their roots in Social Democracy.

The initial configuration of the British higher education system after World War 2 resembled that of most Western countries: Enrolment levels were low at about 5%, access was largely limited to the elite and students were entitled to generous subsidies covering their living expenses. More specifically, student support was grant-based, with all students received a mandatory annual grant plus a further contribution towards living expenses that was means-tested against parental income (Cheung & Egerton, 2007; Walford, 1988).

Though HEIs had formally been set-up as private entities, virtually all of their funding came from public sources. Local authorities paid small tuition fees to universities on a per-student basis, but these fees merely accounted for 10% of the teaching costs (G. Williams, 1998, p. 78). The vast majority of funds available to universities came from the national budget in the form of quinquennial block grants (Neave, 1985). Neither the distribution of these funds within the higher education sector nor the appropriation was determined by the national government, however. This function was served by the University Grants Committee (UGC), an advisory body comprised largely of academics specifically designed to protect the financial autonomy of universities from government interference (Scott, 1978). This settlement extended to enrolment levels, as universities generally defined admission requirements themselves and thus had control over student intake (Mayhew, Deer, & Mehak Dua, 2004). Since only a fraction of university funding was allocated on a per-student basis, incentives to admit more students were weak.

Compared to this initial configuration, today’s higher education landscape in England looks vastly different. It has witnessed a near eight-fold expansion in the proportion of secondary school leavers going into higher education; per-student funding from government sources has generally decreased concurrently; and inequality of access

²The rise of the United Kingdom Independence Party lies outside of the time frame of this analysis.

has improved even in the face of marked cuts to student subsidies (see *Chapters 1 and 2* of this dissertation). Additionally beginning in the late 1980s there has been an extensive shift towards private contributions to higher education finance, first via the implementation of a loan system to cover student living expenses and second through the introduction of tuition fees payable directly to universities. The development from a generously and publicly financed system for the select few to a partially-private model with below average access inequality and robust per-student funding can - taken together - be explained by focusing on four periods of reform activity: the implementation of the recommendations of the Robbins Report (1963); the Tory cuts in the 1980's; the introduction and subsequent refinement of a tuition regime under the Labour government of 1996-2010; and a further shift towards private financing under the Conservative-Liberal Democratic coalition in government in between 2010 and 2015. These reforms will now be discussed in turn, with a particular emphasis on developments in the latter two periods.

3.3.1 Robbins Report, 1963-1979

Over the course of the 1950s, the post-war constellation of elite higher education came under pressure due to slowly increasing demand for university places. With only 33 operational universities, the system was no longer able to accommodate growing numbers of applications (which in turn were driven by a combination of an economic boom and increasing levels of secondary education attainment): Whereas in the mid-1950s around 80 per cent of applicants were admitted, this number had gone down to 64 per cent a decade later (Ansell, 2010, p. 219). In addition to growing demand, academics and policymakers increasingly adopted a human capital perspective to higher education, elevating its standing from a rite of passage for the elite to central to the country's competitiveness (Layard, 2014). In this context, in 1961 the Conservative government commissioned a Committee of Enquiry into the Future of Higher Education, to be chaired by London School of Economics Professor Lord Lionel Robbins. After two years of research the committee's recommendations were published in 1963 and swiftly accepted by Parliament. The Report diagnosed a wealth of untapped ability in the population and argued that as a matter of principle all applicants with appropriate qualifications should be admitted to university. By logical extension this meant that the system needed to undergo a massive expansion, setting a target of 560,000 full-time students in higher education by the year of 1980, compared to the status quo of 216,000 at the time the report was conceived. This

ambitious goal was to be reached by expanding enrolments at existing institutions, granting university status to technological colleges as well as colleges of education, and building six new universities. In order to incentivize universities to admit more students, publicly paid tuition fees were to be raised to cover 30% of teaching costs, trebling the per-student component in university budgets (G. Williams, 1998).

With regard to finance, the committee maintained that per-student funding levels on both institutions and grants should not be compromised, estimating that by 1980 combined expenditures for full-time students would rise from £206 million to £742 million (Hillman, 2013; Robbins, 1963). Regarding the affordability of these plans, Robbins argued that “public money is spent on what people want; and if they want more higher education, then, on the estimates we have made, it should be possible to finance it without imposing intolerable strains on the budget or the economy” (Robbins, 1963). This estimate comprises spending on both institutions and student subsidies, but the Report made clear that expansion should not come at the expense of decreasing student-staff ratios and also that switching to a scheme in which student living expenses would be financed privately through a loan scheme “would not be appropriate, at least for the immediate future” (Robbins, 1963, p. 287).

As indicated by the rapid and bipartisan acceptance of the report’s recommendation, there was little political conflict over the future development of the English higher education system. Though some Tory backbenchers feared declining quality (‘more means worse’) there was general consensus the UK needed a larger higher education system, primarily in order to stay competitive with other European nations (Busemeyer, 2015; Fulton, 1991). As the 1950s and early 1960s had been a time of relative economic prosperity and increasing tax revenues, concerns over fiscal pressures an expanding higher education sector would entail were muted for the time being. With regard to distributive implications, reducing inequalities of access was not in itself a concern of the Robbins Report (Calhoun, 2014). However, it did explicitly recognize the regressive nature of public financing, arguing that a problem of ‘distributive justice’ might become prevalent as public expenditures increases, but ultimately deciding against shifting parts of the costs to households so as to not disincentive potential beneficiaries of expansion (Robbins, 1963, p. 212).

The Robbins Report had long-lasting effects on the trajectory of the English higher education system. It put the country on a path towards a publicly financed mass system without compromising quality and established a notion of higher education that would shape political conflicts for decades to come. In doing so, “it preserved what in European terms may be regarded as a high-cost system of elite financing

into the transition period toward mass higher education” (Neave, 1985, p. 352). The system of maintenance grants, though partially means-tested, constituted “the most generous system of student support in the normal group of OECD countries” (Watson & Bowden, 1999, p. 252). Additionally, the estimates on enrolment expansion made by Robbins turned out remarkably accurate, as enrolment doubled from seven to 15 per cent within ten years of its publication. While middle-class men were the prime beneficiaries of this expansion, the participation rates of women and lower-SES individuals also registered an increase (Cheung & Egerton, 2007). However the institutional setup manifested by Robbins also generated negative feedback as proportionally increasing costs coincided with harder economic times induced by the oil crisis in the 1970s (Scott, 1978).

To understand the development of the British higher education system in the decades to follow, it is necessary to briefly address concurrent developments in two adjacent fields of education policy. The first concerns secondary education. In the post-war period, secondary education was organized as a tripartite system in which pupils were tracked into separate school types according to their academic ability at age 11. Access to the highest tier (grammar school) was rather competitive and highly stratified by class, meaning that only a relatively small portion of an age cohort would have an opportunity to enter higher education (Cheung & Egerton, 2007). Citing unequal opportunities, the Labour government in power in between 1964 and 1970 abolished the tripartite in favor of a comprehensive system in which all pupils would be schooled together until the age of 16 at least (Bogdanor, 1977). While it took until the late 1970s for the reforms to be fully implemented, the comprehensivisation of secondary education to a higher (and more diverse) proportion of individuals holding the necessary qualifications to enter higher education, thereby increasing demand.

The second adjacent policy development was in non-academic tertiary education. In a reform that was diametrically opposed to what Robbins had envisioned, the same Labour government that had introduced comprehensive secondary education decided to complement the university by a second type of HEI, the so-called polytechnics (Fulton, 1991). Polytechnics were intended to provide vocational training tailored to the specific demands of regional economies and were therefore managed and funded by local authorities. In contrast to the universities, they were set up as public institutions and had an exclusive focus on teaching over research (Neave, 1985). With the creation of the polytechnics a binary system of higher education clearly demarcating academic from vocational post-secondary education had been created.

3.3.2 Tory Cutbacks, 1979-1997

By the time Margaret Thatcher was elected prime minister in 1979, public expenditures on higher education had doubled to 1.6% of GDP from their base level in 1962 (Callender, 2014). Enrolment, on the other hand, was stalled at 14%. At the same time, double digit levels of inflation during the 1970s were not fully compensated with corresponding funding increases, resulting in a 10% cut to university funding in real terms by the end of the decade (Walford, 1988). Though Thatcher, a former scientist and education secretary, was in favor of further expansion, the prevailing funding structure of generous student subsidies made doing so prohibitively expensive, especially considering the neoliberal meta-philosophy on the political economy the Conservatives were pursuing at the time.

As a result the prolonged period of Conservative dominance in the House of Commons in between 1979 and 1997 with regard to higher education can be summarized as period of significant cuts to funding on both HEIs and student subsidies. Beginning in 1980, the Thatcher administration introduced a 'full-cost policy' for international students, meaning that foreigners had to pay the full cost of tuition for attending British HEIs (up to £5,000, depending on the subject). This policy had the dual purpose of staving off demand from international students wishing to benefit from Britain's high quality higher education system and relaxing public expenditure constraints that had come to characterize the state of higher education. With tuition fees for overseas students no longer paid by the Exchequer, overall public funding of universities decreased, but per-student funding for British students, and thus, quality, remained intact. Nonetheless the policy was also conceived at the time to be a first step towards commodifying the public good of higher education and therefore was vigorously opposed by student organizations (Shattock, 2012; P. Williams, 1984).

When in 1981 the government outlined its plans for significantly reduced general public spending, higher education was not spared. Over the next three years, the universities' income in the form of block grants would be cut by 15%. The extent of these cuts put universities under tremendous financial distress and led the UGC to reduce the recommended intake of students in order to preserve quality (Scott, 1989), resulting in stagnant enrolment in the first half of the 80s. Interestingly, however, the system of maintenance grants remained largely intact. While shifting a larger proportion of living cost expenses to households was seriously discussed within the administration (including the introduction of tuition fees for domestic students), such plans were repeatedly abandoned because of their perceived impact on middle-class families, a core constituency of the Conservatives (Hillman, 2013; Watson & Bowden,

1999). At this point in time, the Thatcher administration therefore had decided to privilege generosity of subsidies over both quality and enrolment expansion.

HEI funding was not only scaled back under the Conservative administration of the 1980s, but also redistributed within the higher education sector. In 1985, the system of quinquennial grants made available to universities through the UGC was changed to differentiate between teaching and research. Funding for teaching was based on the number of students a university enrolled and funding for research was allocated competitively through the introduction of so-called Research Assessment Exercises (RAEs). These assessment were to be carried out every five years by the UGC and privileged research-intensive elite over mass universities (Elton, 2000; Mayhew et al., 2004).

As the cuts to HEI spending took root, a number of universities came close to insolvency and the relationship between universities and the government was increasingly strained (Scott, 1989; Shattock & Berdahl, 1984). In addition a decade of stagnating enrolment left the UK lagging behind internationally and it was clear that given the current funding levels universities were not willing to admit more students. This frustrated the government and led to the abolition of the independent UGC in 1988. In its place the University Funding Council (UFC) - an organization under much tighter control of the government than the UGC - was created (Mayhew et al., 2004). Additionally in the neighboring field of polytechnics the government wrested responsibility from local education authorities, leading to the somewhat paradoxical result that the Tories had nationalized control over higher and further education (Scott, 1988; Shattock, 2006). This way a more active expansion policy tailored to the needs of the economy could be pursued. Universities were incentivized to admit more students by modest increases in public funding available to HEIs (Shattock, 2012, p. 220). However, growth in enrolment (from 15% in 1988 to 23% in 1991) outpaced these investments and per-student funding fell sharply. Ostensibly, the government argued, market mechanisms introduced in the allocation of funds would lead to more efficient universities and hence quality would not be compromised even under conditions of stagnating or decreasing funding (Department for Education and Science, 1987; Walford, 1988). Hence the strategy pursued by the government was one of a “rapid expansion of student numbers at marginal costs” (Mayhew et al., 2004, p. 69).

Against the backdrop of increasing enrolments it had also become clear that an alternative to public funding of the generous system of student support was binding too many resources. To this end a white paper published in 1988 (Department for

Education and Science, 1988) outlined a new approach towards student finance. It laid out the burden maintenance grants on the public purse had trebled since Robbins and proposed to gradually replace 50% of its value by a student loan scheme. According to subsequent legislation in 1990, loan repayment started once graduates had concluded their studies and were ‘mortgage-style,’ meaning monthly repayments were wholly determined by the value of the loan and not pegged to income (Barr, 1989; Barr & Crawford, 1998a). While the value of the loan at £420 per year was initially quite small and did not immediately relieve the Treasury, the newly created loan scheme was a clear renunciation of the generous taxpayer support for students that had been in place since the post-war period (Harris, 1991). Since loans as opposed to grants were not means-tested, this policy also “shifted the public subsidy of student living costs purely from a large subsidy benefiting lower income students to a less generous subsidy benefiting all students (the majority of which are from affluent families)” (Blanden & Gregg, 2004, p. 233). As a consequence, expenditures on student aid were both cut and made to be distributively less progressive.

A final Conservative reform, formalized in the Higher and Further Education Act of 1992, was the dissolution of the binary system of universities and polytechnics. More specifically polytechnics were elevated to the status of universities and given degree-awarding powers, and funding was streamlined by the creation of a common funding council (Higher Education Funding Council for England [HEFCE]). Why did the Conservatives pursue the end of the binary policy? According to Pratt (1992, 1999) it was simply a continuation of its goal to expand enrolment at low cost to the Treasury. Polytechnics had traditionally been funded less generously than universities but had been able to absorb much of the excess demand of the early 1980s. In addition they had excelled at responding to economic demands and it was hoped they would introduce ‘vocational drift’ to the university sector as a whole (see also Ryan, 2005; Shattock, 2012, pp. 87–106), emphasizing the role of higher education in human capital formation. Unification did not mean, however, harmonization. Per-student allocations continued to differ wildly: for example, Imperial College London (an elite institution) received £40,000 per student and year while the University of Central Lancashire (a former polytechnic) received one tenth of that sum (Ryan, 2005, p. 93). As a consequence “the unified system is informally stratified, rather than diverse” (Pratt, 1999, p. 267). This point becomes particularly salient with regard to inequality of access. While the expansion had slightly reduced overall access inequality (Blanden & Gregg, 2004; Cheung & Egerton, 2007; Chowdry, Crawford, Dearden, Goodman, & Vignoles, 2013), virtually all of the gains were provided by less prestigious institutions

such as the former polytechnics. Elite HEIs on the other hand continued to be able to cherry-pick students based on their A-level exams, preserving the educational advantages of the elite (Cheung & Egerton, 2007).

Naturally incorporation of the polytechnics in 1992 led to a sudden jump in enrolment (from 23% to 28%) but increases in the following years were also robust, and five additional percentage points were added by 1995. Summarily within ten years enrolment had increased by a factor of 2.5, a number significantly above what was expected by the government, thereby “applying unanticipated pressure to public funding” (Mayhew et al., 2004, p. 69) despite the reduced levels of per-student spending.

In summary the policies implemented under the reign of the Conservative party in between 1980 and 1997 considerably scaled back public spending on both HEIs as well as student subsidies, introduced private financing mechanisms for student living expenses and effected an element of within-sector stratification via the RAEs and the dissolution of the binary system. Despite these significant cuts in student funding the Tories later on oversaw a rather rapid expansion of the sector, as participation increased from 14% in 1988 to 32% in 1995. As had been the case after Robbins (and despite lower levels of per-student funding), growing enrolments resulted in fiscal pressure, ultimately leading the newly founded HEFCE to cap student numbers in 1995 in order to avoid escalating costs, effectively ending the second era of expansion after Robbins (Witte, 2006). By the time the Tories left office in 1997, per-student funding had halved from the level of 1979 (Wyness, 2010). With quality compromised and growing discontent regarding equality of opportunities (Harrison, 2011), there was a sense in English politics that the higher education system was once again in crisis (Watson, 2014). Importantly, while the post-Robbins era had been shaped by inter-party consensus based on the notion of well-financed but moderate expansion, the period of Thatcher/Major governments culminated in a marked politicization of higher education policy, particularly with regard to student aid finance. While Labour criticized that the loan scheme would deter school leavers from poor families from entering higher education, the Conservatives argued that the generous system of maintenance grants had become too costly, in particular under conditions of growing enrolment. However there was also a general sense present in both parties that further expansion, while desirable, was irreconcilable with maintaining the still comparatively high levels of public per-student funding. It was therefore that in 1996 the parties agreed to commission a second report on the future of higher education, this time chaired by Sir Ron Dearing. According to many observers this move was at least

partly motivated by a mutual desire to keep higher education reform out of the 1997 election campaign as both parties anticipated a further privatization of costs would be inevitable (Trow, 1998; Watson, 2014; Witte, 2006).³

3.3.3 Dearing Report and Labour Reforms, 1997-2010

When the Dearing Report was published a few months after Labour's landslide victory in August of 1997, its main thrust had three interrelated components: first, it principally argued for resumed expansion and proposed to lift the cap on student numbers within three years (though it rejected to set a particular goal as Robbins had done, arguing that the members saw "participation in higher education being determined primarily by informed student demand, subject to the constraints of what can be afforded and by the need for government intervention to ensure that participation in higher education does not fall behind that of our major competitor countries" (Dearing, 1997, p. 98). Second, the commission emphasized the need for widening participation alongside increasing it, asserting that expansion thus far had disproportionately benefited upper social classes and that HEIs had a role to play in alleviating these inequalities. The mechanism by which this was to be accomplished was to set aside a proportion of HEI funding competitively granted to those institutions that "can demonstrate a commitment to widening participation" (Dearing, 1997, p. 107). As such this view was in line with New Labour's commitment to equality of opportunity over equality of outcome and Tony Blair's mantra of 'education, education, education' (Ryan, 2005), but did not abandon the bias towards market solutions imprinted on British policy-making by the Conservative administrations of the previous 18 years (Greenbank, 2006). Thirdly and most importantly, the Dearing Report reviewed higher education finance with regards to HEI and student funding alike. Concerning the former it proposed the introduction of universal annual flat tuition fees of £1,000 for undergraduates, supported by loans and to be paid back upon graduation. This private contribution was projected to make up about 25% of the overall cost of delivering higher education with the rest continuing to be covered by the public purse. While this recommendation established the principle of significant private contributions, it is noteworthy in this context that the decision for a flat fee was also one against a rivaling proposal of variable fees under which HEI institutions

³While higher education consequently was a secondary concern only in the election campaign, it is noteworthy that in their manifestos, the Conservatives emphasized the need for preservation of quality while Labour argued that expansion was needed and that it could not be funded out of general taxation. Liberal Democrats, finally, were the only party explicitly rejecting tuition fees (Fisher and Hillman (2014: 16).

would be allowed to charge as much as prospective students were willing to pay for a degree (Barr & Crawford, 1998b). Ostensibly this route was taken to safeguard against further within-sector stratification, as it was feared that variable tuition fees would create winners and losers both in HEIs and with regard to the socio-economic gradient in access to elite institutions (Dearing, 1997, p. 323). Concerning student finance, the Report rejected the mortgage-style loan scheme introduced by the Tories in 1988. Rather, it suggested, repayment of loans covering living expenses should be income-contingent, meaning that repayment would not start until the income of graduates reached a threshold and monthly payments would be a percentage of said income rather than a fixed sum. The principle of income contingency, Dearing argued, would make sure that individuals from poorer backgrounds were not discouraged from studying because of risk aversion, again emphasizing the Report's concern with inequality of access. Finally, despite pressure to make all living expenses and tuition fees subject to a loan, Dearing argued in favor of retaining the combination of loans and means-tested grants introduced in 1988.

Given the revolutionary nature of the Dearing Report's recommendations, Labour was eager to pass a corresponding reform as quickly as possible. Secretary David Blunkett informed the parliament about the administration's plans just one month after the publication of the report and in November, the Teaching and Higher Education Bill was formally introduced in the House of Lords. While Labour did adopt the main principles of the Dearing Report (expanding and widening participation alongside reforming higher education finance), it strayed from its recommendations in three significant ways. First, the principle of deferred (loans-based) tuition fees was rejected in favor of an upfront contribution to be paid at the start of each academic year. The reason for this approach was that accounting rules stipulated estimates losses of public loan-based financing of tuition fees to be counted towards the budget so that in the short to medium-term tuition fees would actually lead to formally increasing public expenditures (Barr & Crawford, 1998b; Wyness, 2010). Second, to counterbalance the up-front nature of the new fees, the government decided to make the £1,000 annual tuition fee subject to means-testing, exempting the poorest third of students from having to pay the fee.⁴ Finally, the government opted for scrapping the maintenance grant altogether, completely relying on an income-contingent loan system. In this scheme, students would start repaying their loans by having 9% of

⁴More specifically, students with a gross parental / spousal income of below £23,000 would be fully exempted while students with an income of below £35,000 would be required to pay less than the full tuition fee (Barr & Crawford, 1998b).

their income automatically deducted from their paychecks once their yearly income exceeded £10,000.

Although the leadership of the two main parties generally supported the the introduction of tuition fees the bill generated considerable controversy, both from the opposition as well as within Labour. Tories lamented that revenue from tuition fees would replace rather than be added to public spending, fearing a decline in quality given the goal to expand access - especially at elite institutions. Opposition within Labour came mainly from backbenchers whose electoral districts heavily featured students (such as, at the time, Jeremy Corbyn) and who criticized the abolition of grants, would have preferred deferred over up-front tuition fees and were concerned over future fee increases. Regarding non-parliamentary actors, the cash-squeezed universities strongly supported the law whereas student unions favored moving to the principle of income-contingent in loans but staged protests against the introduction of tuition fees. Public opinion, on the other hand, was squarely on the side of reform: for example, in September of 1997, a poll commissioned by the Committee of Vice-Chancellors and Principals (CVCP) - an organization representing the interests of universities - found that 69% of adults favored private contributions to higher education (Wilson, 1997, p. 40).

Despite these disagreements over the contents of the reform, the Teaching and Higher Education completed its parliamentary passage relatively unscathed and in time for tuition fees to kick in with the 1998/99 academic year, becoming one of the first major policy acts of the new administration. Given its significance in terms of policy change, the amount of resistance it encountered is surprisingly low. This can be attributed to a variety of factors. The 1997 general elections handed Tony Blair an impressive mandate, and with Labour controlling 63% of the seats in the House of Commons a backbench revolution was unlikely to succeed. Perhaps more important was the high level of problem pressure the higher education was faced with as a result of the fast enrolment growth in the early 1990s and concurrent funding cuts. In other words, the prescriptions offered by Dearing and implemented by Labour were “the only medicine on offer – and the patient was dying on its feet” (Crace & Shepherd, 2017). Put in terms of historical institutionalism, the policies pursued by the Tory administration of the previous decades had generated negative feedback that opened the door for a wholesale reform of higher education finance that would extract considerable resources from those who pursued a degree.

However, the introduction of tuition fees became politically much more virulent as they were implemented and students were actually obligated to pay. By the time of the

general elections of 2001 it also had become apparent that tuition fees did not increase university revenue beyond levels that were below average in international comparisons (Greenaway & Haynes, 2003; Wyness, 2010).⁵ Thus, tuition fees were no panacea for a system suffering from decreased quality. Additionally the distributive impact of the reforms was heavily disputed as many observers thought loan entitlements were too small to fully cover living expenses and the need to take on increasing levels of student debt to be at odds with the widening participation agenda (Barr, 2003; Jones & Thomas, 2005). Also in the aftermath of the devolution reforms in 1999 tuition fees were abolished and maintenance grants re-instituted in Scotland, leading to policy divergence between the constituent countries of the UK. Additionally, while per-student funding of HEIs stabilized and even increased slightly (Department for Education and Skills, 2003, p. 22), enrolment expanded rather slowly.

Against this background higher education played a significant role in the 2001 general elections, with all parties explicitly rejecting a hike in tuition fees beyond the established level of £1,000 in their manifestos. Although Liberal Democrats made some gains in student-heavy districts in terms of vote share (S. D. Fisher & Hillman, 2014, p. 18), Labour lost only five seats and easily secured a second term in government. However the government decided to reconsider higher education finance reform in order to address some of the criticisms of the 1998 law and in 2003 published a white paper titled *The Future of Higher Education* (Department for Education and Skills, 2003). It proposed a series of nontrivial tweaks to the system and one political bombshell. In keeping with the widening participation agenda, it recognized that while participation of the lowest socio-economic groups had increased in absolute terms, relative gains were marginal. Consequently the white paper proposed a re-introduction of grants with a value of up to £1,000 per year targeted to students from households with low incomes. Crucially this grant would not substitute but be added to loans taken out for living costs, increasing resources available to the poorest students by close to 25% (Department for Education and Skills, 2003, p. 86). In addition, the income threshold for loan repayment was to be raised from £10,000 to £15,000, aiming to assuage fears of overburdening student debt in the event of low income.

The white paper also proposed additional funds totaling £132m, earmarked for universities who recruited a high proportion of students from disadvantaged background. The allocation of these funds was to be regulated by a new political body, the Office for Fair Access (OFFA). Finally, the aforementioned political bombshell concerned

⁵Compared to the OECD average of 1.7%, combined spending on higher education from both public and private sources totaled 1.0% of GDP in 2000 (Barr, 2004, p. 277).

tuition fees, which would be made variable with HEIs being allowed to charge amounts ranging up to £3,000 and no exemptions for poorer students. This change in policy was primarily designed to solidify HEI revenue, but also to induce price competition among HEIs. It signaled a clear endorsement of a further shift towards privatization in the division of labor between public and private funding sources, as expansion would be financed by proportionally increasing revenues rather than increases in public spending or deteriorating quality.⁶ As an increase in tuition fees was on the face of it at odds with Labour's widening participation agenda, further changes to payment procedures were outlined. While the Treasury would make tuition revenues available to universities right away, repayment would be deferred until students became graduates and entered the labor market. In effect, then, the income-contingent loan scheme in place for covering living expenses was to be expanded to fully cover the cost of tuition as well.

The proposals of the white paper were widely applauded by universities and academics that cited its potential for sustainably raising revenue, ascribed to the notion that a higher proportion of the costs of higher education should be borne by those who benefit from its provision and felt that enough had been done to make sure the system would strengthen social mobility (Barr, 2003; Dearden, Fitzsimons, Goodman, & Kaplan, 2008; Harrison, 2011).

The political and public backlash to the white paper, however, was much more pronounced than it was for the 1998 reforms, especially since the introduction of increased and variable fees stood in stark contrast to what Labour had campaigned on during the 2001 general elections. This was easy to exploit for the opposition, but dissent within Labour proved more problematic for the administration and the political tussle that followed very nearly undid the reform despite a comfortable majority in parliament. When a bill aiming to convert the proposals of the white paper into law was introduced in January of 2004, debates in parliament and the media almost exclusively revolved around the principle of increased and variable fees. Labour backbenchers feared the cap would be removed altogether in the future and argued that fees as high as £3,000 would lead to further access stratification, with students from poorer backgrounds unable to afford an education at top-tier institutions (House of Commons Debate, 2004). Repeated attempts to remove variable fees from the bill could only be thwarted by a series of concessions to critics (trebling the annual grant available to poor students to £3,000, forgiving unpaid loan debts 25 years after

⁶The white paper also set a target for further expansion, aiming to increase participation rates in higher education from 43% to 50%.

graduation and a commitment to no further fee increases until 2010). Still the bill scraped by with a majority of only five votes in its second reading, as 72 Labour MPs voted against it (Charter, 2004).⁷ It formally became a law in July of 2004 and according to its provisions, variable fees were first charged in 2006. The envisioned market for higher education based on differentiated fees did not emerge as anticipated, however, as virtually all HEIs charged the maximum amount of £3,000 (Barr, 2012; Harrison, 2011).

This bill concluded Labour's reform efforts in higher education policy. Its time in government can be summarized by a desire to balance the competing objectives of improving quality, increasing enrolment and widening access. Having inherited a system trending in the opposite direction and with the notion of higher education as a public good already eroded, it would have been extremely costly both fiscally and politically to pursue these objectives through public spending alone.⁸ Given the constraints on increasing public spending, the government was presented with a series of trade-offs. Quality could only be improved upon if revenue of HEIs outpaced growth in enrolment whilst decreasing inequality could only be achieved by overhauling the system of student finance.

Against this background, Labour opted into a policy compelling students to contribute a higher share to the provision of their education so that HEI revenue would automatically increase with enrolment expansion. As a result, both enrolment and funding per student increased by more than 20% in between 1997 and 2010, with most gains coming after the 2004 reform. More specifically, the participation rate increased from 33% to 40% and university funding per-student grew from £4,850 to £5,921 (Wyness, 2010, pp. 10–13). In keeping with the agenda to widen access the shift towards private financing of teaching was accompanied by policies specifically targeting low-SES students. While the 1998 reforms exempted this constituency from contributing to HEI revenue, from 2004 the policy focused on subsidizing cost-of-living. In addition the principle of deferred tuition fees effectively redistributed the cost of tuition from students (and their parents) to graduates, relaxing credit constraints at the point of entry into higher education. Even though this policy could only be pursued at the cost of increasing tuition fees, empirical evidence suggests it has

⁷The vote was particularly controversial because the bill could only be passed with the support of Scottish Labour MPs whose constituents would not be subject to the fees and who were therefore expected to abstain (Hillman, 2013, p. 261).

⁸Public expenditures on HEIs were increased throughout the 2000s on the heels of an expanding economy, but additional investment was “modest in comparison with those granted to the NHS or to defence” (Shattock, 2012, p. 125).

been rather successful in reducing inequalities: The effect of parental education on the likelihood to enter higher education is least pronounced for the cohort leaving secondary schooling in between 2006 and 2010, a marked decrease from the age cohort before (Office For Fair Access, 2014). However, the bulk of participation gains for poorer students were again provided by HEIs outside of the prestigious Russell Group⁹ (Cheung & Egerton, 2007; Harrison, 2011).

The principle of income contingency and the larger loan entitlement made necessary by the introduction of deferred fees quite obviously became a significant burden on the Treasury and outstanding debts grew from £1,178 million in the fiscal year of 1995-96 to £25,963 million in 2009-10 (Bolton, Paul, 2016, p. 29). It was expected only 70% of this debt will ultimately be paid back (Barr, 2012). In conclusion, then, Labour continued on the path of commodification the Conservatives had initialized in the 1980s, but safeguarded lower-SES individuals by ultimately making higher education free at the point of entry and protecting graduates from overburdening debt in the event of low life-time earnings. In this case, the loan-based system of student aid established by the Tories has evidently produced positive feedback through its deflationary effect on the public budget, but Labour was able to incrementally subvert the institution in line with their policy goal of reducing inequality of access.

3.3.4 Conservative/Liberal Democrat Coalition, 2010-2015

As a concession to the critics of the 2004 Higher Education Act, the Labour administration had promised an independent review of the finance system after it had been in place for five years. Therefore in 2009 a commission chaired by former BP executive John Browne was launched and published its findings in October of 2010. Meanwhile the 2010 general election ended Labour's 13 years in government and instituted a coalition of Conservatives and Liberal Democrats that was ideologically committed to 'shrinking the state' (Scott & Callender, 2014). With the Browne Review looming, both Labour and Tories placed little emphasis on higher education in the campaign. Liberal Democrats, in contrast, staked a considerable portion of their campaign on an unequivocal promise to scrap tuition fees for undergraduates completely by 2016 (Quinn, Bara, & Bartle, 2011). In the short term this strategy worked well as the Liberal Democrats achieved the best result of their electoral history in terms of vote share (23%), in part because they attracted the student vote in record numbers and unseated a number of Labour incumbents in student-heavy districts such as, for

⁹The Russell Group is an interest group representing elite HEIs such as Cambridge and Oxford Universities.

example, Cambridge (Aaronovitch, 2010). In their coalition agreement Conservatives and Liberal Democrats agreed to wait for the recommendations of the Browne Review before tackling higher education finance. Interestingly though, the agreement also made provisions for Liberal Democrats to be allowed to abstain in any parliamentary vote increasing tuition fees (Quinn et al., 2011). When it was published, the Browne Review chiefly argued that fees of £3,000 were (still) not sufficient as a revenue base for universities and that the cap on fees prevented a competitive market from emerging. Thus it proposed to let universities freely determine the rate of tuition, a change the Russell Group had heavily lobbied for during the review so that it could better compete with world-class universities across the world (Scott & Callender, 2014).

In proposing uncapped fees the review board explicitly rejected the introduction of a graduate tax, an alternative policy favored by the Liberal Democrats, the National Union of Students and parts of Labour.¹⁰ To counterbalance the effects of uncapped fees on student debt, the report made provisions stipulating loans would cover the increased fees and increasing the income threshold for repayment from £15,000 to £21,000. On the other hand, Browne also recommended the introduction of real interest rates¹¹ to be paid on loans and suggested debts should be forgiven after 30 rather than 25 years. Consequently the proportion of loans ultimately paid for by the public purse would decrease despite the increased income threshold, and the overall loan entitlement would increase concurrently with tuition fees.

The publication of the Browne Review was closely followed by the new administration's first comprehensive spending review in which it outlined its plans for slashing public expenditures. Again, higher education was not spared: excluding research funding, public resources available to HEIs were cut by 40%, or £4.2billion (Dearden, Fitzsimons, & Wyness, 2010). Thus, the recommendations of the Browne Review and the results of the spending review both pointed towards a further shift towards privatization of costs, for both HEI revenue and living expenses. However, the white paper outlining the government's plans in response to the Browne Review stopped short of removing the fee cap altogether and rather opted to increase the maximum amount

¹⁰This graduate tax would be an additional tax levied on higher education graduates, payable for a number of years after graduation and progressively linked to income (see, for example, National Union Students, 2009). Under such a system of finance, graduates earning a high income would pay back more than the cost of their degree, subsidizing those with lower incomes. Browne rejected it on various grounds, chief of which was that it would not produce sufficient levels of revenue until 2041-42, squeezing out public spending in other areas (Browne 2010, 51).

¹¹Under the prevailing regime, interest was pegged to inflation rather than governmental cost of borrowing, resulting in a considerable 'interest subsidy' (Chowdry, Dearden, & Wyness, 2010; Johnston & Barr, 2013).

universities could charge to £9,000, the result of a political compromise between the coalition parties. Even so, 41 of the 57 Liberal Democrat MPs - pressured by widely publicized student protests outside Westminster - did not vote for the package (which was amended to the Higher Education Act of 2004), granting it passage in parliament in December 2010 with a majority of 21 votes. Liberal Democrat frontbenchers, in particular Deputy Prime Minister Nick Clegg and Secretary Vince Cable (whose department was responsible for the white paper) were criticized for having broken their pre-election pledge and in the immediate aftermath of the vote, LibDems suffered the lowest level of support in public opinion polls for 20 years (Watt & Meikle, 2010), which they have not fully recovered from even today.¹²

The new system sharply reduced taxpayer support for higher education teaching (through the Comprehensive Spending Review) and replaced lost funds by higher fees and an increased loan entitlement by ways of amending the Higher Education Act. Thus, the transformation of the British higher education system from public to private good reached its (temporary) endpoint. According to Hillmann (2013, p. 263), the average value of loans taken out for tuition and living expenses for a three-year degree amount to £43,500 after the 2010 reforms. As 47% of university revenue is now generated via tuition fees (Higher Education Statistics Agency, 2016), HEI funding increases concurrently with enrolment, meaning that quality is preserved and less sensitive to spending cuts induced by external constraints and problem pressure. Regarding enrolment, the participation rate dropped sharply after the introduction of the increased tuition fees, but has recovered since and in 2018 crossed the 50% threshold for the first time. In comparative terms, the UK remains a laggard with that figure however (see *Chapter 1*). With regard to inequality of access, the changes do not seem to have had an adverse effect, as applications by students from poorer backgrounds did not decrease at a higher rate than those from wealthy families (Scott & Callender, 2014). Again, the relaxation of credit constraints at the point of entry into higher education, established by the principle of deferred fees in the Higher Education Act 2004 seems to have been an effective tool to increase participation among students from disadvantaged students.

Having traced the trajectory of British higher education, it has become apparent that it does not exclusively follow a logic of increasing returns and continuous institutional reproduction, as is often suggested in the literature. Rather, since 1963 a plethora of consequential policy reforms have reorganized the higher education system

¹²The 2015 general election saw Liberal Democrats lose 48 of their 56 seats in Parliament. In 2019, they only made marginal gains and now have eleven members of parliament.

multiple times. At the same time, policy-makers were heavily constrained by feedback effects generated through prior reforms. Given this temporal variation, the British case was an ideal test case to explore dynamic partisan preferences over the provision of higher education. I will now turn to a discussion of the implications of my case study.

3.4 Conclusion

To reiterate, the object of this paper were two-fold. First, I was interested in whether the institutional design and trajectory of higher education systems could fruitfully be described along the dimensions of enrolment, the division of labor between private and public spending on HEIs as well as student aid, quality, and inequality. Applying this conceptualization to an empirical case, I traced the institutional evolution of the United Kingdom's higher education system in the past 50-some years from a historical-institutionalist perspective. Most of the significant changes induced by the manifold reform efforts over that period, I would argue, indeed relate centrally to the dimensions proposed in the framework. While previous research has identified the significance of enrolment and (differentiated) public spending in higher education policy, the added value of my approach lies in explicitly incorporating quality of higher education and the prevailing level of access inequality into the considerations driving higher education policy. In the case of the UK, quality (defined as per-student funding from both public and private sources) has from the Robbins Report to today played an important role in policy discussions about higher education. The same is true for inequality of access, which as a policy goal entered the fray in the 1990s at the latest and informed subsequent debates and reforms in various ways. Importantly, I understood all dimensions not solely as policy outputs, but also as driving forces in the policy process as a whole, as they produced feedback effects making further reform more likely or unlikely.

Table 3.1 summarizes the reform efforts undertaken in the time-frame of this analysis. Today, the English higher education system is, despite manifold efforts to increase participation rate, characterized by comparatively low levels of enrolment. It also displays above average levels of spending on HEIs, though this was only possibility through the introduction and later expansion of private finance mechanisms. This combination has led the UK to have one of the highest levels of quality in the OECD. The level of access inequality is comparatively low despite the presence of private financing and even though the student aid system is loan-based. This likely is a result

Table 3.1: Summary of reforms

Variable	Post-war consensus	Tory governments (1979-1997)	Labour governments (1997-2010)	Coalition governments (2010-2015)
Enrolment	Moderate expansion	Stagnation, then rapid expansion	Moderate expansion	Stagnation
Public Spending on HEIs	Low total spending	Severe cuts to HEI funding	Moderate increase	Cuts to HEI public funding
Student Subsidies	Generous maintenance grants	Introduction of student loan scheme	Grants abolished then reinstated; loan repayment made	Loan entitlement increased
Private Spending on HEIs	Private contributions low	Private contributions low	income-contingent Introduction of tuition fees, rising private contributions	Increase of tuition fees, 50% of cost of teaching financed privately
Quality	High	Decreasing	Moderate increase	Moderate increase
Inequality of Access	High	Moderate decrease	Decreasing	Decreasing

of the design choice to tether loan repayment to earnings after graduation. Whether this leads to ballooning cost of student aid remains to be seen as it becomes clearer what proportion of former students fail to pay back the full cost of the loan. Current expectations regarding loan write-offs have formally led to an above average figure being spent on student subsidies (see *Chapter 1* for all comparative data).

The second objective of this paper was to assess whether the trade-offs inherent in analytical framework can be linked to partisan preferences that might be generalizable toward a partisan theory of higher education policy-making. Given the distributive implications described in Section 2, it was argued that Leftist parties should as a rule favor policy instruments that aim to reduce the income dependence of access to higher education, privileging spending on student support over spending on HEIs and higher education quality. Conservative parties, on the other hand, should be concerned chiefly with ensuring that high-quality higher education is exclusively available to their constituency. It is of course premature to assess these tentative prepositions on the basis of one case study, but the behavior of British parties only conforms imperfectly to these expectations. Perhaps most strikingly, in the case of the UK governing parties were heavily constrained by economic problem pressure and feedback effects of the prevailing institutional design. For example it is questionable the Tories would have cut public spending on higher education as extensively as they did under conditions of a prosperous economy and if they had not inherited a higher education system whose financing mechanisms were predicated on much lower enrolment rates. In addition, higher education policy-making was often superseded by considerations not directly related to the distributive impact of higher education. Perhaps the Tories were willing to let quality erode because they were ideologically committed to drastically shrinking the state. Likewise, enrolment expansion cannot exclusively interpreted as a means to organize social mobility for disadvantaged groups. It is more likely a result of the need to improve skills in the workforce in order to keep the British economy competitive in a globalizing world. For Labour, it is perhaps surprising it was the party introducing tuition fees for domestic students, even though one has to keep in mind negative feedback from expansion and concurrent cuts to university funding compelled Labour

into adopting the recommendations of the Dearing Report.

In other respects, partisan preferences were in line with the expectations outlined above. For example, the Labour party certainly embraced the widening access agenda more emphatically than the Conservatives did and introduced a series of policy reforms designed explicitly to relax financial constraints (to which individuals of low socio-economic status are most sensitive) at the point of entry to higher education. Likewise, while the Conservatives might have cut public expenditures on higher education, they have also repeatedly pursued within-sector stratification, granting comparative advantages to prestigious universities and, by extension, their highly selective student body. In conclusion, additional case studies as well as quantitative analyses are needed in order to investigate whether the patterns observed in the UK generalize to a broader group of countries.

Chapter 4

The Role of Parties in the Distributive Politics of Higher Education

For political scientists, it is intuitively compelling to assume that the ideological orientation of governments should have a measurable impact on policy outputs. *Partisan theory* generally expects that parties of the Left and the Right are responsive to the distributive preferences of their constituencies and consequently implement different policies once they hold power (Hibbs, 1977). However, the comparative literature on the link between partisan government and the production of policy outputs suggests that the importance of political parties as transmission belts of political preferences has decreased substantially in recent decades (Allan & Scruggs, 2004; Huber & Stephens, 2014). According to this literature, parties are heavily constrained by political institutions, macro-economic trends and powerful path dependencies, to the point that unconditional effects on policy outputs are seldom to be found. In search for partisan effects, researchers have subsequently focused on interaction effects, whereby partisan effects are conditional on domestic conditions such as political institutions or exposure to the world economy (Jensen, 2011; Jensen & Mortensen, 2013; Kwon & Pontusson, 2010).

A second focus of the comparative public policy literature on partisan effects concerns measurement of the central variables and methodology. Rather than using catch-all indicators such as total spending in a given policy field, researchers have increasingly disaggregated such measures to better reflect their distributive implications (Busemeyer, 2009a; Garritzmann, 2015) or constructed measures that go beyond spending levels (Knill, Schulze, & Tosun, 2010; Schmitt & Obinger, 2010). Regarding

the central explanatory variable - partisan strength - similar advancements have been made: in addition to the traditional measure of the share of cabinet seats held by either left- or right-wing parties, alternative operationalizations based on manifesto data have been suggested (Döring & Schwander, 2015; Garritzmann & Seng, 2015). Finally, estimation strategies employed by scholars interested in partisan effects have also changed. Whereas the oft-discussed Beck-Katz standard (Beck & Katz, 1995) had long been dominant in the literature, recent years have seen no shortage of new ways to investigate partisan effects, be it through alternative periodization of the data (Schmitt, 2016) or an altogether rejection of classic fixed-effects modeling (Bell & Jones, 2015; Shor, Bafumi, Keele, & Park, 2007).

This paper combines these advances and applies them to a field in which the impact of parties on policy outputs is neither theoretically nor empirically clearly established: higher education. While existing studies have found contradictory results, I argue here that meaningful variation lies in disentangling components of higher education policies according to their distributive implications. To this end, I use disaggregated measures of overall spending on higher education (public spending on student subsidies, public spending on higher education institutions [HEIs], and private spending on HEIs) as well as a measure on quality of higher education and identify theoretically how governments of different ideological leanings may be compelled to shape higher education policy. I test for unconditional partisan effects, and - in line with what other scholars have argued - expect that partisan preferences over higher education may be contingent on the existing structure of the higher education system. More specifically, it is argued that enrolment levels and the degree to which access to higher education is stratified by social class may affect partisan preferences over higher education policy.

I test these assumptions by estimating mixed multilevel regression models with random country intercepts. Through the inclusion of country-specific means, I am able to explore both temporal as well as spatial variation in higher education spending patterns. I find suggestive evidence that the partisan composition of government affects spending on higher education. Left Parties are associated with increasing subsidy spending and a decreasing role of private finance mechanisms. Right parties, on the other hand, are found to prioritize quality. There is little evidence of conditional effects, and in general patterns of higher education policy-making are more fundamentally related to structural factors such as trajectories in national wealth or levels of overall public spending.

4.1 The Distributive Politics of Higher Education

In recent years, there has been a proliferation of research on the dynamics of partisan preferences over education policy generally as well as its sub domains. As is often the case in comparative public policy, these studies have not yielded a consolidated understanding of whether - and in what direction - parties influence spending patterns. Some studies present evidence suggesting left-of-center parties strive to offer upward social mobility to their constituency and achieve equality of opportunity through heavy investment in education (Boix, 1997; Busemeyer, 2007b; Schmidt, 2007). Others contend that Right parties are more likely to increase education spending, ostensibly because it is less redistributive than other social spending programs and disproportionately favors high-income groups (Ansell, 2008; Rauh et al., 2011). Yet others conclude that parties simply do not matter in explaining levels of education spending (Busemeyer, 2009a; Garritzmann & Seng, 2015).

The diverging results of these studies, I would argue, are due to insufficient theoretical consideration of the distributive effects of education spending. First, taking as the dependent variable education spending as a whole (typically measured as a percentage of GDP) - as some studies have done - neglects that while primary and secondary education are universal, access to higher education is limited and to varying degrees skewed towards high-income groups. Thus virtually all constituencies in principle benefit from primary and secondary education spending, whereas in higher education it is only those who have gained access. However, disaggregating spending into the sub domains of education is not enough yet, as different components within higher education spending are likely to differ in their distributive implications as well.

4.1.1 Theoretical Background

Against this backdrop, this section reviews the distributive effects of higher education in more detail and synthesizes existing approaches into one theoretical argument. First, I draw on a framework proposed by Ansell (2008), in which he argues that decision makers are faced with a trilemma of choices in changing the institutional design of higher education systems. More specifically, higher education systems at any point in time can serve only two of three overarching ends. These are i) a high level of enrolment (defined as the proportion of young adults entering higher education), ii) a high degree of public subsidization (defined as the amount of public investment on each student) and iii) a low overall cost of the system. In this trilemma, if policymakers wish to increase enrolment, they can do so either by keeping public subsidization high

and accepting escalating cost or by cutting back on the degree of subsidization in order to keep overall cost at bay. Similarly, if policy is built around a high degree of public subsidization as a guiding principle (for example to reduce inequality of opportunities), policymakers must either accept stagnant enrolment or increased cost.

Empirically, structural developments such as deindustrialization, the need for high-level human capital and increasing female labor force participation have led to significant expansion of enrolment in all industrialized nations, albeit at different rates. Nonetheless, this suggests the primary goal for policymakers was massification, effectively turning the trilemma of choices into a dilemma in which governments choose between high per-student subsidization and low public cost only. While countries opting for subsidization maintain robust funding, countries valuing low public cost tend to transfer at least part of the cost of higher education provision to households (i.e. through the introduction of tuition fees) in order to avoid chronically underfunded universities.

Along the lines of this framework, Ansell develops a formal model to delineate class-based preferences over higher education policy along the lines of three social strata that conflicts with established intuitions over government spending. The key assumption underlying this model is that access to higher education co-varies perfectly with household income, meaning that the upper class gains access first followed by the middle and the lower classes. Given the fact they are the last group to gain access, the lower class views government involvement in higher education as regressive and thus prefers expansion to be financed by those households that benefit from it. The upper class' first preference is to maintain elite levels of enrolment so that other groups do not gain access, preserving their relative advantage on the labor market (Wolf & Zohlnhöfer, 2009). With the fixed trend of expansion as a backdrop, the upper class prefers a move towards a privately financed higher education system. Private finance mechanisms from the perspective of the upper class have the dual advantage of preserving quality (as per-student funding increases linearly with enrolment) and preventing increasing tax obligations. Because the upper class is also the least sensitive to having to pay tuition fees, it might also help in preserving the comparative advantage this group enjoys vis-à-vis the other classes. Finally, the middle class plays a key role in effecting policy change. As long as access is limited to the wealthy, they form a cross-coalition with the lower class that is built on a common preference for low levels of public subsidization. As massification progresses to the point that the middle class starts to gain access to higher education, this position reverses and leads members of this group to support public subsidization. This is not only the case because of

increasing access to higher education as a good, however, but also because the middle class is financially sensitive to the existence of tuition fees.

4.1.2 Extensions

Ansell's framework is analytically parsimonious and represents a good starting point for further inquiry. The micro-level expectations derived from his formal model can easily be applied to the main party families, in the form of a reversed Meltzer-Richard model (Meltzer & Richard, 1981) wherein the regressive nature of higher education subsidization leads Right parties to prefer high levels of public spending and Left parties to favor private financing. This is only true for low levels of enrolment, however. As the median voter receives access to higher education, these positions reverse, because additional public spending starts benefiting the core constituency of the Left. However, I argue that Ansell's framework needs to be extended in order to better describe the dynamics of higher education policy.

First, concerning higher education finance, Ansell distinguishes between private and public financing but subsumes all public spending on higher education under the umbrella term 'subsidization' and thereby implicitly assumes that the distributive implications of investment do not vary according to what exactly financial resources are being spent on. However, following Garritzmann (2016), I argue a differentiation should be made between spending on student subsidies on the one hand, and expenditures on HEIs on the other. Subsidy spending includes grants and subsidized loans made available to students to cover living expenses whilst enrolled in university. They can thus be understood as an instrument incentivize individuals from lower social strata to pursue an academic degree. As such subsidies are progressive in nature (at least when compared to spending on HEIs and especially so when they are explicitly targeted to students from poorer families) and should therefore be mainly championed by parties on the political left. In contrast, expenditures on HEIs include funds for teaching and university infrastructure. Public spending on HEIs is therefore analogous to what Ansell understands as subsidization. However, resources available for universities can come from private sources as well, via the introduction of tuition fees. In terms of their distributive implications, these types of spending are assumed to be conditional on the existing level of enrolment. Additionally, combined levels of public and private spending interact with the level of enrolment to determine the funds available per student. As such, they determine quality of higher education provision.

The second differentiation I propose concerns the role of enrolment as a variable

conditioning partisan effects. The underlying assumption of Ansell's formal model is that access to higher education is fully dependent on family income and that this income dependence of access decreases linearly with increasing enrolment. To give an example, when enrolment is at 40%, the implication is that individuals at or above the 60th percentile in the income distribution have access to higher education.¹ There indeed is ample research showing that social background - generally measured as either parental education or parental income - consistently structures access to higher education (Breen & Jonsson, 2005; Goldthorpe, 1996; Raftery & Hout, 1993). However, there is considerable cross-national as well as temporal variation regarding the effect size of social background on access (Fulge, 2016; Shavit et al., 2007). For the sake of simplification, there are two main sources of this variation. The first is related to the above discussion of higher education finance. If financial constraints of poorer secondary school-leavers are not relaxed via generous subsidies that are sufficient to cover living expenses, they are incentivized to forego higher education and instead enter the labor market right away. They are also more likely to be sensitive to having to make private contributions towards obtaining a higher education degree. While the system of student finance has a measurable impact on inequality of access (Fulge, 2016), the preceding levels of education and schooling have been proven to be of greater importance. In particular systems of tracked secondary education in which students are grouped into differentiated school types according to their ability at an early age lead to high levels of inequality, whereas comprehensive secondary schooling typically enhances equality of opportunity with regard to access (Shavit et al., 2007).

Thus the prevailing level of inequality is primarily determined by outcomes produced in an adjacent policy field but can also be affected by policy-making in higher education. The implications of this insight are two-fold: first, policymakers have limited control over levels of inequality and thus might be forced to cope with prevailing inequality levels rather than try to change them. Second, the socio-economic makeup of those benefiting from higher education is not constant between countries, presumably leading to variation in preferences. For example, Left Parties are likely to be more inclined to invest in higher education when access bias towards the upper class (and, by extension, regressivity of public spending) is less pronounced. Right parties, on the other hand, can be assumed to increase public investment in higher education primarily when usage of the good is limited to their main constituency through high levels of

¹Ansell recognizes this is a simplifying assumption and extends his formal model to account for more uniformly distributed access, but the subsequent empirical test is centered around the degree to which the income distribution is compressed and not on an actual measure of access inequality.

access inequality. As such the conditional effect of inequality on partisan preferences are similar to that of enrolment. The argument added here is simply that using access inequality in place of enrolment relaxes the assumption of a linear relationship between income dependence and enrolment and therefore represents a more accurate operationalization of the theoretical mechanism developed by Ansell.

4.1.3 Theoretical Expectations

Having discussed the distributive political economy of higher education, partisan preferences over policy are assumed to diverge on four measures. These outcome variables are (i) public expenditures on student subsidies, (ii) public expenditures on HEIs, (iii) private expenditures on HEIs, and (iv) overall quality of higher education (measured as per-student funding for HEIs from both public and private sources). Furthermore it is expected that the level of class dependence of access conditions the effect of party strength on the outcome variables. In this paper the level of class dependence is measured both as enrolment and as actualized inequality of access to higher education. I will now in turn explicate hypotheses for each spending measure.

On the most fundamental level, the following expectations are grounded in partisan theory, denoting that parties are policy- and vote maximizers who aggregate the preferences of their constituency and aim to translate these preferences into tangible policy outputs when elected into office. Since the theoretical argument made clearly demarcates along the lines of class, I will focus on parties on the left and the right of center, respectively.

Left parties - concerned with enabling upward social mobility and fostering equality of opportunity - should as a rule be in favor of policy instruments that aim to reduce the class dependence of access to higher education. Thus, Left governments should on balance increase public spending on student subsidies. This should hold true at all levels of enrolment, but at the same time the inequality reducing effect of student subsidy spending is stronger when the supply of higher education is sufficiently high, so it can be expected that Left parties are particularly prone to invest in student subsidies when class dependence is already somewhat reduced. With regard to public spending on institutions, the preferences of Left parties are more ambiguous. At high levels of class dependence (low levels of enrolment \ high levels of access inequality), such spending is particularly regressive and as such, increasing public investment does not benefit their constituency. This position is assumed to shift as class dependence of access relaxes and spending on HEIs consequently becomes less regressive. Under

such conditions, Left governments will tend to increase public spending on higher education on HEIs in order to make affordable higher education available to their constituency. The opposite is true when considering private spending on HEIs. When class dependence of access is high, Left parties favor private financing because public investments would exclusively benefit the upper class. Since in such a scenario their constituencies do not receive higher education at all, Left parties are indifferent to the fact that tuition fees might act as a constraint on entry and prefer to allocate public money to more redistributive spending programs. Finally, Left parties are assumed to generally privilege reducing inequality over a high level of quality, particularly so because high quality can often only be maintained by the introduction of private finance mechanisms under conditions of expanding enrolment. As a larger proportion of their constituency gains access, the reduced regressivity of spending on institutions might turn the Left's aversion against quality into indifference, but it is nonetheless assumed that other policy goals take precedence.

The preferences of parties on the political right, on the other hand, are assumed to be diametrically opposed to those of Left parties. I assume Right parties are mainly concerned with preserving the comparative advantage of the upper class and ensuring high-quality higher education is exclusively available to their constituencies. What follows from this is that Conservative parties will have a general preference to reduce spending on student subsidies, both because their constituencies do not strictly need it and because subsidies might reduce class dependence of access. The aversion against spending on subsidies should further grow as class dependence of access decreases, because in such a scenario subsidies become an increasingly redistributive policy instrument and starts to become a more serious burden on the public purse. Conservative preferences over spending on HEIs are also opposed to those of Left parties. Since under conditions of high levels of class dependence of access the good of receiving higher education is exclusively available to their constituencies, Right parties are assumed to prefer public financing as a way of paying patronage. As the overall cost burden of maintaining such a system increases with massification, this arithmetic is disrupted and Conservative parties are unlikely to further increase spending. Rather, they are assumed to increase the role of private financing. By doing so, they can achieve both of their primary goals. Since with the introduction of tuition fees overall funding increases linearly with enrolment, quality at the very least does not deteriorate. Secondly, shifting the cost of an academic education to households reinforces some of the mechanisms leading to access inequality by acting as a financial constraint on poor households. Thus, increasing the role of private

financing under these conditions from the perspective of Right parties preserves the comparative advantage of the upper class. This also has the effect of shoring up quality, as private financing mechanisms ensure that resources flowing to HEIs at least partly increase linearly with enrolment, with no further burden on the public purse. This being the case, ensuring a high level of quality is assumed to be a prime policy goal of Right parties, especially when increasing equality of access undermines the comparative advantage of their constituency.

To conclude this section, *Figure 4.1* offers a schematic representation of the expected effects at different levels of enrolment / inequality of access.

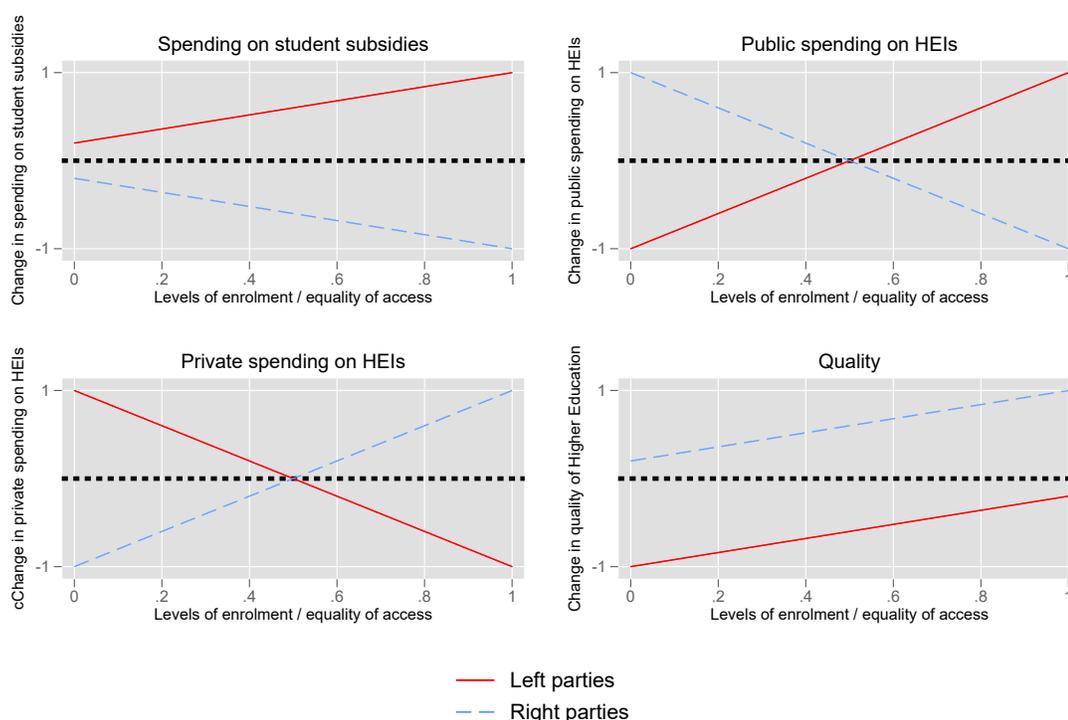


Figure 4.1: Schematic representation of expected effects of government ideology on three measures of higher education spending

4.2 Data and Estimation Strategy

The sample used in the following analyses is comprised of 20 European OECD countries² and the time span under investigation includes 19 years (1997-2016), for a

²The following countries are included: Austria, Belgium, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

total of 377 observations.³ This section describes the operationalization of the central variables, the selection of controls, and the estimation strategy used.

4.2.1 Data

Dependent variables

The dependent variables measuring spending levels can all straightforwardly be conceptualized as a proportion of gross domestic product. Corresponding data on student subsidy spending as well as public and private expenditures on HEIs are available from the *Education at a Glance* series published by the OECD.⁴ The indicator reporting subsidy data was discontinued in 2015, leading to a smaller sample size for the corresponding models. Data on the fourth dependent variable, Quality of Higher Education, also comes from *Education at a Glance* series and is defined as non-subsidy per-student spending on HEIs relative to GDP per capita.

As is the case with all variables used in the analysis, missing values have been multiply imputed ($m = 50$) using the *Amelia II* package (Honaker et al., 2011)⁵ in the statistical software *R* (R Core Team, 2021). Multiple imputation has been shown to be superior to list-wise deletion in terms of both bias and efficiency of estimates (Lall, 2016). Inspecting the trajectory of the four outcome variables (*Figure 4.2*)⁶ reveals that in all sample countries public expenditures on HEIs ($mean = 1.15$, $sd_{between} = 0.27$, $sd_{within} = 0.13$) are substantially higher than private expenditures ($mean = 0.20$, $sd_{between} = 0.11$, $sd_{within} = 0.11$). Private contributions are also surpassed in magnitude by public resources spent on student subsidies ($mean = 0.27$, $sd_{between} = 0.22$, $sd_{within} = 0.08$). Finally, quality is naturally measured on another scale ($mean = 40.3$, $sd_{between} = 6.5$, $sd_{within} = 5.6$) and thus cannot easily be compared to the other variables.

In terms of temporal trajectory, the four variables follow distinct patterns. On average, subsidy spending increased by 14% and public HEI spending stayed level. In contrast, private HEI spending more than doubled on average, although one has to take into account its very low base level in 1997. Average quality levels have decreased by 9%, indicating that per-student funding has not kept up with increasing enrolment.

³Date for Greece is only available up until 2013, hence the reduction in observations.

⁴Since a majority of the reports are only available as PDF documents, the data had to be obtained by scraping using the *tabulizer* package in R (Leeper, 2018).

⁵Amelia uses an expectation maximization data-set to impute missing values that has been specifically adapted to handle TSCS data sets. Documentation and replication materials are available upon request.

⁶All descriptive graphics in case of missing data show values averaged over the 50 imputed data sets. Subsequent analyses are run on all data sets separately, however.

In sum, while the main source of variation originates from between countries, there is amply within-country variation that might be explained with time-varying covariates such as partisan strength.

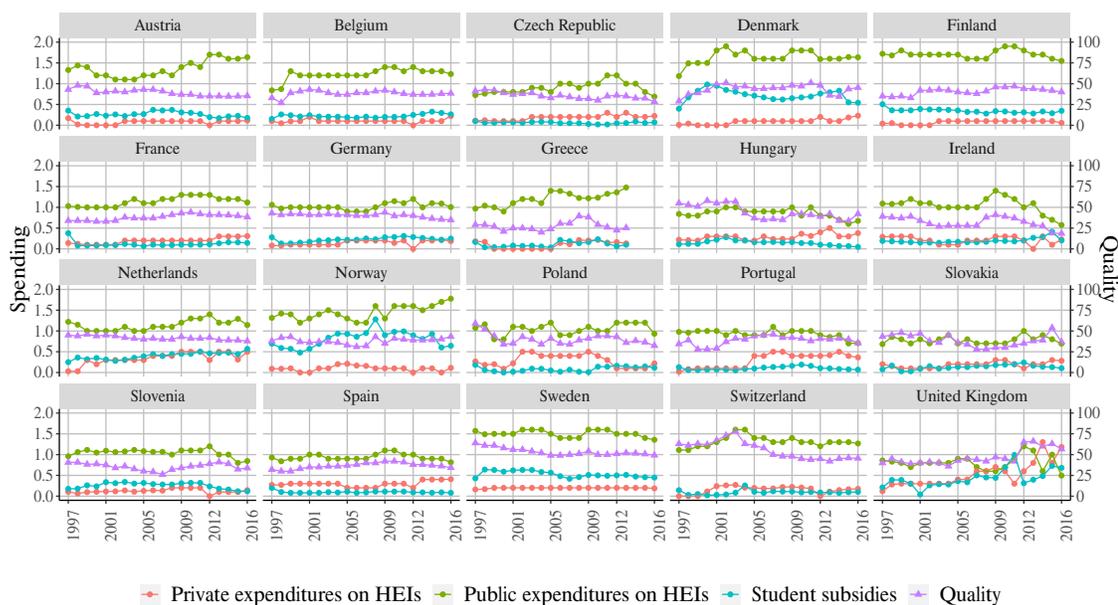


Figure 4.2: Patterns in higher education spending, 1997-2016

Independent variables

The central independent variable of the analysis is the ideological leaning of national governments. Measuring ideology, I follow two approaches. First, the familiar approach of conceptualizing government ideology as the share of cabinet posts held by right- and left-wing parties, respectively, is used. Data come from the *Comparative Political Data Set* (Armingeon et al., 2018). This approach has the advantage that it allows for comparisons with the broader literature on the topic, since the operationalization has become standard practice in comparative public policy research. It also yields separate coefficients for changes towards left- and right-leaning governments and as such makes possible a differentiated assessment which side of the political spectrum might be responsible for policy change. On the other hand, this approach can be criticized because it relies on an ad-hoc aggregation of political parties across countries into one of three groups (left, center, right) that does not allow for variation in the ideological profiles of parties sorted into the same category. For example, this measure within countries lumps together Socialist parties with more moderate Social Democrats and assumes that the agenda of all Left parties is constant between countries and over

time. To remedy this ambiguities, I follow Döring & Schwander (2015) who propose to utilize party manifesto data to construct a cabinet-based ideology score on a Left-Right continuous score. Consequently in this paper government ideology is alternatively measured by weighing ideology scores produce by the Comparative Manifesto Project (CMP) by the relative strength of all coalition parties in parliament. The resulting variable - *Cabinet Ideology* empirically ranges from 2.77 and 8.22, with higher values signifying a more Conservative cabinet. Data for the construction of this variable come from the *ParlGov* database (Döring & Manow, 2018).

Turning to operationalization of the conditional variables measuring class dependence of access, *Enrolment* is defined as the proportion of higher education entrants on the total population of school-leaving age cohorts, with data provided by the OECD. Interestingly, the grand mean of enrolment over the entirety of the time frame of analysis is just above 50%, which is exactly the threshold when partisan preferences of Left and Right Parties are assumed to switch. There is also substantial variation across time and between countries, however, allowing investigate the dynamic nature of partisan preferences.

Comparative data for *Inequality of access* is not available and thus had to be estimated manually. Pooled waves of the European Social Survey (ESS) were used to model the effect of socio-economic class on higher education participation, across countries and years. I proceeded in three steps (a more detailed discussion of the estimation procedure is available online⁷). First, I combined information on the age of survey respondents with the official country-specific secondary school leaving age to reconstruct at which point in time individuals were faced with the decision of whether or not to pursue a higher education degree. Second, I estimated a three-level hierarchical regression model in which the likelihood of individuals to either hold a tertiary degree or currently being enrolled in university was predicted by a measure of class, with nested random effects included for the country and country-year level. Since the ESS does not collect data on family income, parental education was used as a proxy for class membership, as is standard practice in the literature on educational inequalities (Becker, 2011)⁸. In order to obtain effect sizes varying by both country and country-year, the regression further included random coefficients for parental education on both of these levels. Finally, the resulting effect sizes, i.e. combined logit coefficients, were extracted to serve as the values of the access inequality variable. To

⁷<https://1drv.ms/u/s!A1lHvVZ1eo2nhsFg0AEnXKA2SNnzmw?e=r1z1N3>

⁸Parental education was operationalized as a dummy variable measuring whether at least one parent holds a tertiary degree (=1) or not (=0).

address the uncertainty inherent in estimating inequality rates from survey data, the regression was estimated in a Bayesian setting, and 50 simulations from the resulting posterior distribution were drawn to be matched with the 50 imputed data sets of the other variables.

This approach closely follows the procedures implemented in Fulge (2016) and Fulge & Wise (2015) and is also similar to the approach described by Braga, Checchi, & Meschi (2013). A plot depicting varying effect sizes in the sample countries is provided in the appendix of this paper. Perhaps unsurprisingly, the Nordic countries across all years have comparatively low levels of access inequality whereas access in Eastern and Southern European countries (with the exception of Slovenia) remains highly stratified by class. Interestingly, the two measures of class dependence (enrolment and inequality of access) correlate only moderately ($r = -0.38$). This suggests equating enrolment with class dependence of access is indeed a grossly simplified assumption.

Controls

Finally, a number of control variables established in the literature to affect education spending is included in the following analyses. They include GDP per capita, the degree of deindustrialization (defined as the proportion of service employment on overall employment), the level of public debt (gross general government debt as % of GDP), the level total public spending (outlays of general government as % of GDP), and the degree to which the country is exposed to globalization (measured as the sum of imports and exports as % of GDP). With the exception of the GDP per capita data, which is provided by the OECD, all variables come from Armingeon et al. (2018).

4.2.2 Estimation Strategy

The data set used in the following analysis has a TSCS structure, meaning that yearly observations are nested within countries. In the social sciences, these types of data structures have typically been analyzed using fixed effects (FE) techniques in which unobserved heterogeneity bias and correlated errors are literally taken out of the equation by the inclusion of country dummies. While this allows the clear identification of the effects of time-varying variables on the outcome of interest, the FE approach has increasingly been criticized for a variety of reasons (Bafumi & Gelman, 2007; Bell & Jones, 2015; Fairbrother, 2014). Centrally, this literature has argued that FE techniques sacrifice model flexibility by completely removing the variation at the country-level and thereby losing all cross-sectional information. This sacrifice is unnecessary, however, since the problems remedied by the FE approach

can also be addressed in a more flexible mixed effects framework. In mixed models, the assumption of independent individual errors is relaxed by using within-country correlation of residuals to estimate random intercepts. Random intercepts absorb unobserved heterogeneity that is uncorrelated with the predictors and thereby allow the efficient estimation of standard errors. However, coefficients of predictors included in the model will be uninterpretable because they are estimated from a mixture of cross-sectional and longitudinal variation. Fortunately, these two sources of variation can simply be separated from one another by including the country-mean for each time-variant variable as a predictor in the regression, along with a demeaned version of its original value.⁹ The demeaned variable precisely reproduces the fixed effect because it sources only longitudinal variation. It is thus called the within-effect of the predictor. The country-level mean also delivers substantive information besides removing the correlation of the variable with the error term: it explicitly models the cross-sectional impact of predictors on the outcome of interest. It is thus called the between-effect.

For these reasons, I estimate mixed effects linear regressions with random intercepts for each country. All predictors entering the model are split up to reflect their within- and between components. In terms of the central independent variable - cabinet ideology - this means that we can interpret both the fixed effect (change in dependent variable as ideological composition of government changes by one unit, *over time*) as well as getting an idea about how the long-term balance of power in the sample countries affects higher education spending levels.

Generally, these models can be written as follows:

$$y_{it} = \beta_0 + \beta_{within}(x_{it} - \bar{x}_i) + \beta_{between}\bar{x}_i + \zeta_i + \epsilon_{it}$$

where y_{it} is the dependent variable and x_{it} is an independent variable, with the subscripts denoting they contain observations of countries nested in years. β_{within} represents the average within (alternatively ‘fixed’) effect, as obtained by demeaning the independent variable x_{it} . $\beta_{between}$ is the coefficient for the country means of variable \bar{x}_i , representing the average between effect of the variable on the outcome. Finally, ζ_i represents the country-specific random intercepts and ϵ_{it} is the individual error term.

The mixed effects approach has at least two additional advantages: first, it makes possible to model interaction effects between the longitudinal component of a predictor and the cross-sectional component of another one. For example, consider

⁹This approach was first suggested by Mundlak (1978), but has only recently gained traction as simulations have shown its superior flexibility when compared to FE (Bell & Jones, 2015).

the conditional effect of access inequality on cabinet ideology. One might theorize that policy makers are more cognizant of the long-term degree of access inequality in their country than to small changes occurring year-to-year, which is the assumption in traditional FE modeling. If that is indeed the reasoning, it makes more sense to interact partisan strength with the cross-sectional component of access inequality than with the demeaned version of the variable. The second advantage is that effect heterogeneity of a predictor on the outcome can explicitly be modeled through the inclusion of random coefficients. Again, consider the effect of cabinet ideology on the outcome. The fixed effect coefficient $CabinetIdeology_{within}$ can be interpreted as the change of the outcome as the cabinet becomes more conservative by one unit, over time, *averaged over all countries in the sample*. If we also included a random coefficient for cabinet ideology, it becomes possible to investigate country-specific deviations from this average effect. This is helpful for diagnostic purposes (including, for example, the identification of possible omitted variable bias as well as outliers), but might also be of substantive interest to the researcher. I will show one such example in the results section.

While the mixed effects approach allows for much more flexible model specifications than FE modeling, it is by itself no panacea for other problems associated with the analysis of TSCS data, namely heteroskedasticity and serial correlation of the individual error term. According to Rabe-Hesketh & Skrondal (2012) however, in a mixed setting it is sufficient to estimate Huber and White standard errors to correct for these processes. While it is in principal possible to adjust for serial residual correlation using autoregressive processes, simulations have shown that this only improves inference the random intercepts and slopes, which are not of substantial interest in this paper (LeBeau, 2016).

4.3 Results

In this section the multilevel regression results for the four dependent variables are presented. In each case, I first present tables showing unconditional effects of the different measures of partisan strength as well as the control variables. Second, the conditional effects are shown in a plot rather than a table, though full model specifications underlie these figures.

In order to aid convergence and simplify interpretation, all variables have been centered around their grand mean before country-specific means and deviations were calculated. Additionally, all variables have been lagged by one year to reflect that

changes in spending patterns are not instant, as is standard practice in the literature.

4.3.1 Spending on subsidies

To start with, I find a marginally significant ($p < 0.1$) unconditional effect of government ideology on student subsidies spending that is limited to the cabinet ideology operationalization. The effect is negative, indicating that as governments become more conservative, spending on subsidies decreases - and vice versa. The sign of the coefficients of the other operationalizations point in the same direction, but estimated effect sizes are not significantly different from zero. Instead, there are various effects between controls and the outcome, stemming from both longitudinal and cross-sectional variation. For instance when the average level of enrolment in a country is one standard deviation above the grand mean, subsidy spending is predicted to be 0.11 percentage points higher than in countries that have enrolment levels indistinguishable from the grand mean (*Model 1*). A smaller (between) effect is estimated for inequality, where increasing levels lead to lower amounts of subsidy spending. This coefficient has to be interpreted with caution however, as the presence of reverse causation (with high levels subsidy spending leading to decreased inequality) is more likely. For GDP per capita, the models estimate positive and significant between *and* within effects. In other words, wealthy countries on average spend a higher proportion of their GDP on student subsidies and as GDP per capita increases over time, subsidy spending rises concurrently. Additional significant effects include a negative within association with deindustrialization, a positive within association with public debt (though this could again be due to endogeneity), and a positive between effect of overall levels of public spending.

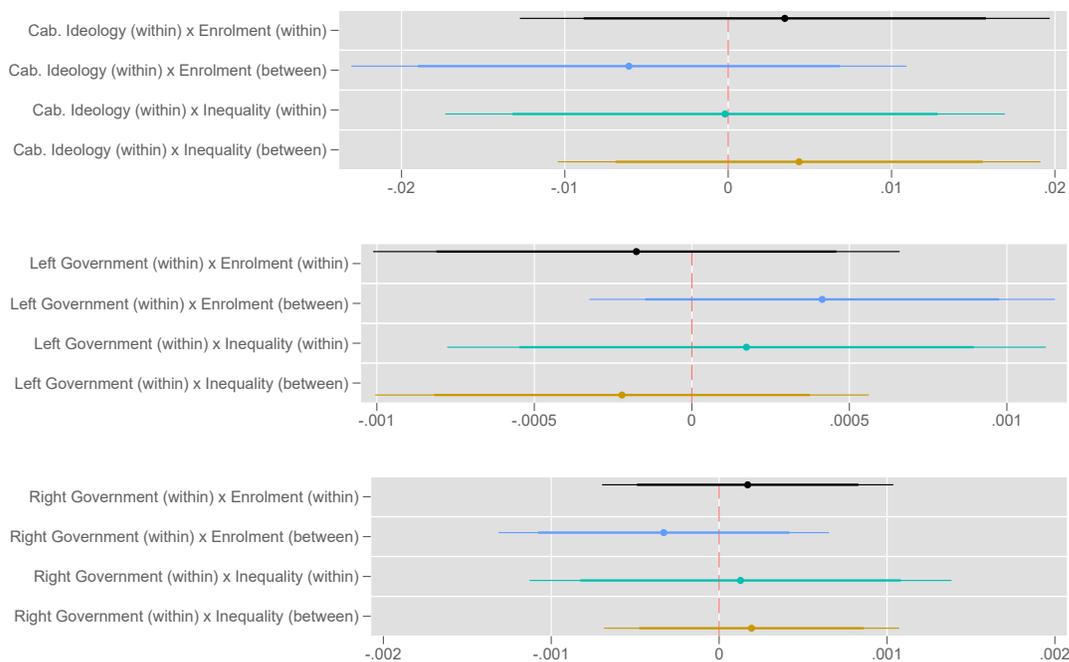
Table 4.1: Dependent variable: Spending on student subsidies

	(1)	(2)	(3)
Cab. Ideology (within)	-0.0079 ⁺ (-1.86)		
Cab. Ideology (between)	0.0379 (0.60)		
Left Government (within)		0.0003 (1.47)	
Left Government (between)		0.0029 (1.12)	
Right Government (within)			-0.0003 (-0.96)
Right Government (between)			-0.0002 (-0.13)
Enrolment (within)	0.0135 (1.12)	0.0139 (1.15)	0.0134 (1.08)
Enrolment (between)	0.1135* (2.23)	0.1263* (2.34)	0.1152* (2.15)
Inequality (within)	-0.0098 (-0.71)	-0.0092 (-0.68)	-0.0088 (-0.64)
Inequality (between)	-0.0587 ⁺ (-1.73)	-0.0236 (-0.53)	-0.0510* (-2.00)
GDP p. capita (within)	0.0054* (2.43)	0.0055* (2.49)	0.0055* (2.40)
GDP p. capita (between)	0.0125* (2.19)	0.0144** (2.77)	0.0123* (2.31)
Deindustrialization (within)	-0.0074 ⁺ (-1.91)	-0.0075 ⁺ (-1.91)	-0.0074 ⁺ (-1.88)
Deindustrialization (between)	0.0036 (0.65)	0.0041 (0.92)	0.0047 (0.96)
Public debt (within)	0.0020* (2.46)	0.0020* (2.43)	0.0019* (2.30)
Public debt (between)	-0.0010 (-0.75)	-0.0011 (-0.75)	-0.0011 (-0.71)
Public spending (within)	-0.0002 (-0.06)	-0.0000 (-0.01)	0.0002 (0.06)
Public spending (between)	0.0137* (2.11)	0.0130 ⁺ (1.89)	0.0134 ⁺ (1.96)
Globalization (within)	-0.0014 (-1.58)	-0.0015 (-1.62)	-0.0015 (-1.62)
Globalization (between)	-0.0001 (-0.14)	0.0002 (0.48)	-0.0001 (-0.07)
Constant	0.0178 (0.71)	0.0088 (0.35)	0.0130 (0.52)
Random Variances			
SD Of Random Intercepts	0.0970*** (-15.09)	0.0937*** (-11.52)	0.0980*** (-13.84)
SD of Residuals	0.0878*** (-18.29)	0.0878*** (-18.50)	0.0882*** (-18.54)
Number of countries	20	20	20
Total observations	339	339	339
Number of imputed datasets	49	49	49

t statistics in parentheses

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Moving on to the question of conditional effects, the models yield no evidence that levels of enrolment and access inequality moderate the impact of government ideology on subsidy spending (see *Figure 4.3*). Contrary to the theoretical expectation, partisan preferences over subsidy spending thus do not seem to be dynamically related to the level of class dependence in access to higher education.



Main effects included, but not reported. Bars display 95% CIs.

Figure 4.3: Interaction effects, spending on subsidies

Modeling effect heterogeneity

As mentioned above, the modeling strategy used in this paper makes it possible to investigate country-specific deviations from the fixed effects estimates via the inclusion of random coefficients. The models estimating subsidy spending provide an instructive example for why this can be helpful. If the effect of cabinet ideology is allowed to vary across countries, the United Kingdom reveals itself as a significant outlier. In *Figure 4.4*, the combined coefficient (calculated as the population-averaged fixed effect plus the country-specific estimates on the random coefficients) is displayed for each country. While for the majority of countries a negative impact of cabinet ideology on subsidy spending is estimated, the United Kingdom is one of two countries with a positive coefficient. This principally indicates that in the UK changes to a more Conservative government have been associated with increasing subsidy spending. Indeed, inspecting

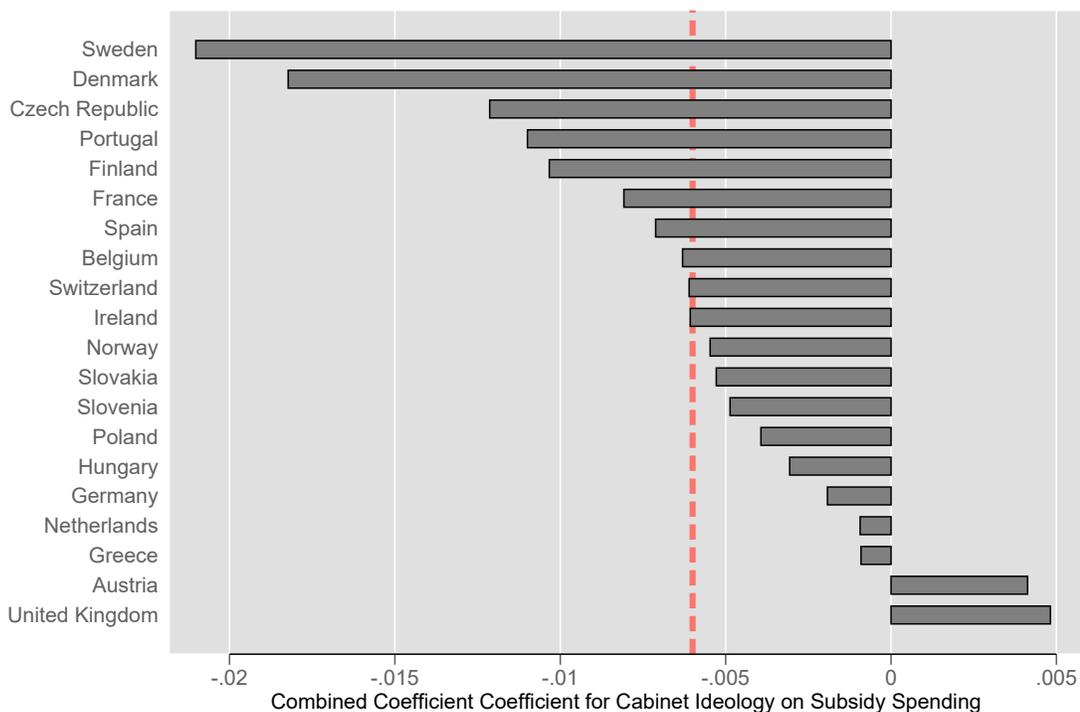


Figure 4.4: Combined coefficient of cabinet ideology on spending on subsidies. Dashed line denotes population-averaged ('fixed') effect.

the trajectory of subsidy spending in the UK (*Figure 4.2*) reveals that a substantial increase in subsidy spending has occurred during David Cameron's first term as prime minister (from 0.44% in 2009 to 0.99% in 2011). However, this upsurge was not an expression of generosity on the part of the administration. Rather it is an artifact of changing British accounting and budgeting conventions regarding student loans. Starting in 2010, the estimated loss on loan issuances due to non-repayment and inflation losses could no longer be spread out over a loan's life but had to fully enter the budget right away (Barr, 2012; McGettigan, 2015). This fully explains the spending increase, since manifest changes to higher education financing - including a trebling of payable tuition - were not agreed to until 2012 (see also *Chapter 3* of this dissertation).

Since these changes in subsidy spending have little to do with the politics of higher education, it seems reasonable to re-estimate the model excluding the United Kingdom. When this is done, the negative coefficient for cabinet ideology increases from -0.0079 to -0.0093 and becomes statistically significant at the 5% level. Thus when a fairly Conservative government with of 6 on the ideology variable follows a fairly Leftist one with a value of 3, we would expect in the following year to see subsidy spending decreased by roughly 0.028 percentage points (see appendix for

graphical representation). Even so, the effect is purely unconditional, as all coefficients interacting ideology with enrolment and access inequality remain insignificant.

4.3.2 Public spending on HEIs

As was the case with subsidy spending, changes in public expenditures on institutions of higher education do not significantly co-vary with changes in the ideology of the government. The models however detect between-effects of government composition when it is operationalized as percentages of cabinet posts held by parties qualified as Left and Right, respectively. These coefficients suggest that the long term balance of power in between 1997-2016 has manifestly affected spending levels. For example, countries in which Left parties on average held 10% more cabinet posts than the mean are estimated to spend 0.08% less of their GDP on HEIs. A smaller but still significant positive effect is estimated for the proportion of cabinet posts held by Right parties. Given the Left's general preference for public spending, these coefficients can plausibly be explained by the notion that public financing of the higher education system is regressive. However, these results should be interpreted cautiously since changes in public HEI spending cannot clearly be attributed to changes in government ideology via within-effects, thus failing to clear a higher causal hurdle.

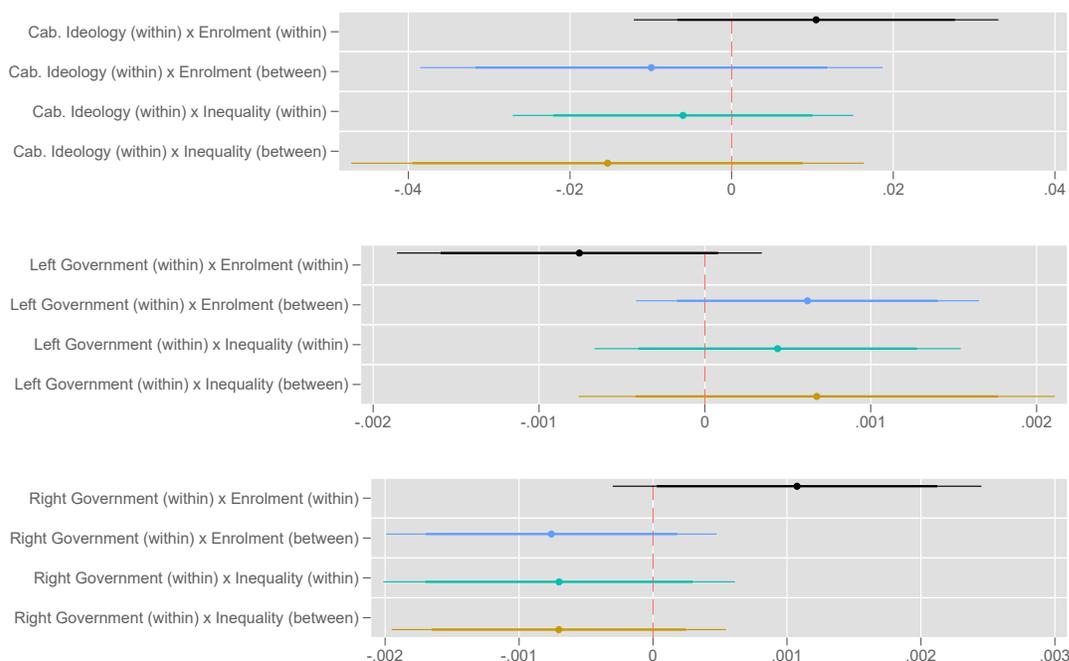
Table 4.2: Dependent variable: Public spending on HEIs

	(1)	(2)	(3)
Cab. Ideology (within)	0.0116 (1.52)		
Cab. Ideology (between)	0.1194 (1.62)		
Left Government (within)		-0.0004 (-1.13)	
Left Government (between)		-0.0082*** (-4.27)	
Right Government (within)			0.0006 (1.41)
Right Government (between)			0.0047* (2.27)
Enrolment (within)	0.0191 (1.31)	0.0193 (1.32)	0.0209 (1.47)
Enrolment (between)	0.0468 (0.72)	0.0165 (0.26)	0.0365 (0.60)
Inequality (within)	0.0292 (1.42)	0.0279 (1.32)	0.0293 (1.35)
Inequality (between)	-0.0877* (-2.00)	-0.1349** (-2.96)	-0.0389 (-0.93)
GDP p. capita (within)	0.0071* (2.08)	0.0070* (2.04)	0.0068* (1.97)
GDP p. capita (between)	0.0262*** (4.54)	0.0198*** (4.74)	0.0276*** (4.25)
Deindustrialization (within)	-0.0057 (-1.05)	-0.0058 (-1.06)	-0.0057 (-1.03)
Deindustrialization (between)	-0.0119 (-1.61)	-0.0078 (-1.28)	-0.0116 (-1.59)
Public debt (within)	-0.0016 ⁺ (-1.90)	-0.0017 ⁺ (-1.93)	-0.0016 ⁺ (-1.90)
Public debt (between)	0.0004 (0.23)	0.0002 (0.09)	-0.0002 (-0.10)
Public spending (within)	0.0127*** (4.13)	0.0127*** (4.07)	0.0122*** (4.05)
Public spending (between)	0.0279*** (3.33)	0.0288*** (4.44)	0.0284*** (3.60)
Globalization (within)	-0.0006 (-0.78)	-0.0006 (-0.68)	-0.0005 (-0.60)
Globalization (between)	-0.0008 (-1.12)	-0.0018** (-2.65)	-0.0020* (-2.14)
Constant	0.0056 (0.19)	0.0058 (0.21)	-0.0034 (-0.12)
Random Variances			
SD of Random Intercepts	0.1347*** (-12.99)	0.1146*** (-14.65)	0.1248*** (-15.28)
SD if Residuals	0.1283*** (-25.79)	0.1287*** (-26.13)	0.1282*** (-26.66)
Number of countries	20	20	20
Total observations	377	377	377
Number of imputations	49	49	49

t statistics in parentheses

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Turning to conditional effects of ideology on public HEI expenditures, the sign of the interaction effects generally conform to the theoretical expectations, with Left governments more likely to increase spending under conditions of high enrolment and inequality of access. The confidence intervals for all interactions include zero, so we can not state with a reasonable degree of certainty that there are not due to chance. However, it is interesting to note that when inspecting this effect in more detail, it becomes apparent that for Right parties, enrolment and inequality of access make no difference: They are not more likely to decrease spending under conditions of an expanding higher education sector as was expected theoretically, but rather leave spending levels essentially unchanged. *Figure 4.6* demonstrates this effect in the form



Main effects included, but not reported. Bars display 95% CIs.

Figure 4.5: Interaction effects, public spending on HEIs

of a marginal effect plot, showing the effect of changes in government conditional on three levels of country-averaged enrolment (-2SD, mean, +2SD). Left governments tend to modestly increase spending under conditions of high enrolment and decrease expenditures when enrolment is low. As governments become more Conservative, the slopes for the different levels of enrolment converge at 0, meaning enrolment levels no longer make a difference in spending patterns. The apparent one-sidedness of this effect at least partly explains why the interaction does not reach conventional

thresholds of statistical significance and, in accordance with the theoretical framework, points to an interesting conclusion. It could indicate that the Conservative solution to massification might be to leave public spending unchanged, but preserve quality by increasing private contributions to higher education. This is the subject of the next results section.

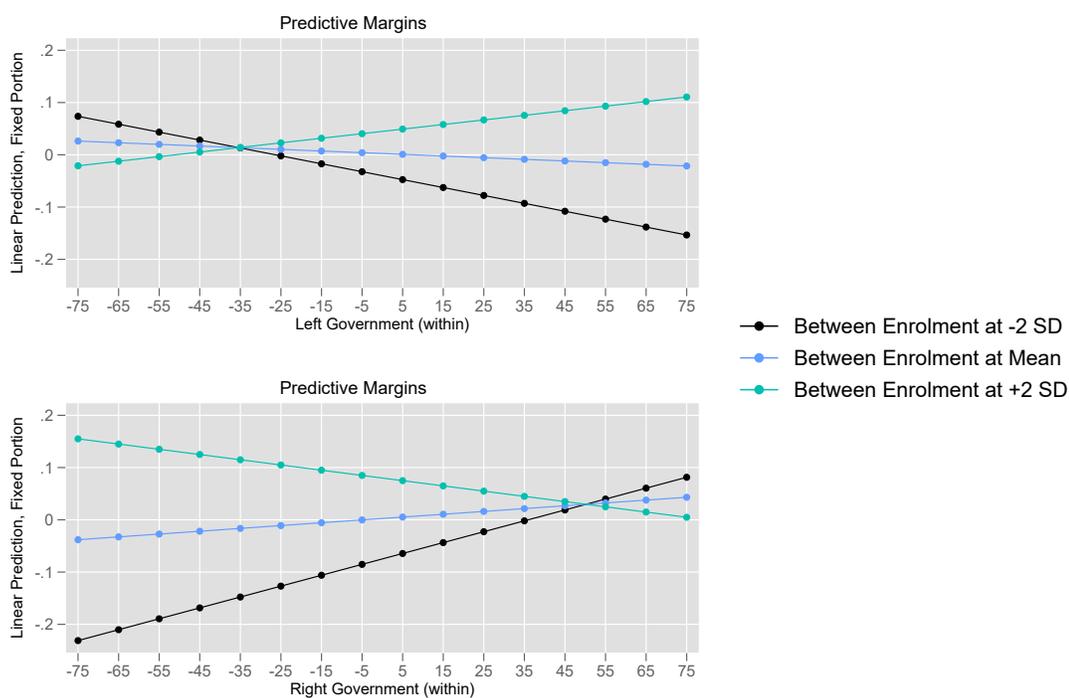


Figure 4.6: Marginal effect plots, public spending on HEIs

4.3.3 Private spending on HEIs

If the assumption discussed just above were correct, we would expect unconditional effects of government ideology on patterns of private spending on HEIs as well as an significant interaction effect with enrolment / inequality of access. The evidence from the final set of models, however, is mixed. In terms of unconditional effects, a significantly negative effect of the share of left parties in government is estimated. As the share of cabinet seats held by Left parties increases by 50 percentage points, the models expects private spending on HEIs to be cut by 0.03%. Given the overall sample mean of private spending is 0.2%, the size of this effect can be characterized as moderate. For the share of Right parties in government, the coefficient is positive, indicating that Right parties unconditionally tend to increase private expenditures.

While this effect is even a bit stronger than it is for the share of Left parties, it is only marginally significant. In terms of conditional effects, the model does not detect that partisan preferences depend on the prevailing level of enrolment or access inequality at all, however (see *Figure 4.6*).

Rather, the level of and changes in private spending can more plausibly be explained by the other variables included in the model. The level of enrolment, for instance, possesses considerable explanatory power as it drives up private spending, as indicated by significant *and* within effects. This suggests that private financing mechanisms are introduced under conditions of increasing enrolment, at least somewhat independently from the ideological composition of government.¹⁰ In addition, there also is a positive relationship between the average level of access inequality and private spending. Above-average degrees of inequality predict high levels of private spending whereas countries where inequality is comparably low have less pronounced private finance mechanisms. This is the opposite effect of what was observed regarding spending on subsidies and is likely a result of reverse causation, because the presence of payable tuition fees acts as a financial constraint on disadvantaged secondary school leavers and thereby might intensify income dependence of access.

¹⁰Compared to countries with average enrolment levels, countries two standard deviations above the mean are estimated to spend about 0.13% more of their GDP on private contributions, *ceteris paribus*. This figure equals two thirds of the overall sample mean (see Appendix).

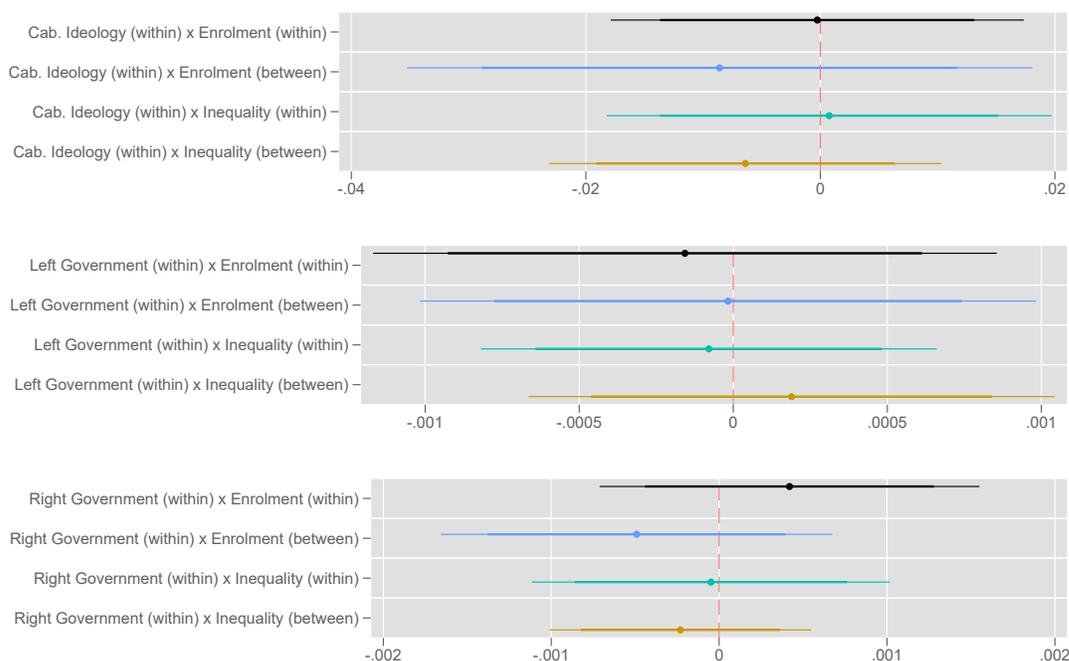
Table 4.3: Dependent variable: Private spending on HEIs

	(1)	(2)	(3)
Cab. Ideology (within)	0.0075 (1.22)		
Cab. Ideology (between)	-0.0373 (-1.32)		
Left Government (within)		-0.0006* (-2.14)	
Left Government (between)		0.0019 ⁺ (1.93)	
Right Government (within)			0.0007 ⁺ (1.70)
Right Government (between)			-0.0009 (-1.08)
Enrolment (within)	0.0360** (2.77)	0.0361** (2.89)	0.0381** (2.96)
Enrolment (between)	0.0593** (2.77)	0.0660** (2.80)	0.0609** (2.89)
Inequality (within)	-0.0039 (-0.26)	-0.0023 (-0.16)	-0.0017 (-0.12)
Inequality (between)	0.0546** (2.77)	0.0631** (2.99)	0.0420* (2.14)
GDP p. capita (within)	0.0021 (0.89)	0.0020 (0.95)	0.0018 (0.82)
GDP p. capita (between)	-0.0172*** (-6.36)	-0.0157*** (-6.69)	-0.0174*** (-6.07)
Deindustrialization (within)	-0.0017 (-0.42)	-0.0018 (-0.45)	-0.0016 (-0.44)
Deindustrialization (between)	0.0199*** (5.63)	0.0187*** (6.14)	0.0195*** (5.49)
Public debt (within)	0.0015 (1.42)	0.0013 (1.46)	0.0016 ⁺ (1.67)
Public debt (between)	-0.0003 (-0.46)	-0.0002 (-0.32)	-0.0002 (-0.26)
Public spending (within)	0.0026 (1.30)	0.0028 (1.36)	0.0021 (1.04)
Public spending (between)	-0.0149*** (-4.97)	-0.0151*** (-5.94)	-0.0149*** (-5.10)
Globalization (within)	-0.0007 (-0.70)	-0.0006 (-0.66)	-0.0005 (-0.59)
Globalization (between)	-0.0002 (-0.68)	0.0000 (0.14)	0.0000 (0.08)
Constant	0.0013 (0.12)	0.0023 (0.21)	0.0046 (0.41)
Random Variances			
SD of Random Intercepts	0.0426*** (-19.52)	0.0404*** (-21.24)	0.0430*** (-19.08)
SD of Residuals	0.1004*** (-14.76)	0.0989*** (-15.36)	0.0989*** (-15.70)
Number of countries	20	20	20
Total observations	377	377	377
Number of imputations	49	49	49

t statistics in parentheses

⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Additionally, GDP per capita drives results, with rich countries less likely to have high levels of private financing. Similar between effects can be observed for the level of deindustrialization and public spending. Regarding the latter, it can be said that countries where overall governmental spending is comparatively high do not tend to introduce private financing mechanisms to higher education.



Main effects included, but not reported. Bars display 95% CIs.

Figure 4.7: Interaction effects, private spending on HEIs

4.3.4 Quality

Finally, the models explaining quality levels also find moderate support for partisan effects only. Counter-intuitively, the significant between-effect of cabinet ideology indicates that quality is lower in countries where Right parties have been dominant in the 19 years under investigation. The direction of the within-estimates, denoting the more relevant effect of partisan *changes* in government, points in the opposite direction however. For cabinet ideology, it is positive but insignificant. Changes in the share of left parties in government are associated with decreasing levels of quality, though the effect is only marginally significant. When Right parties assume power, however, we can observe increasing levels of quality. Assuming the share of Right parties in cabinet increases by 50 percentage points, the model expects per-student

resources at HEIs relative to GDP per capita to increase by 2.5 percentage points. Since quality on average decreased by four percentage points over the time frame of analysis, this indicates maintaining high levels of quality is a priority for Right-leaning governments.

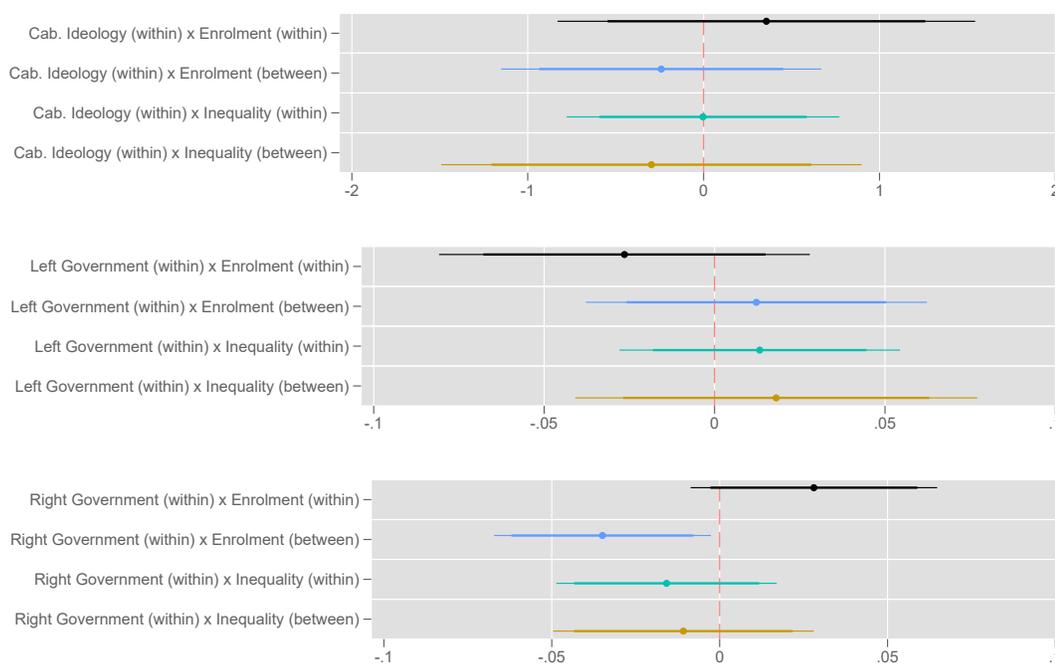
Table 4.4: Dependent variable: Quality of Higher Education

	(1)	(2)	(3)
Cab. Ideology (within)	0.5942 (1.58)		
Cab. Ideology (between)	-7.2126** (-2.79)		
Left Government (within)		-0.0316+ (-1.67)	
Left Government (between)		0.0796 (0.87)	
Right Government (within)			0.0531** (2.74)
Right Government (between)			0.0086 (0.11)
Enrolment (within)	0.0086 (0.01)	0.0139 (0.02)	0.1621 (0.25)
Enrolment (between)	0.4002 (0.17)	0.5314 (0.21)	0.1832 (0.08)
Inequality (within)	0.0820 (0.13)	0.0946 (0.15)	0.2453 (0.38)
Inequality (between)	2.8436* (2.02)	1.9034 (1.13)	1.2187 (0.99)
GDP p. capita (within)	-0.0001 (-0.00)	-0.0041 (-0.03)	-0.0232 (-0.18)
GDP p. capita (between)	-0.3432 (-1.40)	-0.2534 (-0.98)	-0.3056 (-1.18)
Deindustrialization (within)	-0.1067 (-0.43)	-0.1083 (-0.43)	-0.0977 (-0.42)
Deindustrialization (between)	0.8903*** (4.49)	0.7058*** (3.49)	0.7130** (3.09)
Public debt (within)	0.0265 (0.50)	0.0204 (0.42)	0.0314 (0.69)
Public debt (between)	-0.1632* (-2.06)	-0.1470+ (-1.89)	-0.1471+ (-1.91)
Public spending (within)	0.4482*** (4.66)	0.4531*** (4.78)	0.4082*** (4.15)
Public spending (between)	-0.0468 (-0.18)	-0.0276 (-0.10)	-0.0123 (-0.04)
Globalization (within)	-0.1272** (-2.84)	-0.1220** (-2.72)	-0.1150** (-2.71)
Globalization (between)	-0.0106 (-0.49)	0.0040 (0.14)	-0.0075 (-0.22)
Constant	-0.8205 (-0.87)	-0.1559 (-0.13)	-0.0184 (-0.02)
Random Variances			
SD of Random Intercepts	3.9182*** (8.32)	4.5950*** (8.32)	4.6696*** (9.16)
SD of Residuals	5.2394*** (17.75)	5.2015*** (18.27)	5.0793*** (17.57)
Number of countries	20	20	20
Total observations	377	377	377
Number of imputations	49	49	49

t statistics in parentheses

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The models estimating quality levels also yield the sole significant interaction term between changes in the cabinet seat share of Right parties and the country average level of enrolment. The interaction effect is negative, indicating that the impact of Right parties on quality is smaller when participation in higher education is generally high. Importantly, however, the effect does not reverse its sign and stays positive throughout the range of the enrolment variable. This is likely mainly due to the more general deflationary pressure of enrolment on quality. In addition to the seat share



Main effects included, but not reported. Bars display 95% CIs.

Figure 4.8: Interaction effects, Quality of Higher Education

held by Right parties and changes in enrolment, quality is driven the average degree of deindustrialization as well as changes in overall public spending. The level of public debt, on the other hand, has a depressive effect on quality. Since these factors are also associated with public spending on HEIs, this is perhaps not surprising. The degree of deindustrialization, on the other hand, can be assumed to be a proxy for the demand of high quality higher education (Jensen, 2011).

4.4 Conclusion - Do Parties Matter in Higher Education?

Summarizing the results, I find moderate evidence to corroborate the notion that government ideology makes a difference in patterns of higher education spending. Estimating a series of mixed regression models, I find a positive association between partisanship and student subsidy that is robust only when the United Kingdom as an outlier is excluded from the analysis. This effect suggests Left governments unconditionally tend to increase while Right governments scale back spending on subsidies. Left governments also tend to decrease private spending on HEIs. For Right parties, on the other hand, the coefficients for spending patterns vary in the expected direction, but turn out insignificant in all of the models (with the exception of a marginal positive association with private spending). However, changes in the cabinet seat share of Right parties are associated with increasing levels of quality. In conclusion, while Left parties emphasize social mobility by increasing subsidy spending and suppressing private finance mechanisms, Right parties privilege quality over alternative policy goals in the distributive political economy of higher education. However, these results are highly dependent on the chosen operationalization of partisan strength in government.

Generally, I find spending patterns are more fundamentally related to structural factors such as trajectories in national wealth or levels of public spending. The prevailing level of access inequality, hypothesized to be a more accurate measure for class dependence of access, did not condition the effect of ideology on any outcome. However, mean levels of inequality were associated negatively with spending on subsidies and positively with private expenditures on HEIs. As such, inequality may be conceptualized as an outcome of policy rather than as a factor driving policy output.

In sum, the evidence presented in this chapter is judged too suggestive to confidently conclude generalizable patterns over the role of parties in the distributive political economy of higher education. The question remains, however, whether the lack of stable effects might be due to limitations of the model specifications. First, while the sample cannot be extended longitudinally for reasons of data availability, it would in principal be possible to add non-European OECD countries (such as Australia, Japan, Korea, and the United States) to the analysis. In addition to increasing degrees of freedom, doing so would have the benefit of introducing meaningful additional variation in the dependent variables. This is especially true for private spending on HEIs, since

with the exception of the United Kingdom higher education systems in Europe remain primarily tax-funded. The countries mentioned above, by contrast, all charge significant tuition fees and also have varying levels of spending on student subsidies (Garritzmann, 2016) which could in turn be related to the partisan composition of their governments. Since the estimates of access inequality used in this paper were exclusively based on ESS data, continuing to include this variable would entail applying the estimation procedure to additional surveys from the non-European countries (such as General Social Surveys in Australia and the U.S., for example). The estimation procedure for inequality rates was deliberately kept simple so as to make integration with other data sources easily possible.

A second improvement on the models could be made by revising the periodization of the observations. As Schmitt (2016) has argued, TSCS data analyses using country-years as the units of observation are useful for investigating the causal impact of variables that vary on a yearly basis (such as GDP), but less appropriate econometrically when the variable of interest changes but once every few years, as is the case with government ideology. In order to better model the impact of governments on policy outputs, they therefore propose to use cabinets as the unit of observation instead of country-years. This approach also solves the problem of implicitly assuming a homogeneous lag structure in reform timing (typically $t-1$) and consequently promises to generalize over a more diverse set of institutional political contexts.

4.5 Appendix

Table 4.5: Descriptive statistics of data set

	Mean	SD	Min	Max	SD(bet.)	SD(wit.)
Spending on subsidies (as % of GDP)	0.27	0.23	0	1.28	0.22	0.08
Public Spending on HEIs (as % of GDP)	1.15	0.30	0.49	1.90	0.27	0.13
Private Spending on HEIs (as % of GDP)	0.20	0.15	0	1.30	0.11	0.11
Combined per-student funding at HEIs	40.32	8.37	18.55	78	6.47	5.59
Cabinet Ideology	5.33	1.46	2.77	8.22	0.42	1.40
Left government	40.91	35.50	0	100	13.51	32.98
Right government	36.32	33.32	0	100	16.77	28.99
Enrolment	52.60	15.18	20.56	98	10.73	11.02
Inequality of access	1.30	0.41	-0.07	2.20	0.32	0.25
GDP per capita (in 1,000s)	32.63	11.65	9.00	72.77	8.86	7.80
Deindustrialization	0.68	0.09	0.48	0.88	0.08	0.03
Public debt (as % of GDP)	68.62	28.89	17.15	183.57	23.33	18.26
Public spending (as % of GDP)	46.27	6.40	27.61	65.09	5.61	3.28
Globalization	96.95	38.59	39.27	224.76	36.69	14.57
Observations	397					
Countries	20					

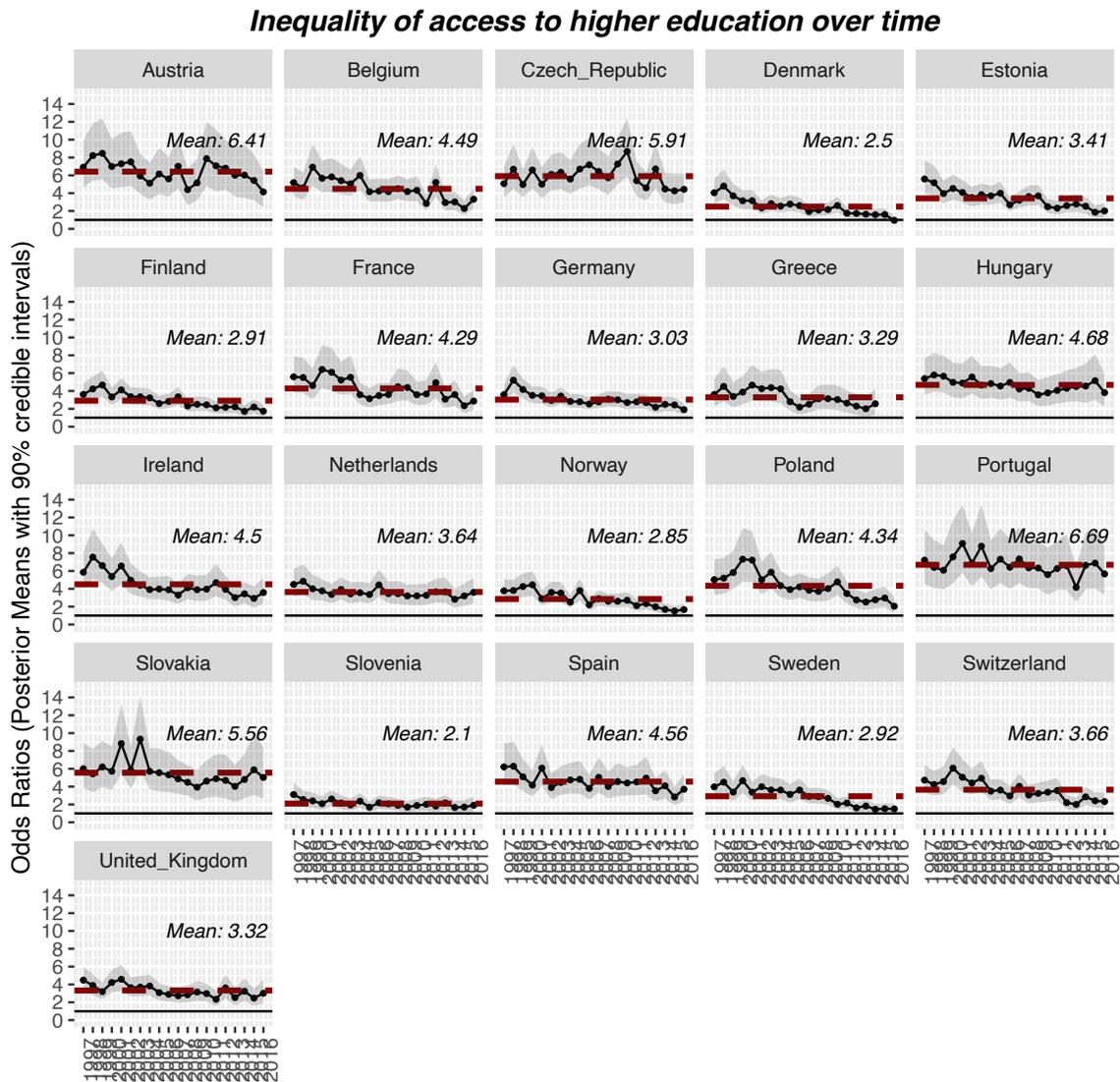


Figure 4.9: Access inequality in 20 European countries. Estimated from European Social Survey (ESS) data, pooled waves 2000-2020. Coefficients display as Odds Ratios.

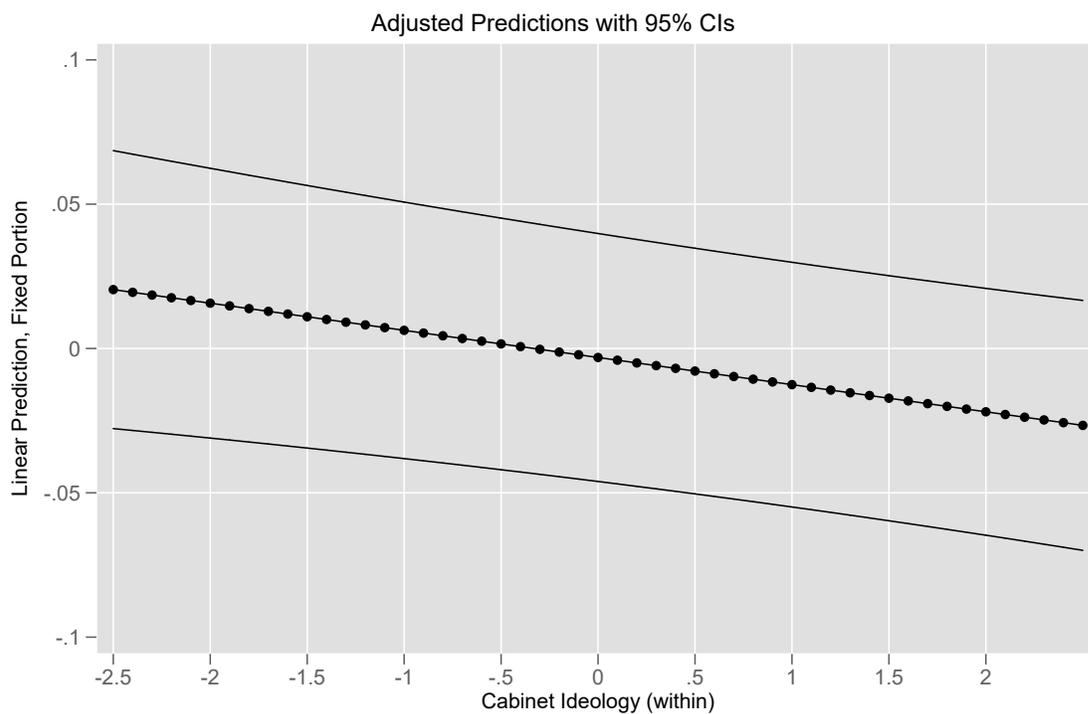


Figure 4.10: Effect of cabinet ideology on spending on subsidies, excluding United Kingdom

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