Higher Education Dynamics 45

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Higher Education, Stratification, and Workforce Development: Competitive Advantage in Europe, the US, and Canada

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Chapter 1
Introduction

Sheila Slaughter and Barrett J. Taylor

The essays in our book address trends in the US, EU and Canada that indicate the strengthening of the academic capitalist knowledge/learning regime over time (Slaughter and Leslie 1997; Slaughter and Rhoades 2004; Slaughter and Cantwell 2012). In our initial formulation of academic capitalism (1997), we defined academic capitalism as institutional and professional market or market-like efforts to secure external monies. As with capitalism and profit, competition was the key to universities' success in generating external resources. As theory (Slaughter and Rhoades 2004; Slaughter and Cantwell 2012), academic capitalism teases out the ways in which new institutional and organizational arrangements made possible by neoliberal states enable new linkages among state agencies, corporations, foundations and universities that create opportunities for non-market entities, such as universities and foundations, to move toward the market. Segments of all sectors—state agencies, nonprofit entities including non-governmental organizations (NGOs), corporations and universities—are involved. Universities are not simply acted upon by outside forces. Segments of the university, including some faculty, administrators, and students, embrace market activity (Fourcade and Khurana 2013; Grewal and Purdy 2014), while other segments are resistant or neglected (Rosinger et al., in press).

The result is complex and heterogeneous. *New circuits of knowledge* link state agencies, corporations and universities in entrepreneurial research endeavors. *New funding streams* support these knowledge constellations and *interstitial organizations,* such as technology transfer and branding offices, emerge to facilitate the new

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knowledge circuits. Simultaneously, many established offices, such as endowment management offices, are *repurposed*. Actors from the public, non-profit and private sectors initiate *intermediating organizations and networks*, such as the Business Higher Education Forum in the US, and the European Research Area in the EU, to stabilize the new circuits of knowledge and the organizations that facilitate entrepreneurial activity on the part of universities. At the same time, universities build *extended managerial capacity* that enables them to function as economic actors. *Narratives and discourses* that justify and normalize these changes are developed, elaborated and articulated by all the players, and deployed via *social technologies* (Slaughter and Cantwell 2012). There is no particular order in which these phenomena occur. They can take place sequentially, simultaneously, or independently, but always recursively. They explain how universities become marketized not only in science and engineering, but across a variety of fields.

While academic capitalism may be strengthening, we stress that it is marked by contradictions, inconsistencies, and unintended consequences (Slaughter et al., 2015). In the US, for example, academic capitalist processes occur in *quasi-markets* shaped within neoliberal states that deliver public programs in market-mimicking ways such as competitions for students' tuition dollars and for research funding. Such competitions legitimate notions of markets in higher education. Moreover, because quasi-markets incentivize universities to comply with policy demands rather than to operate optimally, they also divorce competition from efficiency (Taylor et al. 2013). The results can be surprising. Where for-profit firms presumably scrutinize the relationship between revenues and expenditures closely, classic studies such as Bowen's (1980) analysis of higher education finance have long posited that campus decision-makers focus on "the top line" rather than the "bottom line." These decisions also are made within a "prestige economy" in which universities seek status as well as resources. As a result—and in direct contravention of predictions that competition will make universities more like for-profit firms—universities appear to prefer resources that confer status (such as research grants) over those that do not (such as tuition), even when the former is likely to increase costs more rapidly than is the latter (Rosinger et al., in press).

Unintended consequences also abound in university rankings, a venture in which government role is less direct but where intervention by for-profit and non-profit organizations is clear. Competition for position in league tables has led many universities to spend significant shares of their annual budgets in efforts to raise their rankings, yet elite universities that occupy the top slots in national and global rankings rarely change position (Bastedo and Bowman 2011). This partially reflects the rise of science as a dominant global institution (Taylor and Cantwell 2015). If all universities espouse similar emphases on the sciences, then the best-resourced entrants almost inevitably will prevail, as they possess the slack resources necessary to restructure personnel (Cantwell and Taylor 2015; Pusser and Marginson 2012, 2013) and degree offerings (Taylor et al. 2013) in a way that is likely to appeal to ranking systems. Indeed, at least one function of global rankings schemes such as the Shanghai Jiao Tong ARWU league tables seems to be to legitimate resource inequality rather than to promote efficiency (Cantwell and Taylor 2013).

Despite these contradictions, inconsistencies, and unintended consequences, the market narrative—which tells a tale of human capital accumulation through education leading to greater employability in high paying jobs, entrepreneurial science and technology able to create such jobs, and the knowledge economy as the key to citizens' prosperity—remains powerful. This volume collects chapters that assess the state of this narrative and, often, push back against it. The essays that respond to and critique this persistent narrative are grouped in four sections: patterns of stratification; senior management, trustees and policy makers; students, curriculum and faculty; and countertrends to marketization.

Stratification. As massification occurs, stratification follows. In the early 1960s, when relatively small percentages of various countries' populations attended college, investing in a college degree was thought to create human capital likely to guarantee a good job (Becker 1962). However, as greater numbers of secondary school students gained tertiary degrees, some students and institutions began seeking ways to differentiate themselves from other degree-holders. At the individual level, there are a number of ways for students to accomplish this: attending highly selective, high prestige colleges and universities; pursuing professional or graduate degrees; and/or seeking out programs perceived to be close to the market, such as medicine, law, computer science, or business. Similarly, colleges and universities attempt to differentiate themselves from the bulk of their competitors by carefully selecting the best students, and by increasing tuition, endowment savings, and research funding and outputs.

Drawing on world-wide ranking schemes, Simon Marginson, in "Global Stratification in Higher Education," explores the ways in which two different forms of stratification—within a national system and across multiple nations—relate to one another. Marginson notes that the essential driver of stratification at the national level typically is competition for the limited number of high value student places associated with social advantage. At the global level, however, he identifies the primary means of achieving status as success in research. With regard to global student mobility, the US pursues its foreign policy interests by educating future national elites from elsewhere. In Finland, Norway, France and Germany international students in public institutions pay low or no fees, while the UK, Australia, New Zealand, Malaysia, and increasingly Canada, treat international education primarily as a means of generating export revenues.

In "Blurring Boundaries and Borders" Ilkka Kauppinen, Lindsay Coco, Hyejin Choi and Lucia Brajkovic examine some of the deep structures that may underlie success in research. The authors ask whether universities' involvement in global production networks is a way to achieve status in world class university rankings. They explore the links between the trustees of US members of the prestigious Association of American Universities (AAU) and transnational corporations (TNCs). University trustees are frequently CEOs of corporations, and also sit on the boards of directors of other corporations, some of which are TNCs. This study explores the interlocks between trustees' universities and TNCs as well as the correlations between such linkages and universities' position in global rankings. The authors' findings suggest that the boards of US research universities constitute

an important social space in which members of the global capitalist class may interact and seek valuable knowledge inputs. For their part, universities appear to seek the additional resources and status that trustees' connections may contribute.

The next three essays—"The field dynamics of stratification among US research universities: The expansion of federal support for academic research, 2000–2008," by Barrett Taylor, "The crème de la crème: Stratification and accumulative advantage within US private research universities," by Kelly Ochs Rosinger, Barrett Taylor and Sheila Slaughter, and "Patents and university strategies in the prestige economy," by Barrett Taylor, Kelly Ochs Rosinger, and Sheila Slaughter—focus quantitatively on academic capitalist processes in the US between approximately 1990 and the present. While the first two outline patterns of stratification, the final chapter in this group highlights one particular strategy by which elite privates may gain and consolidate field status. Generally, private and public research universities, many of which appear in the top 100 of the Shanghai rankings, are compared, revealing that there is escalating stratification even within this elite group. The sharpest differences appear to obtain between publics and privates. Examination of patenting by research universities shows that all publics patent at moderate levels, perhaps out of a need to articulate with economic development at the state level, while privates, less constrained by responsibilities to the citizenry, are able to patent selectively. Many private universities engage only in nominal levels of patenting, but a few, such as the Massachusetts Institute of Technology, patent extensively and successfully.

Perhaps in part due to the compounding effects of other, similar strategic decisions over time, the gap between a small number of universities—6–10 in the public sector, 7–12 in the private sector—and all the rest has grown greater and greater. The key drivers of stratification differ for public and private universities. Public universities suffer from loss of direct support from state governments, and so increasingly rely on research support secured from the federal government. As indicated in Taylor's chapter, success in securing these funds distinguishes elite public universities from the growing number of "poor relations." According to the results presented in that chapter, however, even the elite publics were unable to achieve the same spectacular results as elite privates. Private universities compound their advantage in research funding with endowment growth and the ability to restrict seats. The latter two points are highlighted in "The Crème de la Crème," which traces the growing distinctions between a small subset of private research universities and all others. Shifts in the regulatory environment and administrative law across a number of policy sectors—lax regulation of non-profits, tax breaks for donors to non-profits, deregulation of finance and subsequent wealth accumulation (Mettler 2011; Piketty 2014)—created conditions for this spectacular growth in university endowments. These resources enabled high endowment private universities to compete successfully for expanding federal research funds. Despite this sizable advantage in resources, however, elite privates have not expanded enrollments. Given that postsecondary policy stresses equal access for meritorious students, this is troubling, as it suggests that a relatively small number of individuals benefit from a large share of total resources for university education in the US.

Senior management, trustees and policy makers. This section elaborates on the quantitative patterns documented in the previous section by analyzing specific cases that illustrate some of the concrete mechanisms that switch universities from the public good knowledge/learning regime toward prevailing in market-like competitions. While no two cases or countries are alike, these chapters nonetheless share underlying themes. All highlight the growth of managerial capacity, including authority and commitment to compete to raise the status of the institutions, and chronicle these managers' exploitation of the openings provided by the neoliberal state to increase competitive advantage relative to other nation-states.

Susan Wright argues in "The Imaginators of English University Reform" that the expansion of administrative authority alone cannot fully explain the transformation of English universities in recent years. Instead, she emphasizes the role of "imaginators" who bring together members of the corporate, non-profit and government sectors to plan futures for the university. She analyzes the work of the Vice-Chancellors' association, exemplified in "Universities UK" (2009), which by-passed parliamentary debate and engaged business consultants, such as Price Waterhouse Cooper (2010), to unbundle and outsource the charitable university. She calls the new model the "umbrella university," which continues to run its own activities but acquires branches and schools that are run in partnership with third parties that reap untaxed revenue from education and research endeavors.

In a case that has elements of Wright's narrative, Sondra Barringer and Sheila Slaughter compare public and private research universities trustees' connections to corporations in "University Trustees and the Entrepreneurial University: Inner Circles, Interlocks, and Exchanges." These authors find that private universities are much more tightly linked to Fortune 500 corporations than are publics. They then analyze exchanges between trustees, trustees' corporations and the universities of which they are stewards to reveal the flow of people, resources and prestige between environment and the most highly networked public (Pittsburgh, or "Pitt") and private (Massachusetts Institute of Technology, or "MIT") universities. The authors make the case that MIT trustees, faculty and administrators participated in a dense web of exchanges because trustees serve as channels between industry, academe, non-profits and government. The MIT community regards itself as part of a business cycle where corporate venture capitalists, who are also frequently MIT graduates and donors, underwrite their research, thereby providing opportunities for start-up companies and other high technology for-profit endeavors. The resulting alumni career networks then return funds to MIT in myriad ways, ranging from donations to departmental sponsorships. In contrast, Pitt has a small group of "super-trustees," whose work largely supports and enhances that of senior management, through activities such as fund-raising and foundation oversight. Unlike MIT, Pitt's trustees represent corporations that are likely to be local or regional, and are most heavily invested in finance rather than science and technology endeavors. As in Wright's chapter, this suggests that the growing stratification observed in the chapters of section one may reflect changing managerial capacities and governance regimes.

In "The New 'Prudent Man'" Brendan Cantwell argues that, in the US, endowment management is now a form of financial-academic capitalism through which

universities engage in market activities to generate profit in order to secure advantage over competitor institutions by amassing wealth, which in turn is associated with prestige and status. He tracks the changes through the abandonment of the "prudent man" principle, which historically guided non-profit endowment investment toward safe and steady returns. By the 1990s, trustees, senior management, fund raisers and university investment corporations had taken advantage of a lax regulatory climate to pursue high risk, high return investments in alternative assets, a strategy from whose consequences they were somewhat protected by university non-profit status. Wealthy private universities were in a position to gain most in this game. Ultimately, Cantwell sees these changes in endowment management as contributing to the steep and persistent stratification that characterizes higher education in the U.S., which was described in the previous section.

Gaye Tuchman's "Accountability Regimes in Flagship Universities" draws on her work at US "Wannabe University." In this chapter, she focuses on that University's business plan, a managerial tool borrowed from the corporate world and shared by the president with trustees and donors. Tuchman sees the business plan as an accountability regime that is presented as value-neutral but functions as a system-wide expression of the values of the administration. The business plan is central to the administration's competitive strategy to rise in rankings, and increasingly calls for growing numbers of administrators to monitor faculty and make judgments about the value of programs and departments. In other words, it constitutes an ongoing audit. Such actions are undertaken in the name of excellence, which remains elusive.

Students, curriculum and faculty. This section examines the ways in which students, curricula, and tuition policies intersect and shape stratification patterns and quasi-market endeavor. In "Curriculum Trends in European Higher Education," Berit Karseth and Tone Dyrdal Solbrekke compare Humboldtian principles to EU policies in a rich document analysis. They illustrate the ways in which EU curriculum discourse advocates a shift from a content-based approach to a learning outcome approach because the former is seen as outmoded, possessing limited relevance to students' interests and the requirements of the labor market. They see the building blocks of the European Higher Education Area, such as qualifications frameworks and measurable learning outcomes, as introducing planning procedures that shift curriculum toward an instrumental approach based on a strong utilitarian ethos. All told, the curriculum reform initiatives are embedded in a new architecture that implies more direct control over curriculum content and assessment by policymakers.

Jennifer Olson explores changes in German higher education in "Shifts in the Logic of Internationalization." In her account, market logics have been layered over public good logics in German universities. Competition-based narratives flow from policymakers rather than from market-like structures. Olson casts federal actors as influenced by EU scripts about competitions for the "best brains," which will in turn lead to the most robust, knowledge intensive economies. She examines the German federal coordinating agencies responsible for overseeing and supporting university

recruitment of international students to Germany rather than to particular German universities. Universities in turn gain status, and in many ways begin to reconceptualize "internationalization" as a competitive market-like space through small changes scripted by federal coordinating agencies.

Judith Walker's "Stratification and Vocationalization in Canadian Higher Education" tracks the apparent contradiction between that country's dual focus on high technology research and an extraction-based economy. As in several other national systems, the Canadian case highlights the role of interstitial bodies of educational and government actors in shaping the trajectory of university activities. The result is a system that is simultaneously over-extended and under-resourced.

Growing stratification engenders instability in social positions, and so creates anxiety among students and parents who are concerned about securing admission to desirable colleges and universities. These tensions are clearly manifest in Lois Weis' "Positioning for Elite and Quasi-elite Colleges and Universities in the United States." Weis argues that increased income inequality and uncertainty about what the future holds for upper middle class children has made the "college admissions arms race" an all-consuming experience. Through a rich ethnography, she traces how parents and students engage with expensive preparatory schools in what they see as "all or nothing competition" to matriculate at a relatively small number of highly selective, mostly private, colleges and universities. These largely professional parents are willing to spend time and money managing their children's multiple applications, coaching them to take up internships, paying for extra exam prep classes, hiring outside counselors, and taking them on many college visits. As these students increasingly fill slots in the desired schools, lower middle class or low-income students, unable to draw on the same support systems, are less likely to be competitive.

Countertrends. Although the majority of this volume's contributors see the academic capitalist knowledge/learning regime as strengthening, others disagree, or see countertrends and new patterns. There is no unified pattern with regard to alternatives. Some states, many of them in the Nordic countries, are wealthy and socially democratic. These states tend to be committed to well supported, free, and relatively unstratified higher education. The experience is different elsewhere. Following the end of Socialism, Poland aggressively developed a private higher education sector, which is now markedly diminished due to the decline in college age population. This has created opportunities for re-publicization of the university system. In the United States, competition for scarce social positions has long been considered part of education (Labaree 1997) and demographics foster enrollment growth rather than decline (Heller 2001). Counter-trends therefore assume different forms in the US, and are most clearly observed outside the confines of the formal pluralist state in civil society organizations such as social movements and labor unions.

Romulo Pinheiro, in "Humboldt meets Schumpeter?," draws on Burton Clark to make the case that European universities can embrace elements of entrepreneurialism—indeed, be stimulated by its "creative destruction"—while retaining core values important in their national context. Pinheiro cites the example

of universities in Northern Europe that have an entrepreneurial ethos but retain reservations about commercial exploitation of academic knowledge. He further notes that, in the Nordic countries, universities have an ethos of egalitarianism that leads to contestation of meritocratic competition, particularly at the level of the faculty.

Marek Kwiek, in "From Privatization (of the Expansion Era) to De-Privatization (of the Contraction Era)," makes the case that Poland illustrates dramatically changing public–private dynamics. After the fall of Socialism, Polish higher education massified very rapidly, with the greatest growth occurring in fees-paying private higher education; indeed, the system had the highest private sector enrolments in Europe. The public sector also expanded, and was free to many full-time students, although increasing numbers of part-time enrolees paid fees. Driven by current and projected future demographic decline in the college age population, substantial numbers of private universities—never as academically strong as the public—have closed. Public universities are absorbing a larger share of enrolments, often as full time students who do not pay fees, a feat made possible primarily by the decline in the total number of traditionally college-aged students. Whether public universities can increase their research capacity and whether the state will continue to fully fund students are open questions, but certainly Poland offers an alternative to increasing reliance on cost-sharing mechanisms and private universities characteristic of many other countries reviewed in this book.

Finally, Brian Pusser's "A State Theoretical Approach to Understanding Contest in Higher Education" argues that resistance is not merely localized to countries with particular cultural traditions or demographic conditions. Rather, he posits, resistance can be found within any national system, even the highly marketized US, if scholars will extend their understanding of the "state" beyond a narrow conception of formal, pluralist mechanisms. In Pusser's account, contests over the mission and practices of higher education may be found in a variety of civil society organizations including the "Occupy" movement and its concern over student loan debt, labor unions interested in reclassifying student athletes as employees and collectively bargaining on their behalf, and student support for the Development, Relief, and Education for Alien Minors (DREAM) Act. A lack of attention to these sites of resistance, he contends, risks over-stating (and thereby legitimating) the hegemony of neoliberalism,

These countertrends remind us that the academic capitalist knowledge/learning regime did not wholly displace the public good knowledge/learning regime. Academic capitalism is layered over notions of public good, capturing some segments of universities but not penetrating others. Just as neoliberalism created the context for academic capitalism, shifts in contexts can make space for alternatives. At the same time, we maintain that higher education systems in the US, EU, and Canada are unlikely to return to the public good knowledge/learning regime, which, after all, was neither an ivory tower nor a place where democracy's colleges flourished. Goals of individual mobility and competitive advantage have coexisted with more egalitarian motives for decades if not longer (Labaree 1997). While the essays

in sections one, two, and three document the strengthening of these forces relative to public-facing goals, those in chapter four remind us that older forms of organizing and governing higher education remain viable. Indeed, the chapters in this concluding section remind us that contexts themselves can change quickly, often rising from contests and conflict outside of higher education such as social movements (Rojas 2012; Taylor, in press). We, as actors within the field of higher education, will have to decide how to intersect changing contexts in a manner that both embodies the university's ideals and provides sustainable footing in national systems that have proven inhospitable to those ideals in recent decades.

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Part I
Patterns of Stratification

Chapter 2
Global Stratification in Higher Education

Simon Marginson

Introduction

World-wide higher education and its associated research activities can be understood sociologically as a field of power. The chapter focuses on the vertical (hierarchical) stratification of higher education, including the global hierarchy of national systems. All bounded social structures are positioned in larger, more open settings. National systems of higher education are no different. They are affected by the global relational environment at many points. Research science is part of the discussion because science is integral to the political economic relations of higher education, including the funding and organization of the leading universities; and because the research performance of institutions plays into competitively-defined value, especially in global higher education.

Global stratification in higher education has three spatial aspects. The first and most readily grasped is the national system of higher education. National systems take a range of structural forms. There are unitary systems in which all higher education institutions (HEIs) have a common mission, as in the United Kingdom (UK), though there are always hierarchies of status and resources. There are systems with a vertical binary distinction between two sectors, as in the Netherlands and Ireland; and binary systems in which two sets of HEIs have different missions and nominally equivalent status, as in Germany. There are also systems like those of the United States (USA) and China in which different missions are managed in a classification-based structure. In many but not all countries, regulation encourages competition between individual HEIs for students and resources. In all systems there is competition between HEIs for prestige and in research. However, the intensity of competition varies, and institutional hierarchy is steeper in some countries than others.

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Pierre Bourdieu (1988, 1993) theorizes what he sees as the inherent polarization between elite HEIs and mass education HEIs within systems, and competitive agency behaviours. The dynamics of within-nation stratification are not fully covered in this chapter because they are emphasized elsewhere in the book, in Marginson (1997, 2006) and in Cantwell and Marginson (2014).

The second aspect is stratification within global systems in higher education and university-based research. These global systems include worldwide research exchange and science publishing in English; global comparisons and university ranking; the commercial market in cross-border education that incorporates some but not all countries; global consortia and other cross-border university networks; and the inter-meshed protocols for recognition of HEIs, persons and qualifications. Global systems criss-cross all national systems, with ever-growing effects in the national and local spheres. National policy, funding, regulation and culture articulate and channel the effects of global systems, which accordingly vary from case to case (Marginson 2011).

The third aspect derives from cross-border relations between the separated but increasingly porous national systems. Global flows of messages, ideas, organizational models, people and money, including cross-border imitation and policy borrowing (Rizvi and Lingard 2010), play a considerable role in higher education and research; though again, the impact of cross-border flows varies from nation to nation. As with global systems, cross-border flows encourage parallel evolution and convergence between national systems on a worldwide basis. The resulting processes of global homogenization are not culturally neutral. They are shaped by a dominant model of higher education, normalized by the instruments of global ranking and exemplified by a small group of leading Anglo-American science universities.

The overall outcome is an identifiable worldwide system of stratification of higher education, calibrated by comparative science power (science publication and citation drives global ranking), that structures global competition in this sector, and feeds into national competition to an extent that varies from nation to nation. Worldwide stratification combines the national and global dimensions of higher education in a jagged, uneven and partly open fashion. It is not a stable arrangement. National and global hierarchies shift and change. New HEIs, transformed HEIs and newly rising national systems are constantly emerging, especially at the global level, as will be discussed.

This chapter mostly explores the second and third spatialities: that is, the global and national/global aspects of competition and stratification in higher education. This is not the same as stating that the chapter focuses on the global market. ‘Global market’ is a commonly used term. However, neither ‘global’ nor ‘market’ are accurate descriptors.

Higher education is not primarily global in form. It is largely ordered on a national rather than global basis. There are global markets in specific areas. There is a market in globally mobile faculty that includes the minority of national systems that both appoint foreign researchers and scholars, and can pay somewhere near the salaries offered in the United States, the leading national system. There is also the

capitalist or commercial international education in countries like the UK, Australia and Malaysia, where, nominally at least, mobile students can enroll in many different countries in the world. (This commercial market is discussed below.) However, the domestic student populations of each country are not part of the market in mobile education. There is no single unitary worldwide set of HEIs offering services to a common population.

Further, higher education is not primarily a market in character. Here the term 'market' is more loose metaphor than social scientific fact. It is a pervasive metaphor, thanks to neoliberal policy ideology, but it is also misleading (Marginson 2013). It is true that new public management (NPM) reforms in many systems have conferred on universities some of the trappings of business: product formats, shadow prices, marketing departments, and well-paid CEOs with performance bonuses. The market metaphor also gains purchase from the central roles of resources, efficiency and competition in higher education. Resources shape behavior and set limits on the possible. Competition is ubiquitous, especially competition between HEIs for prestige, and competition between students for places in high status programs. However, if the term 'economic market' is understood as a rigorous social science category not an ideological metaphor, higher education as a whole does not behave like an economic market, especially in the research universities that lead the sector. Key features of economic markets are absent from the central functions of higher education, which are education of local students and university-controlled research.

Most importantly, production in higher education is not driven holistically by the accumulation of profit, except in for-profit HEIs, that have a subordinate role in the sector because they are not engaged in research and generally do not attract high achieving students.[1] Though tuition is charged in many systems, it is often heavily subsidized, places in high-demand HEIs are subject to absolute scarcity, and access is not mediated by prices. HEIs do not expand to meet all demand, in the manner of a capitalist business, except in for-profit education. Still less does capital drive research. Basic research is a public good and depends everywhere on non-market funding by government and, in some nations, philanthropy. Even in the United States, where a large-scale commercial biotechnology sector has a shaping influence (Bok 2003), industry funding provides less than 10 % of finance for research. Non-market state funded research programs, mostly subject to competition on the basis of merit, are dominant.

In most countries HEIs are expected to produce public goods as well as private goods. In all countries higher education is more closely subjected to state funding, and legal and policy regulation, than is the case in most industrial and commercial sectors. Rather than constituting a sector of business in its own right, higher education provides conditions of possibility for knowledge-intensive industries and the states that service them. Higher education intersects with business. Indeed, state regulation can partly shackle HEIs to business goals. Nevertheless, HEIs have their own distinctive logic of motion. As Bourdieu (1993) notes, this autonomy is

[1] There are a few exceptions to this generalization, such as Waseda University in Japan, but nominally for-profit elite HEIs behave like private non-profit HEIs.

maximized in elite HEIs. In under-funded demand-absorbing mass public HEIs, driven more directly by policy and by the struggle for students, the mode of behavior is closer to commercial market forms. Likewise for-profit HEIs play their principal role in lower value mass higher education.

Limitations

By imagining higher education as a competitive field of power this chapter highlights political economic resources, positional status, and competition between HEIs, social groups and persons. Arguably, it gives insufficient attention to the diversity of political cultures and educational cultures in the global setting, which articulate common global tendencies; and it underplays relations of collaboration within and between countries, which harbor much of the public good potential of higher education and research.

Further, the chapter gives little attention to state and corporate power beyond the university gate. A larger discussion would explore how reproduced social stratification and inequality in higher education share the larger national and global dynamics of inequality, and contribute to the augmentation of social, economic and political power, in a capitalist world in which measured inequalities are increasing (Piketty 2014).

This chapter intersects academic capitalism (Slaughter and Leslie 1997; Slaughter and Rhoades 2004; Slaughter and Cantwell 2012) in that the dominance of the US in the various rankings of world-class universities is underpinned by US research universities' resource base. Academic capitalism makes the case that these universities compete for external funds in quasi-markets shaped by state policy initiatives (e.g., the "mission agencies" which catalyze universities to compete for R&D funds to accomplish policy goals, ranging from basic science to translational research at NIH and the I(nnovation) Corp at the NSF, the later two of which are focused on entrepreneurial product and process related science). R&D funds are important, but universities within the US are increasingly unable to enter competitions for R&D dollars successfully without a resource base that depends on high tuition as well as substantial private endowment (see Taylor Chap. 4). Thus, US research universities' success depends on more than the ability to attract star faculty able to win research dollars, it also relies on successful competition for students able to pay high tuition and even more on successful competition for donor dollars that build endowments in the billions of dollars. The US system is markedly different from research universities in most countries due to its large non-profit (private) system, which in turn is dominated by a very elite segment that relies heavily on non-state funds. Although the most elite of these research universities are global giants, the degree of differences between other systems and the US universities, which rely primary on state funding of research, endowment and tuition in the elite segment, makes the US an unlikely global model.

National Systems in the Global Setting

States function as 'global competition states' (Cerny 1997), watching each other closely, building capacity, imitating and innovating by turns, in an endless striving for national strategic advantage. Again, this varies by nation: some are more readily open, globalized and/or globally shaping, than others. Nevertheless, as noted, national systems—whether relatively open or closed—often move in parallel. One example is the advance of social participation in higher education, which in most countries has quickened since the late 1990s. Another example is the spread of capacity in global science to a growing number of national systems. Both have implications for stratification.

Stratification of High Participation Systems (HPS)

According to the UNESCO Institute of Statistics, by 1992 only five national systems had a Gross Tertiary Enrolment Ratio (GTER) of 50 %. However, between 1992 and 2012 the world GTER moved from 14 % to 32 %, and 54 national systems—including many middle-income countries—had passed 50 %. In 14 countries the GTER exceeded 75 %. In regional terms, the GTER had reached 50 % across Western and Eastern Europe, North America, much of Latin America, and East Asia except China. It was very low in Sub-Saharan Africa and low in South Asia but had more than doubled in both regions (UNESCO 2014). There is a common tendency to high participation systems (HPS) in higher education.[2] Participation is expanding significantly in nearly every country with a per capita income above USD $3000 per head. When systems reach the 50 % mark or more they keep on growing. In emerging nations, participation correlates to urbanization and the growth of the middle classes. In established nations, in which some middle class families are losing ground economically, participation in higher education is a necessary but insufficient hedge against social slippage.

Yet not all participation is equivalent. There are marked differences in value in student places and credentials. Disciplines are stratified on the basis of graduate status and earnings. While science-based disciplines enjoy general prestige within HEIs, in the labour markets a mix of science-trained professions (Medicine, Dentistry, sometimes Engineering) and non-science professions (Law, Finance) attract superior salaries. But the principal differentials are based on institutional status ('brands'). In most countries HEIs are stratified by student selectivity, reputation, and research performance. In national settings the most valuable degrees combine high status disciplines with high institutional prestige. In the global setting disciplinary status is less weighty (though it still affects earning power and graduate

[2] Here 'higher education' includes both UNESCO/OECD Type 5A degrees and shorter Type 5B programs, e.g. in North American community colleges.

mobility), and graduates are primarily differentiated by country of education, and institution attended.

The essential driver of stratification at national level is social competition for the limited number of high value student places associated with social advantage. In all systems there is competition. Though egalitarian societies provide less differentiation between high and low value opportunities, in all societies there is an absolute scarcity of valued positional goods (Hirsch 1976). Thus in mass higher education systems, more so as participation approaches universality, many student places do not imply advanced social distinction and/or high economic value. As Bourdieu notes the field is bifurcated between 'highly selective' and 'non selective' HEIs, or 'elite' and 'open' HEIs (Geiger 2014). There are also middle HEIs in which both kinds of value are present. Because the size of the social elite is limited, all else being equal, as participation increases, the proportion of student places with relatively low value also increases. This enhances vertical (hierarchical) stratification, unless the tendency is corrected by policy.

Other factors also enhance stratification, such as policy-fostered competition, which over time widen the gap between high and low value HEIs and degrees. The basic social polarity within each HPS is articulated through political economic factors that reinforce stratification, or weaken it, and/or impose finer-grained hierarchical distinctions. These factors include state funding of higher education, marketization policies, tuition, student loan arrangements, needs-based student support, and research capacity. Research calibration provides an apparently objective basis for institutional hierarchy. Stratified national systems are also re-determined by the global hierarchy of institutions, to the extent the competitive global structuring of the sector has purchase at national level.

At present, in many countries, stratification is being 'pulled' (elongated) vertically at both top and bottom of HPSs. At the bottom, the quality of mass HEIs is weakened in many countries by the under-funding of public institutions, and/or the deployment of for-profit sectors as a medium of expansion. For example in the US, the for-profit sector has been favoured by pro-market policies in Congress while community college funding has been run down. Public subsidies provide 86 % of the revenue of for-profits ($32 billion a year) who receive one quarter of all federal student aid. For-profits enrolls 10 % of students, but 85 % do not complete, and those that do find their credentials are weaker in the labour market than public HEI credentials (Mettler 2014). In Brazil, the Philippines, India and some other countries the majority of participation is in low value private HEIs, with little upward transfer into higher value institutions.

At the top, stratification is enhanced by fostering a layer of research-intensive World-Class Universities (WCUs), which draw both resources and high student demand. Through the WCU movement, above all, research science plays its universal role in the stratification of higher education. In global stratification, research is more direct and more shaping than at the national level. In turn this feeds back to national stratification, especially in those countries that are most aware of global competition.

Global Science and National Systems

The rollout of the global science system combines two tendencies that are two sides of the same coin. First is the partial subsuming of national science into a single world system. Second is the spread of indigenous science capacity to a growing list of countries and HEIs. National research systems retain distinctive organizational and instrumental identities, particularly in funding and doctoral training. Yet the knowledge they use is increasingly combined at the global level. Academic publications form a single world library. English-language science is the single global conversation: the claims of French, German and Russian have faded. Nation-bound networks are confined to humanities, some social science and professional disciplines. Knowledge transfers instantly, with high visibility, enhancing collaboration: cross-border authorship is growing much faster than science publishing as a whole (NSF 2014). Because world science provides greater resources than any one national system, researchers—with the partial exception of those from the US, which publishes almost half the high citation science—source many of their seminal ideas from abroad. To be fully effective in understanding and applying knowledge, universities and scientists must maximize global connectivity. Engagement is maximized when HEIs and individuals themselves contribute to the store of research and so function as full partners. Thus in order to access global science, nations need their own science infrastructure and trained personnel. The alternative is a position of continuing dependence. Hence the globalization of science reinforces the need to build national capacity. Rather than being divergent trajectories, they tend to grow together.

Science is no longer monopolized by North America, Western Europe, Russia and Japan. Not all nations can pay for their own infrastructure, but a growing number do. In 1995, 37 countries published over 1000 papers in global journals, a proxy indicator for indigenous research capacity. In 2011 there were 51. New science nations include Iran, Croatia, Serbia, Slovenia, Chile, Thailand and Tunisia. Science is growing rapidly in East Asia, including China, Hong Kong SAR, Taiwan, South Korea and Singapore. In 2011 these nations and Japan spent $448 billion in R&D, a third of the global total, just below the $453 billion in the USA and Canada. At the end of the 1990s China decided to step up research and expand its WCUs. Between 2001 and 2011 R&D spending rose by 18.1 % per year after adjusting for inflation, and China moved from tenth to second largest investor. In 2011 South Korea invested 4.03 % of GDP on R&D, behind only Israel. Its $59.9 billion placed it fifth in the world, ahead of France and the UK (NSF 2014).

Figure 2.1 lists the leading 20 countries in terms of R&D in 2011, and their output of science papers as compiled by Thomson-Reuters Web of Science. Output in South Korea grew by 13.6 %, and in Singapore by 9.6 % (NSF 2014). Average citation rates are lower in China, Korea, Japan and Taiwan than the leading English-language countries, Germany, Netherlands, the Scandinavian countries and Switzerland. However, average citations are high in Singapore and Hong Kong SAR, and improving elsewhere. In 2000, China authored only 0.6 % of Chemistry

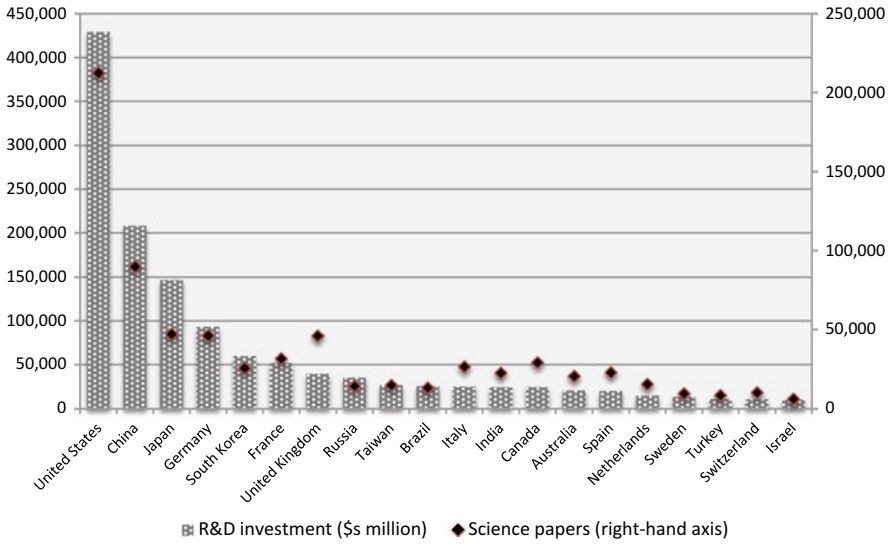

Fig. 2.1 Total investment in R&D in 2011 (*left-hand axis*) and output of published journal papers in 2011 (*right-hand axis*), world's leading 20 countries in order of level of R&D investment (*Source*: NSF 2014)

papers in the world's top 1 % by citation rate. In 2012 it published 16.3 % of such papers, an astonishing improvement. There were similar patterns in Engineering, Computing—where China publishes more top 1 % papers than the US—Physics and Mathematics. East Asia is weaker in Medicine and Life Sciences, aside from Agricultural Science. Though the US continues to dominate science, research power is becoming more plural (NSF 2014).

World-Class Universities (WCUs)

In policy the spread of science takes the form of an arms race in innovation, expressed in the number and standing of a nation's WCUs. Most HEIs are not WCUs. They are largely teaching-focused institutions, unranked and little globalized, except that like all modern organizations they act within a homogenized cultural setting. The small proportion of WCUs, and would-be WCUs, absorb a growing proportion of attention and resources.

The term 'World-Class University' was popularized by the Shanghai Academic Ranking of World Universities (ARWU 2014). ARWU began in 2003, and was followed by the more heterogeneous and less rigorous rankings by QS (2013) and Times Higher Education (THE 2013). A university's standing in the rankings operates as a loose proxy for its intellectual capability, concentration of talent, 'teaching quality' (though no ranking provides comparative data on learning), and potential contribution to industrial innovation, national competitive advantage and solving

the world's problems. Global rankings are informal but a regulative technology of great potency. They play the same ordering role in many countries as do the *US News and World Report* rankings in the US (USNWR 2013). Ranking data are neat, simple and immediate. Rankings sum complex and heterogeneous HEIs at a glance, fostering an illusion of comprehensive coverage. Inclusion in the ARWU top 500 or the Times Higher Education top 400 allows an HEI to claim status as a research university of global standing. Top 50, 100 and 200 university lists function as the pantheon of globally recognized HEIs, moving from global giants in the top 20 to the lesser deities. Above all, rankings install performance incentives that shape investment and personnel decisions. Hazelkorn (2011) shows that rankings data strongly influence choices made by students and families, especially in cross-border education where families lack knowledge of other countries' systems. Policy makers, university hiring and performance management strategies have become focused on lifting the ranking. Rankings empower the executive viz a viz the disciplines, defining outcomes in competitive terms rather than the intrinsic qualities of scholarship, discovery, teaching or service (Sauder and Espeland 2009). Global rankings normalize worldwide higher education as a field of competition between HEIs and between states.

With the exception of QS, global rankings are led by research indicators. In the Times Higher measures of teaching reputation, resources and internationalization play secondary roles: research is the main aspect. The ARWU ranking, and more finely tuned lists by Leiden University (2014) and Scimago (2013), are solely focused on research. Real research performance is monitored in policy, business and executive university circles where value is finely calibrated. In the shaping of student demand for places, research reputation is more important than actual research performance.

Most nations want to increase their top 100 or 200 WCUs. Some seriously invest, including China, Korea, Japan, Germany, France and Russia (Hazelkorn 2011; Salmi 2009). There is an obvious fallacy. Global rankings reflect relative not absolute performance. In the commercial league tables prepared by QS and Times Higher Education, with their surveys with unstable collection and collation methods, heterogeneous indicators combined on the basis of arbitrary weightings, and annual volatility in the lists, exact position has no real meaning (Marginson 2014). It seems that it is sufficient that rankings signify competitive position for their normalizing effects to be secured.

Ranking strategies change systems. National mergers in France are designed to lift the nation in the ARWU ranking by aggregating HEIs into larger research units. Saudi Arabia employs many highly cited foreign researchers part-time, because 20 % of the ARWU ranking is determined by the number of such researchers. Table 2.1 shows that 82 % of Saudi Arabia's highly cited researchers have a primary address outside Saudi Arabia. There are 3215 highly cited researchers in the Thomson Reuters list, of whom 297 (9.2 %) have their primary address outside the country concerned: 122 of these researchers are affiliated to the King Abdulaziz University in Saudi Arabia. Saudi Arabia had no top 500 universities in 2004 but now has two top 200 universities, including the King Abdulaziz University, and two more in the top 500 (Gingras 2014).

Table 2.1 Instances of high citation researchers with primary addresses outside the nation in the ARWU ranking, 2014

Country in the ARWU ranking	Number of highly cited researchers (original data from Thomson-Reuters)	Highly cited researchers with primary address outside the ranked country	Highly cited researchers from outside country as proportion of all highly cited researchers %
Saudi Arabia	170	139	82
South Africa	11	5	45
Denmark	34	7	21
Finland	17	3	18
Singapore	17	3	18
Australia	79	13	16
Sweden	32	4	13
South Korea	24	3	13
Spain	49	6	12
Austria	21	2	10
France	90	8	9
Ireland	13	1	8
Italy	55	4	7
United Kingdom	325	23	7
Netherlands	82	5	6
China	160	8	5

Source: Gingras (2014)

Hegemony, Locality, Plurality

Ranked lists of WCUs carry two contrasting stories about global stratification. The first is the continued dominance of English-language HEIs at global level, especially US universities. The second is the growing plurality below the top layer.

English-language nations dominate the global lists because of their material weight in both universities and science, and because the criteria used in ranking are grounded in the norms of Anglo-American science universities. In the Leiden University ranking in Table 2.2, based on 2009–2012 papers in the top 10 % of their field by citation count, US universities held 35 (58 %) of the first 60 places, 50 % of the top 100, and 38 % of the top 200. UK had six HEIs in the top 60, and Canada and Australia three each. In this table East Asia is nearly as strong as Europe minus UK.

US and UK HEIs exercise a similar hegemony in ARWU.[3] The US—led by Harvard, Stanford, MIT and Berkeley—had 146 (29 %) of the top 500 places, 77 (39 %) of the top 200 and 32 (64 %) of the top 50, in 2014. Cambridge in the UK

[3] Based on a composite of indicators: Nobel Prize holders, high citation researchers, articles in *Science* and *Nature*, Thomson-ISI Web of Science publications, and a per faculty indicator to balance the bias in favour of large HEI size in the other indicators.

Table 2.2 World leading 60 research universities, based on the number of high citation papers produced in 2009–2012, Leiden University ranking

		Research papers, 2009–2102	Proportion of papers in top 10 % of field %	Number of papers in top 10 % of field
Anglosphere				
1	Harvard U USA	29,693	23.0	6818
2	Stanford U USA	13,399	22.3	2993
4	U California Berkeley USA	11,384	22.5	2560
5	U Michigan USA	15,609	16.1	2513
6	U California Los Angeles USA	13,757	18.1	2488
7	Massachusetts IT USA	9149	25.2	2304
8	U Washington (Seattle) USA	12,968	17.1	2224
10	Johns Hopkins U USA	12,364	17.4	2148
11	U Pennsylvania USA	11,603	18.4	2138
13	U California San Diego USA	11,300	18.7	2114
14	U California San Francisco USA	9990	20.2	2121
15	Columbia U USA	11,520	17.4	2004
16	Yale U USA	9775	20.0	1957
17	Cornell U USA	11,130	16.9	1876
19	Northwestern U USA	9306	18.8	1745
20	Duke U USA	10,113	17.2	1743
22	U Wisconsin-Madison USA	11,501	14.5	1670
23	U Minnesota Twin Cities USA	11,403	13.8	1573
24	U Pittsburg USA	10,902	14.4	1571
26	U North Carolina Chapel Hill USA	8939	16.5	1475
27	U California Davis USA	10,318	14.1	1460
28	Washington U (St Louis) USA	8312	17.3	1437
32	U Illinois Urbana-Champaign USA	9140	14.3	1307
33	Ohio State U USA	10,399	12.5	1296
34	U Texas Austin USA	8033	15.8	1271
35	U Chicago USA	6818	18.4	1254
36	Pennsylvania State U USA	9997	12.3	1229
37	New York U USA	7493	16.4	1229
41	U Florida USA	11,022	10.2	1129
42	Caltech USA	5072	22.2	1127
44	Princeton U USA	5017	21.9	1101
47	Emory U USA	6721	15.5	1039
48	U Southern California USA	7012	14.8	1035
50	Vanderbilt U USA	7194	14.3	1025
60	Boston U USA	5963	16.1	960
9	U Cambridge UK	11,778	18.4	2163
12	U Oxford UK	12,100	17.6	2124
18	U College London UK	11,434	16.0	1833

(continued)

Table 2.2 (continued)

		Research papers, 2009–2102	Proportion of papers in top 10 % of field %	Number of papers in top 10 % of field
21	Imperial College London UK	10,063	16.8	1688
51	U Manchester UK	8438	12.1	1021
59	King's College, London UK	6228	15.4	962
3	U Toronto CANADA	19,083	13.8	2640
25	U British Columbia CANADA	11,601	13.1	1525
38	McGill U CANADA	9444	12.9	1216
39	U Melbourne AUSTRALIA	9392	12.8	1198
45	U Queensland AUSTRALIA	8673	12.6	1089
46	U Sydney AUSTRALIA	9720	10.9	1056
Western Europe				
31	ETH Zurich SWITZERLAND	7763	17.5	1361
58	U Zurich SWITZERLAND	6818	14.4	979
40	U Utrecht NETHERLANDS	8545	14.0	1197
56	U Amsterdam NETHERLANDS	7037	14.0	982
43	U Copenhagen DENMARK	8749	12.7	1112
52	Katholieke U Leuven BELGIUM	7851	13.0	1020
54	Paris 6 P & M Curie FRANCE	7571	13.1	989
East Asia				
29	U Tokyo JAPAN	14,339	9.7	1389
57	Kyoto U JAPAN	11,358	8.6	982
30	National U Singapore SINGAPORE	10,387	13.1	1361
55	Nanyang U Technology SINGAPORE	7331	13.5	986
49	Tsinghua U CHINA	9713	10.6	1025
53	Zhejiang U CHINA	12,342	8.3	1018

Source: Leiden University 2014

was fifth and Oxford ninth. The UK had the second strongest system at top 100/200 levels, though the larger systems in China (44) and Germany (39) had more top 500 WCUs than the UK (38). Canada and Australia are also relatively strong in the top 100/200 (ARWU 2014).

The peak Anglo-American HEIs are remarkable concentrations of knowledge power. Over 2009–2012 Harvard produced twice as many high citation papers as the next HEI, Stanford, and more such papers than all seven top 200 universities in Switzerland's research system (Leiden University 2014). US universities do even better in Leiden's ranking on the basis of the proportion of all published papers that are in the top 10 %. In the large US research system, Americans tend to cite Americans. This helps to reproduce the inherited Anglo-American neo-imperial advantage, grounded in 250 years of history. The leading Anglo-American universities draw continuing benefits from their global status. It enables them to draw talented researchers and doctoral students from everywhere, and reproduce their global lead, which is also their power at home.

All WCUs are partly disembedded from national policy—all work to global science, most recruit foreign researchers, some draw monies from cross-border research, or foreign students, some invest in global business. Yet the global is not the dominant dimension, except in the market in mobile students (see next section), and in the few systems and HEIs that draw their core identity from global action, such as Singapore. In the manner of imperial rather than cosmopolitan organizations, the peak global HEIs are grounded in their national metropolis and bound by its identity. Harvard is a global giant and a linchpin of the American role in the world. Its graduates have global freedom of action. Its effects can scarcely be evaded by non-Americans. Yet it is not answerable to the world beyond the US. Harvard is answerable to US society, but not on a democratic basis. It is attuned to the social elite that uses it. Mostly, it is answerable only to itself.

At the same time, the pluralisation of world science has led to a modest fall in the US share in the rankings. Between 2004 and 2014, US universities in the ARWU top 500 fell from 170 to 146, and US top 50 universities dropped from 35 to 32. European HEIs in the ARWU top 80 rose from 12 to 19. Top 200 universities in Asia, Latin America, the Middle East and Africa rose from 8 to 20; China's top 200 universities rose from zero to six; and mainland Chinese universities in the top 500 jumped from 8 to 32 (ARWU 2014). Figure 2.2, which compares ARWU data for 2004 and 2014, indicates the fall in the US share of the top 200 universities, and the growth in the East Asia and Singapore segment (dark grey) and in universities from the Middle East (white).

Table 2.3 compares the worldwide distribution of the top 50, top 200 and top 500 research universities in 2014 to the size and wealth of national economies, and spending on HEIs in those countries for which data are available. It is not surprising

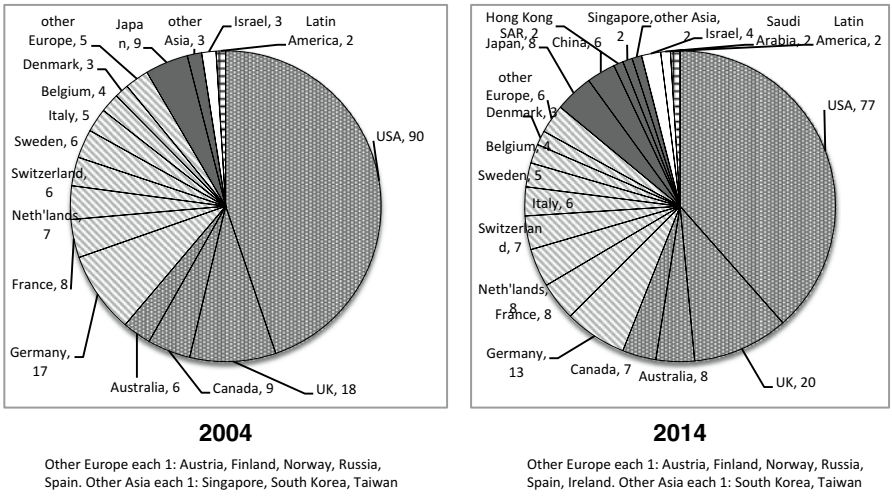

Fig. 2.2 World leading 200 research universities, distribution by country, Academic Ranking of World Universities in 2004 and 2014 (*Source*: ARWU 2014)

Table 2.3 National number of ranked universities in the ARWU top 50, 200 and 500 in 2014, compared to GDP and GDP per capita, and public spending on HEIs

Nation	Top 50 HEIs 2014	Top 200 HEIs 2014	Top 500 HEIs 2014	Total GDP PPP 2013[a]	GDP per capita PPP 2013[a]	Total spending on HEIs 2010 PPP
				USD $s bill.	USD $s	USD $s bill.
Anglosphere	**41**	**112**	**228**	–	–	–
United States	32	77	146	16,800	53,143	418.8
United Kingdom	6	20	38	2321	36,209	30.1
Canada	2	7	21	1519	43,207	36.7
Australia	1	8	19	1007	43,550	13.8
New Zealand[b]	0	0	4	153	34,227	2.1
Europe	**7**	**60**	**168**	–	–	–
France	2	8	21	2437	36,907	33.9
Germany[b]	2	13	39	3493	43,332	38.3
Switzerland[b]	1	7	7	434	53,705	4.9
Denmark	1	3	5	240	42,790	4.3
Sweden	1	5	11	417	43,455	6.7
Netherlands	0	8	13	691	43,404	11.7
Italy	0	6	21	2052	34,303	19.9
Belgium	0	4	7	465	41,575	6.8
Spain	0	1	12	1498	32,103	19.0
Austria	0	1	6	374	44,168	5.1
Norway	0	1	3	327	64,406	7.1
Ireland	0	1	3	199	43,304	3.0
Finland	0	1	5	208	38,251	3.7
Russia[b]	0	1	2	3461	24,120	46.8
Portugal	0	0	3	271	25,892	4.1
Czech Republic	0	0	1	288	27,344	3.3
Poland	0	0	2	897	23,275	11.7
Greece	0	0	2	283	25,651	n.a.
Hungary	0	0	2	220	22,190	1.8
Serbia	0	0	1	89	12,374	n.a.
Slovenia	0	0	1	57	27,915	0.7
Turkey	0	0	1	1422	18,975	n.a.
Asia	**2**	**20**	**78**	–	–	–
Japan	2	8	19	4624	36,315	64.8
China	0	6	32	16,158	11,904	n.a.
Hong Kong SAR	0	2	5	382	53,203	n.a.
Singapore	0	2	2	425	78,744	n.a.
South Korea	0	1	10	1664	33,140	39.1
Taiwan[a]	0	1	7	907	n.a.	n.a.
Malaysia	0	0	2	692	23,298	n.a.

(continued)

Table 2.3 (continued)

Nation	Top 50 HEIs 2014	Top 200 HEIs 2014	Top 500 HEIs 2014	Total GDP PPP 2013[a]	GDP per capita PPP 2013[a]	Total spending on HEIs 2010 PPP
				USD $s bill.	USD $s	USD $s bill.
India	0	0	1	6774	5410	n.a.
Middle East	**0**	**6**	**11**	–	–	–
Israel	0	4	6	264	32,760	3.7
Saudi Arabia	0	2	4	1550	53,780	n.a.
Iran	0	0	1	1207	15,586	n.a.
Latin America	**0**	**2**	**10**	–	–	–
Brazil	0	1	6	3012	15,034	24.2
Argentina	0	1	1	778	n.a.	n.a.
Chile	0	0	2	386	21,911	7.5
Mexico	0	0	1	2014	16,463	24.3
Africa	**0**	**0**	**5**	–	–	–
South Africa	0	0	4	662	12,504	n.a.
Egypt	0	0	1	910	11,085	n.a.

OECD data on spending on HEIs (tertiary education, includes 2-year programs) covers both public and private source funding, except as below
Source: ARWU 2014; World Bank 2014; OECD 2013
n.a. data not available, *PPP* purchasing power parity
[a]Taiwan GDP data for 2011
[b]New Zealand, Switzerland and Russia data for public spending only. Germany spending data for 2009 not 2010

the US has 32 of the top 50 universities given that in 2010 it spent almost $419 billion on higher education in Purchasing Power Parity (PPP) terms. The next largest investor, Japan, allocated $65 billion, 15 % of the US level. The spending data suggest that the UK and Australian systems constitute value for money. The UK has the eighth largest investment, and a GDP per capita below 15 other countries, but houses 29 of the top 200 research universities, and four of the first 22 (ARWU 2014). Sweden, especially, and Finland, Denmark and the Netherlands, have high performing and broadly distributed research HEIs relative to system size. Russia, Japan and France under-perform relative to their spending. In Russia and Japan the output of science papers is falling (NSF 2014).

Overall, there is a strong relationship between economic capacity and research ranking. No nation with a top 50 university has a per capita GDP of less than $36,000 PPP per year, compared to the world average of $14,350. Only eight of the top 200 universities are in countries with a GDP per capita of less than $32,000: six universities in China ($11,904), one in Brazil ($15,034) and one in Russia ($24,120). China combines modernized urban-dominated regions with low-income rural regions. In Shanghai, Beijing and parts of Eastern China, where most of the WCUs

are located, tertiary participation, and per capita income, are double the world average. In fostering its WCU layer China may have steepened both regional and educational stratification.

Only 5 of the 41 systems with universities in the top 500 are in countries with below world average per capita income: China (32), India (1), Serbia (1), South Africa (4) and Egypt (1). Research capacity is becoming more plural because many nations are moving up the income scale, and middle-income nations are creating science systems. However, absolute poverty blocks the full universalization of science and WCUs.

What is the ultimate scope for upward mobility of systems and HEIs? China, Saudi Arabia and others show that concentrated investment and internationalization policies can lift HEIs into the top 200 and beyond. Where there is strategic acumen as well—as at the National University of Singapore, and Hong Kong University of Science and Technology (Postiglione 2011)—remarkable progress can be achieved in a short time. Such cases are exceptional, and more prevalent in high investment emerging systems than mature ones. More typically, middle institutions cannot accumulate the research capacity needed to break into the 100/200, regardless of all the web-site missions, cross-border partnerships, graduate global competences, study abroad schemes and research centres on global problems. It is even harder to break into the world top 20. The zero-sum logic of positional competition means there is little room at the top. Though ETH Zurich is gaining ground, there is little sign the Anglo-American giants are about to be displaced.

Hence global comparisons matter more in rising systems than in the neo-imperial heartland. Elite HEIs in the US and China are all primarily focused on their status at home. Harvard, Stanford, MIT and Berkeley, which have long commanded global standing, are indifferent to it. They compete with each other. Peking and Tsinghua Universities draw national status from their growing world standing, in a country in which the universal excitement about rising global power can almost be tasted.

The Market in Mobile Students

According to the OECD (2014, 344) the 2.1 million students enrolled outside their countries of citizenship in 2000 had more than doubled to 4.5 million by 2012. For students and their families able to invest in travel, foreign residence and tuition, this mobility offers potential career enhancement (particularly in globally fluid fields like finance, marketing, computing and research), foreign language acquisition, life experience and personal transformation. Often it opens migration to the country of education. The English-speaking countries are much the most popular destinations, followed by Germany, France, Russia and, in East Asia, China and Japan.

The global economic market in international education is partial in reach. Figure 2.3 distinguishes education provider nations with a market-based approach (mid grey) from those that subsidize inward mobility (light grey and white), and those with mixed approaches (hatched). Many nations in Europe, as well as Japan, Korea,

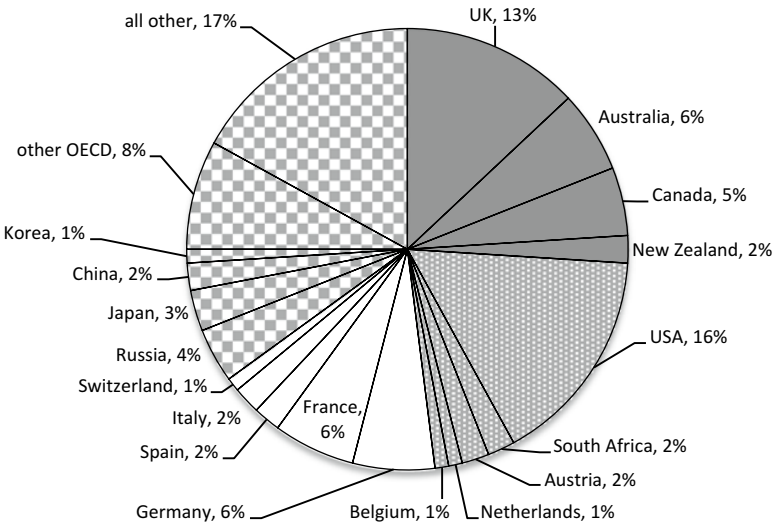

Fig. 2.3 World share of export of education services (nations providing education to cross-border international students), 2012
medium grey—commercial approach predominates
light grey—internationals pay more tuition than locals, mostly not commercial prices
white—international students pay same low tuition as local students
hatched—mixed arrangements (subsidies, free places, some commercially-priced tuition)
Source: OECD 2014, 345; author

Russia and the USA, subsidize some or most international students. Here international education is seen as a means of enhancing international cooperation, or building cultural or language skills in local students. The USA pursues its foreign policy interests by educating future national elites from elsewhere. In Finland, Norway, France and Germany international students in public institutions pay low or no fees (OECD 2014, 347–348). In contrast the UK, Australia, New Zealand, Malaysia, and increasingly Canada, treat international education primarily as a means of generating export revenues. The commercial approach extends also to some American HEIs needing revenues, and many Masters programs in Europe and Asia offered in English. Russia, Singapore and China mix commercial and subsidized programs. Perhaps 40–45 % of cross-border international students enroll in programs designed to generate profit. Most such programs are located in HEIs with non-commercial objectives, including research universities. The border between profit-taking and break-even is often blurred.

The UK and Australia lead the volume-building profit-making approach. In 2012, 18 % of on-shore students in Australia were international, and 17 % in the UK (OECD 2014, 354). In 2013–2014 Australia earned $14.6 billion USD in tuition fees and expenditures by students and their families (ABS 2014). In 2012 students provided 16.4 % of public research university income, generating resources used to build global research strength and to compensate for regulated rates of funding of

local students that fall below the real costs of provision. In all but one of the eight top research universities, fee-paying international students were more than 20 % of onshore students. Five of these HEIs housed more than 11,000 international students on-site (ADE 2014). A study of business studies schools in Australia found that international students paid tuition at up to three times the average funding for domestic student places in the same programs (Beaton-Wells and Thompson 2011), generating substantial surpluses.

The UK and Australia also provide fee-based education in offshore campuses and study sites, in students' home countries, mostly in South, Southeast and East Asia. HEIs also sustain 'twinning' arrangements, whereby students complete part of the program in their own country and transfer to the Anglophone HEI for its completion. A principal purpose of offshore enrolments is to channel students into higher-paying onshore places. In 2012–2013 there were 598,925 UK students outside the UK, almost twice the number of non-EU students located within the UK (HESA 2014).

Mobile higher education families are not representative of all families. They value aspects particular to mobility, such as immersion in the English-speaking setting, and opportunities to migrate after graduation. In this context a third tier HEI in the UK, with a smattering of research activity, might be more attractive than a first tier HEI at home with established science. Other families see it differently. The global student market is a specialist positional market in which the accent is on mobility itself, amid positions that are diffuse, open and contingent. The global market in international education has two implications for stratification. First, because such mobility is accessible to only a small minority of families, it fosters a relatively privileged layer of global graduates, who use mobility to secure positional advantage in the country of origin, or in global occupations. In moving between countries, students can evade scarcity of national opportunities and, at best, trump the local hierarchy with global credentials. Here globalization provides potential for shaking entrenched local HEI hierarchies, within limits. Yet by imposing a new stratification based on the distinction between those with the resources to exercise global choices and those who are location-bound, it creates additional positional stratification in higher education that feeds into growing inequalities. As the mobile population grows, the binary divide of mobile/non-mobile will become more important.

Second, commercial competition combines with rankings to differentiate and normalize global HEIs in the neo-liberal mold (despite tensions between commercial objectives and cultural/educational objectives in the profit-taking nations). In this global market of providers touting for custom, and consumer families deciding where to invest, a hierarchy of value has evolved, patterned by global rankings. International students and families depend on rankings to interpret the hierarchy of each system, especially at first-degree level. Thus research numbers are at the core of student choices, because of their centrality in rankings. The leading US and UK HEIs head the order, followed by other US and UK HEIs, and those from Canada, Australia, Western Europe and Japan. Doctoral students go to Germany, Switzerland and Austria in significant numbers. As the distribution of research-intensive HEIs

expands, so will these choices; but the normative global market—which becomes ever more visible—will continue to undermine the value of elite local institutions and foster brain drain from middle-income countries.

Neither the would-be mobile family nor those staying at home are likely to decide where to enroll on the basis of quality of teaching. First, there are no solid comparative data on student learning. Second, positional status is more compelling than classroom experience. When students decide between a high status HEI and a moderate status HEI with a reputation for good teaching, status usually wins (e.g. James et al. 1999).

Conclusions: Science and Social Competition

The ideal Humboldtian university was held together by a teaching/research nexus nested in autonomous faculty work. In *The Uses of the University* (1963/2001) Clark Kerr implied the conglomerate 'multiversity' was held together by the university president. What really holds elite universities together is institutional status, and the manner in which it transmutes into successive manifestations of power. High achieving students, mostly from socially advantaged backgrounds, flock to high value HEI brands whose value is underwritten by global research. The selected students bring status to their selecting institutions, and in turn receive status as graduates. Their financial contributions as students (in systems in which tuition is charged), and later as alumni, help to sustain research; and the prestige of selective HEIs helps to sustain their position with governments, industry and philanthropy that support research. In turn research performance holds elite HEIs near the top of the rankings, symbolizing their continued attractiveness to elite students and their families. The hierarchy of value between HEIs, like the prior social inequalities between families that use HEIs, is shaped by the larger social order. That hierarchy is also shaped by stratified research performance.

In short, research performance and student selectivity reinforce each other and contribute to stratification. Both linear research competition between HEIs and binary social competition for position via HEIs reproduce the hierarchy of institutions that articulates the hierarchy of social outcomes. As long as there is social and scientific competition, there will be stratification of HEIs. Stratification guarantees competition and the endless struggle to move up the hierarchy. Yet the two forms of competition, in research and for social position, are not identical in type. Their effects are not always congruent, and they play out differently in the national and global dimensions.

The prestige of universities, and the resources this brings, underpins their globally significant research. Research science is one of the mediums and means of sustaining institutional status, even for graduates in business or law. But in national and local society, institutional hierarchy rests on much more than research. The value of HEIs is signified by family desire, selectivity, and graduate freedoms: the more prestigious the institution, the more mobile its graduates across the professions

and social leadership. Positional competition in nations is sustained by generations of experience. It is well and widely understood. But at the global level there is no common index of student selectivity, merely the obvious pulling power of the neo-imperial university brands. Most potential HEIs are unknown except through ranking. Here the relation between positional social competition and research competition is reversed. Research moves from a mechanism that helps to sustain value and power, to the universal proxy and driver, dominant in structuring the global university hierarchy. Leading HEIs gain their global standing much more from their research and attractiveness to doctoral and other talent, than their first-degree selectivity. The methodology of global rankings cements this role of research.

Because research is specifically determining of global value, and because of the ideological-policy importance attached to technological innovation, over time, without negating inherited prestige, global science may become increasingly determining also of national systemic differentiation and selectivity. Research performance is the measure of value most readily calculated and compared, within and between national systems. Potentially, science is a universal index. It is also the main way that upward mobility of HEIs is secured, though this requires exceptional levels of concentrated investment.

Global flows and convergence are ambiguous. In the neo-liberal imaginary, the global dimension is the space of world markets. Is the globalization of higher education necessarily neo-liberal in form and content? No. Global convergence is a spatial process with many possible contents. It has cultural dimensions, and there are many possible implications for economic production and social ordering, including public goods.

Can the globalization of higher education be rendered less neo-imperial? Neoliberalism is culturally specific, supporting the Anglo-American ordering of the world. The framing of university rankings, mono-cultural disciplines and export markets constrains national and global higher education within the neo-imperial project. It traps systemic/national, institutional and individual agency within lopsided competition games. The mono-cultural focus on English-language science in research universities suborns not only the non English-speaking systems, but the more localized humanities, everywhere. This narrows the potentials of agency, given the salience of the language-based humanities and humanistic social sciences in the formation of identity. Therefore the emergence of greater plurality in the distribution of high participation and high science, especially the rise of China and East Asia, the less spectacular university renaissance in Europe, and the spread of higher education among Latin American populations, are welcome signs of larger possibilities. A more plural spread of power in homogenous global science may yet transmute into stronger indigenous higher education systems in the nationally-nested humanities.

Higher education is globally stratified on the basis of all of national power, steepening institutional hierarchies, and the disciplines. Science defines the global value of HEIs, though high earning graduates mostly eschew pure sciences in favour of the scientific professions, business and law. Can stratification in higher education become modified? The Nordic countries show that state policy can secure relatively

egalitarian systems, in which all HEIs impart substantial value. For the most part the tide is running the other way, pulled by global competition and elite trajectories in many countries. WCUs are pushed up, while in many countries, mass higher education is impoverished. The global sector is becoming more inclusive. The direct rule of the Anglo-American systems is less complete. Yet it seems that overall (though it remains to be closely studied), higher education is fostering growing social inequality. The neo-liberal heartland is not quite as dominant as it was, but the neo-liberal economic project in higher education is still rising. Growing plurality, and growing inequality, within increasingly homogenous systems, are the hallmarks of contemporary globalization.

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Chapter 3
Blurring Boundaries and Borders: Interlocks Between AAU Institutions and Transnational Corporations

Ilkka Kauppinen, Lindsay Coco, Hyejin Choi, and Lucia Brajkovic

Introduction

The theory of academic capitalism (Slaughter and Leslie 1997; Slaughter and Rhoades 2004) suggests that in order to achieve prestige and position in the knowledge economy, research universities will connect with public and private industry and engage in market and market-like behaviors and practices. As a result, markets, states, and higher education have become interrelated, and the boundaries among these spheres have become blurred. In this study, we build on the work of Mathies and Slaughter (2013) and Slaughter et al. (2014) by continuing to explore interlocks[1] between the American Association of Universities (AAU) institutions and corporations. Unlike these previous studies, however, we explicitly focus on the interlocks between AAU institutions and transnational corporations (TNCs). In this way, our study builds also on literature that explicates how the social relations, activities and networks that characterize academic capitalism take place both within nation-states and across nation-state borders (e.g. Kauppinen 2012; Cantwell and Kauppinen 2014).

Scholarly research has explored different factors influencing and contributing to the internationalization and globalization of universities, such as international

[1] For our purposes, we use the term "interlock" to refer to university trustees who sit on corporate boards and university boards simultaneously.

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student and faculty flows, curricular content, collaborative cross-border research projects, emergence of branch campuses, and inter-governmental agreements (Altbach 2004; Horn et al. 2007; Lane 2011; Lee et al. 2006; Marginson 2006). Moreover, in contemporary knowledge capitalism, higher education is a provider of intellectual property and helps to develop a highly skilled workforce. For this reason, it is increasingly seen as an integral part of national innovation systems and is supposed to help attract globally mobile capital. This in turn is supposed to strengthen respective nation-states' global competitiveness in the knowledge economy. From this perspective, the key organizational actors of knowledge capitalism are universities and TNCs. Integration and collaboration between these organizations is pursuant to neo-liberal ideology and is supported by national, international, and supranational agencies and organizations. (e.g. Carroll 2010; Carroll and Beaton 2000; Kauppinen 2012; Robinson 2004; Sklair 2001; Slaughter and Leslie 1997; Slaughter and Rhoades 2004).

Many scholars perceive TNCs as the central agents of economic globalization since they have, due to their vast resources, the ability to plan, coordinate, and control activities across countries (Kauppinen 2012). There is no consensus in research literature regarding the exact definition of TNCs. In this paper, we broadly refer to TNCs as those corporations that have developed increasingly global strategies of operation, not only in terms of markets, but also in many cases, in terms of R&D networks, board interlocks with other corporations, and the location of headquarters, production facilities, subsidiaries, and subcontractors. Moreover, they also delegate – to various degrees – decision-making, R&D, and marketing powers to their foreign units (Burris and Staples 2012; Carroll 2010; Robinson 2004; Sklair 2001). TNCs play a crucial role in creating and sustaining those circuits of knowledge that characterize academic capitalism, especially when these circuits cross nation-state boundaries. On the one hand, TNCs benefit from science-based innovations in global competition, and, on the other hand, universities seek collaboration with TNCs as one way to attract and secure external revenue (e.g. Kauppinen 2012; Slaughter and Leslie 1997; Slaughter and Rhoades 2004).

However, there is a dearth of systematic studies on the integration and collaboration between universities and TNCs, or more generally a lack of emphasis on the significance of TNCs with respect to higher education. Much more attention has been given to international organizations influential in the policy realm, such as the World Bank, the Organisation for Economic Cooperation and Development (OECD), and the World Trade Organization (WTO) (e.g., Rhoades et al. 2004). In this chapter, we study the integration of key organizations of globalizing knowledge capitalism by focusing on interlocks between prestigious AAU institutions and TNCs through the university trustees who simultaneously serve on the boards and/or hold executive positions at TNCs. Our main research question is to what extent do AAU institutions have interlocks with TNCs through trustees? Thus, this chapter

provides new insights on the role of TNC interlocks in the corporate hegemony in elite U.S. higher education.

Theoretical Background

Internationalization of Higher Education and Global Research Universities

Internationalization is occurring in higher education to varying degrees and extents at institutions worldwide. There are many strategies that institutions pursue to internationalize, and for many institutions the degree of internationalization is directly linked to what is perceived as global competitiveness. The conversation about and evident impact of international activities and the global setting are unavoidable for higher education institutions (Marginson and van der Wende 2007). Internationalized institutions' boundaries are blurred as they engage with the global political economy through connections with other national governments, industry, international research partnerships, non-governmental organizations, and other actors from across the globe (Cantwell and Taylor 2013). While the national context remains important for universities, more and more institutions are pushed outside of their own nation-state boundaries. Increased integration with TNCs, especially those that are foreign-based, can be seen as one empirical indicator of internationalization.

As globalization has become ubiquitous, we have seen the rise of what Marginson (2010) terms the "Global Research University," meaning a type of institution that strives to achieve international recognition and resources to position themselves at the top of international rankings. Global university rankings have become much more prominent, and public authorities and universities seem to be ready to do whatever is necessary in order to succeed in global university rankings (e.g. Alexander and Noonan 2007; Altbach 2003; Hazelkorn 2011). Scholars have discussed at length ranking models, particularly their methodological designs (Altbach 2006; Cantwell and Taylor 2013; Hazelkorn 2011), and there has been considerable debate regarding the rankings' reliability and validity (Delgado-Marquez et al. 2011) as well as theoretical debates on how to understand the meaning of global university rankings (e.g. Hazelkorn 2011). We understand, briefly, global university rankings as powerful and hegemonic disciplinary technologies that have, through constant surveillance, normalizing power in terms of what types of goals and strategies governments and universities adopt (e.g. Cantwell and Taylor 2013; Hazelkorn 2011).[2]

[2] We, as many other scholars, have variety of reservations regarding global university rankings, but in this chapter we do not have space to articulate these criticisms (on this criticism see e.g. Cantwell and Taylor 2013; Hazelkorn 2011).

It is important to note what types of institutions global university rankings compare. Global rankings are only feasible utilizing one institutional sector, the comprehensive research-intensive university (Marginson and van der Wende 2007). While this type of institution varies widely globally, it is nonetheless the type of institution that can be compiled into a universal competitive table. Perhaps of no surprise is that institutions like Harvard, MIT, Oxford, and Cambridge lead the super pack of prestigious research universities. There are now a substantial number of world ranking systems, but Shanghai Jiao Tong University's *Academic Rankings of World Universities* (ARWU) and *The Times Higher Education's World University Rankings* (THE) have emerged as the most globally influential (Cantwell and Taylor 2013; Hazelkorn 2011; Marginson and van der Wende 2007), and have seemingly secured public credibility, or at least the public spotlight. Rankings serve to legitimize an institution's placement in the global hierarchy, yet in many cases, cement the universities that have the most prestigious reputations into place. This only exacerbates the stratification that exists in higher education.

In this study, we provide support to a suggestion that AAU institutions, of which many qualify as global research universities or "multinational universities" (Gallagher and Garrett 2012), have started to loosen their ties with their home country through interlocking with TNCs (this argument applies directly only to those TNCs whose country of origin is not the U.S.). Indeed, Marginson (2010) describes one of the tensions in the growth of the "Global Research University" (GRU) as a tension between national and international perspectives. The balance between being focused locally or internationally (given that the majority of higher education funding does not come internationally) is difficult to navigate, as pressure from more local agendas may create stress on a GRUs' cross-border ambitions. Marginson highlights that institutions must now be able to operate in multiple spheres – international, national, and local – to achieve synergistic enterprises beneficial to progress.

Interlocking Between AAU Institutions and TNCs in the Knowledge-Based Economy

A narrow definition of the knowledge-based economy emphasizes so-called "new" economic sectors or high technology sectors such as life sciences, information technology and modern biotechnology. However, it is plausible to argue that all economies are and have been knowledge-based economies, since all economic production requires some sort of knowledge base, and thus knowledge production as well as dissemination of knowledge. Consequently, knowledge accumulation and capital accumulation cannot be separated in any real sense. This, of course, does not mean that it would be irrelevant to speak about a 'knowledge-based economy', 'knowledge-driven economy', or 'knowledge capitalism'. One reason for this is the increasingly systematized and broadened commodification of (scientific) knowledge through intellectual property rights. Other reasons involve, for instance, the acceleration of knowledge production, revolutions in information technology and universities'

increasing involvement in national or regional innovation systems (for a more detailed discussion, see Smith 2000; David and Foray 2002; Jessop 2008; Kauppinen 2014). This type of understanding has implications, for instance, to how to perceive relations between higher education, the knowledge-economy, and global financial systems.

Both Carroll (2010) and Vitali et al. (2011) have argued that financial TNCs are at the center of board interlocks between TNCs and, consequently, these TNCs increasingly control transnational networks and facilitate the functioning of the global economy as both a decentralized (in terms of geographical dispersion of production networks) and centralized (in terms of ownership) system (e.g. Robinson 2004). Also, financial corporations are dependent on codified knowledge produced in higher education institutions. Fourcade and Khurana (2013) provide historical context regarding the development and growth of economic scientific knowledge and business education in the last century in the U.S. These scholars stress the importance of the economic scientific knowledge that was developed and applied in the business sector as technical knowledge and application became central to financial stock markets in the latter part of the twentieth century. Technological advances, such as the Black-Scholes formula for pricing derivatives and the user cost of capital, are fundamental to financial markets and business accounting (Fourcade and Khurana 2013; MacKenzie 2006). Advances such as these were products of the academy. Moreover, universities also have a crucial role in the production of a qualified labor force for the global financial system. Thus, it is plausible to assume that financial corporations would find information sharing with universities a desirable goal, for instance, in terms of trustee networks.

During recent decades, studies on the variety of relations, channels, networks and different forms of collaboration between universities and corporations have often been discussed, though mostly in an implicit manner or at least unsystematically. And as far as we know there have not been any systematic empirical studies on relations between TNCs and universities – at least in terms of interlocks between them. Indeed, despite the fact that some elite university trustees are heads of or sit on the Board of Directors of Fortune 500 companies and other research intensive corporations (Pusser et al. 2006), of which the majority can be considered TNCs, there is a dearth of research on TNCs as vehicles for cutting edge R&D with economic development potential.

Of course, interlocks between universities and corporations in general have been increasingly studied in the field of higher education studies. For instance, Mathies and Slaughter (2013) conceptualized trustees as an important channel that connects higher education institutions to economic innovations and more broadly to economic development. The same study also found that the number of ties with science-based corporations positively predicted how much R&D funding a university received. Moreover, corporate managers on universities' boards of trustees may facilitate an adoption of corporate strategic tactics on the part of the respective university (ibid.; Useem 1984). Thus, TNC representatives on AAU institutions' boards of trustees may facilitate an adoption of both general corporate strategies and specific tactics that facilitate an internationalization of respective universities.

Moreover, interlocks between AAU institutions and TNCs imply further integration of the former into transnational circuits of capitalist production. Marginson and van der Wende (2007) have argued that both governments and, increasingly, globally active universities are seeking to optimize the "benefits of global flows, linkages and offshore operations back home in the national and local settings" (p. 17; see also Hazelkorn 2011). Involvement in global production networks through interlocking with TNCs might be one strategy for AAU institutions to optimize the benefits of global flows, linkages, and offshore operations.

Previous studies on interorganizational interlocks among Fortune 500 corporations have shown that domestic interlocks decreased between 1998 and 2006 while transnational interlocks have increased. However, the latter have increased unevenly. The growth of transnational interlocks between TNCs (i.e., those for which country of origin is different) is visible especially within Europe, and between Europe and North America. Other areas such as Africa, Asia, and Latin America "are effectively isolated from the global interlock network" (Burris and Staples 2012, p. 325). We expect that these latter areas are also isolated from AAU and TNC interlock network.

For foreign-based TNCs, involvement in AAU institutions' boards of trustees can be seen as a strategic move to develop their transnational R&D networks (by gaining access to knowledge produced in universities, conducting joint research, and attempting to influence national research policy making). For U.S.-based TNCs, in turn, the same involvement serves, of course, the same purposes though not so directly in the case of transnational R&D networks. This sort of partial denationalization might align with the national strategies of the U.S., especially if it would provide more opportunities to attract foreign direct investments to the U.S. or otherwise to strengthen their innovation base, for instance, through global flows of economically valuable knowledge. For all TNCs, strengthening relationships with universities serves the purpose of facilitating the flow of knowledge "into [their transnational] circuits of capital accumulation" (Carroll and Beaton 2000, p. 72). In other words, those new circuits of knowledge that characterize academic capitalism (e.g. Slaughter and Rhoades 2004) are not independent from capital accumulation, but rather, are parts of broader circuits of capital that become intertwined with each other and simultaneously provide support to maintain and increase each other with the help of the neo-liberal state.

Mathies and Slaughter (2013) describe the network constituted by trustees and senior managers of private AAU institutions as an executive science network. However, our study does not involve only those corporations that are involved in scientific research. Thus, the network we study can be defined as a transnational sub-network of the AAU institutions – corporations network. These networks serve also broader hegemonic interests since "a corporate presence on campus helps legitimate capitalism as a way of life" (Carroll and Beaton 2000, p. 74).

In this study, we understand interlocking between AAU institutions and TNCs in two main ways. First, it provides opportunities for information and resource sharing between these organizations (Davis 1991; Mathies and Slaughter 2013). Second, it facilitates elite formation between different social spheres. What is noteworthy is

that in both cases this mechanism may operate both within a single nation-state (i.e. the U.S.) and across nation-state borders, that is, transnationally, since we have included in our study both U.S.-based TNCs (i.e. headquarters located in the U.S.) and foreign-based TNCs (i.e. headquarters located outside the U.S.). Thus, interlocks between TNCs and AAU institutions are not always directly transnational. However, U.S.-based TNCs (by definition) organize their activities across nation-state borders. Consequently, these ties link respective AAU institutions with transnational R&D networks, which implies indirect involvement in cross-border social relations. This in turn opens up a possibility to secure cross-border information and resource sharing. These mechanisms then may provide competitive edges for both types of organizations in competition over global university rankings (AAU institutions) and global markets (TNCs). These insights are supported by previous studies on transnational board interlocking between TNCs, in which the establishment of interlocks is seen as a way "to serve the interests of corporations – for example, by reducing uncertainty in their access to [foreign] markets, capital, and other resources [such as scientific knowledge], or serving as vehicles of interfirm control or cooptation" (Burris and Staples 2012, p. 8).

Additionally, we assume that for those AAU institutions willing to expand their operations abroad, (i.e. universities that aim to become or sustain their status as a global research university or multinational university), TNCs are attractive partners because their experience at establishing global production networks (e.g. Forsgren 2008; Robinson 2004; Sklair 2002) allows them to provide (through interlocks as channels for information sharing) context-specific know-how on how to operate in some particular country and more general know-how on how to operate simultaneously in different countries (and how to coordinate these operations efficiently). In other words, we assume that AAU institutions are willing to generate interlocks with TNCs because these interlocks presumably would help them to plan efficient strategies for internationalization. This, in turn, might affect positioning in global university rankings depending on how strongly respective ranking systems value internationalization, or what the effect of internationalization on research performance might be. Thus, interlocking with TNCs could increase university prestige as measured by rankings by possibly increasing research, publication, and funding opportunities, joint patenting, cross-border cooperation, and other activities. Moreover, trustee behavior can be influenced through these interlocks at least insofar as trustees perceive such interlocks as desirable and reassure them of the respective university's high-level performance.

Research Questions, Data and Methods

In order to address the issues at hand, we ask the following research questions:

1. To what extent do AAU institutions have interlocks with TNCs through trustees? Additionally, we ask whether interlocks between AAU institutions and TNCs are

associated with higher scores on the Shanghai Jiao Tong University's Academic Rankings of World Universities (ARWU)?
2. Which industry sectors have most interlocks with AAU institutions?

Through our first research question, we aim to show that the network integrating AAU institutions and corporations operates not only domestically, but also transnationally. In other words, we demonstrate to what extent AAU institutions are transnationalizing their operations, as TNCs have done for decades. Our second research question will provide further information regarding the transnational subnetwork of AAU institutions – corporations network.

To evaluate our research questions, we use 2010 data on the 54 private university, public university, and system boards that governed the 60 U.S. institutions in the AAU during that time period.[3] A research team, as part of an overarching project, gathered this data set. We obtained voting trustee lists through university websites, archives, and direct requests. We then used the Standard and Poor's Directory of Executives (S&P) and Compusat to determine the interlocks of these trustees to publicly traded and privately held firms in 2010. These interlocks included trustees' day jobs, executive positions, and board affiliations (see Chap. 9 for more details about the dataset).

We examined the number of TNC interlocks each university had in 2010. In order to identify whether the corporations were transnational, we used the Fortune Global 500 list, Forbes Global 2000 list, and the top 100 TNCs list from the United Nations Conference on Trade and Development (UNCTAD) in 2010. These are the most commonly used lists in global capitalism studies when discussing TNCs (e.g. Burris and Staples 2012; Carroll 2010; Robinson 2004; Sklair 2001). We also used the Mergent online database to further identify TNCs. Mergent online scours more than 22,000 U.S. and foreign firms' information ranging from business summaries and financial statements to company details including subsidiary information. Based on the Mergent information, we counted a firm as a TNC if it had one or more foreign subsidiaries. Through these lists, we identified 396 out of 1,951 corporations that universities were connected to as TNCs. Among those 396 firms, 45 (12 %) are foreign-based TNCs (i.e. headquarters not located in the U.S.) while 351 (88 %) are U.S.-based TNCs.

Finally, we also extracted industry information of those TNCs through the North American Industry Classification System (NAICS) to investigate which industries are most connected to universities through the interlocks. NAICS is the standard system used by the U.S. federal government to classify businesses for the express intent of collecting, analyzing, and publishing statistical data related to the U.S. business economy (U.S. Census Bureau 2012). The NAICS classification system encompasses 20 broad categories of industry and, for this project, 19 of the broad categories were included. The public administration category consisting of govern-

[3] There are also two Canadian universities included in the AAU, but because of the scope of project focuses specifically on U.S. universities, they were excluded from our dataset.

ment organizations was excluded due to the project focusing only upon universities and for-profit entities.

To answer our research questions, we used descriptive statistics and social network analysis. For our first research question, we examined descriptively whether there were differences between the public and private AAU institutions' TNC interlocks and compared the TNC interlocks as a percentage of the total corporation interlocks by each institution. Additionally, we examined the correlations between the number of TNC ties and the ARWU rankings. To map out interlocks between the TNCs and AAU institutions, we employed social network analysis. This method enabled us to visualize the network of universities and corporations where trustees serve as a channel between organizations. We can observe how dense these networks are, as well as which universities are more central in the network.

Findings

Comparing Total Corporation and TNC Interlocks

Tables 3.1 and 3.2 provide a comparison of total corporate interlocks, TNC interlocks, and percentage of TNC interlocks between the public and private AAU institutions. After running a t-test, we verified there is a statistically significant difference in the transnational corporation affiliations between the public and private AAU institutions. Private AAU institutions have more TNC interlocks than do public ones on average, as well as a greater share of TNCs in the total number of interlocks. Also, interestingly, public AAU institutions have a wider variance of TNC interlock proportion (ranged from 0 % to 60 %) while private AAU institutions are more similarly distributed (mostly between 20 % and 30 %). Overall, the proportion of TNC interlocks of all the corporate interlocks was 6.72 % in the case of public AAU institutions. In the case of private AAU institutions the same proportion was 26.55 %. These findings were aligned with the findings from previous studies (Slaughter et al. 2014).

Also, when we examined how many TNC interlocks public and private AAU institutions had, we saw that for the public AAU institutions (n = 28), the number of TNC firm interlocks ranged from 0 to 31,while the range for the private AAU institutions was between 1 and 44. We also found that for the public AAU institutions (except for several outliers such as University of Pittsburgh[4]) the number of TNC interlocks was concentrated between 0 and 5 (mean: 3.46, median: 2). Compared to the public group, the private group (n = 26) was rather widely distributed without particular outliers (mean: 18.44, median: 15).

[4] The University of Pittsburgh and Pennsylvania State University are neither public nor private, but "state-related," and have large boards, unlike most other public universities, that nearly approximate the size of private universities. The larger number of board members may account their centrality and number of connections.

Table 3.1 TNC interlocks, total firm interlocks, % of TNC interlocks by university

University (Public AAU)	TNC interlocks	Total firm interlocks	% of TNC
University of Pittsburgh-Pittsburgh Campus	32	84	38.10 %
Rutgers University-New Brunswick	11	33	33.33 %
Ohio State University-Main Campus	9	21	42.86 %
University of Illinois at Urbana-Champaign	6	10	60.00 %
Pennsylvania State University	5	24	20.83 %
University of California-Berkeley	5	50	10.00 %
University of California-Davis	5	50	10.00 %
University of California-Irvine	5	50	10.00 %
University of California-Los Angeles	5	50	10.00 %
University of California-San Diego	5	50	10.00 %
University of California-Santa Barbara	5	50	10.00 %
University of Washington-Seattle Campus	5	33	15.15 %
Georgia Institute of Technology	3	17	17.65 %
Purdue University-Main Campus	3	12	25.00 %
University of Maryland-College Park	3	13	23.08 %
Indiana University-Bloomington	2	5	40.00 %
Iowa State University	2	76	2.63 %
University of Florida	2	14	14.29 %
University of Iowa	2	76	2.63 %
University of North Carolina at Chapel Hill	2	13	15.38 %
University of Virginia-Main Campus	2	21	9.52 %
Stony Brook University	1	13	7.69 %
The University of Texas at Austin	1	13	7.69 %
University at Buffalo	1	13	7.69 %
University of Arizona	1	7	14.29 %
University of Michigan-Ann Arbor	1	10	10.00 %
University of Missouri-Columbia	1	8	12.50 %
University of Nebraska-Lincoln	1	5	20.00 %
University of Oregon	1	6	16.67 %
University of Wisconsin-Madison	1	10	10.00 %
Michigan State University	0	4	0.00 %
Texas A & M University-College Station	0	9	0.00 %
University of Colorado Boulder	0	2	0.00 %
University of Kansas	0	6	0.00 %
University of Minnesota-Twin Cities	0	2	0.00 %
Total (Public AAU)	128	860	6.72 %
Northwestern University	43	142	30.28 %
Massachusetts Institute of Technology	38	140	27.14 %
California Institute of Technology	35	147	23.81 %
University of Pennsylvania	33	111	29.73 %
University of Chicago	32	116	27.59 %
University of Southern California	32	93	34.41 %
Washington University in St Louis	31	115	26.96 %

(continued)

Table 3.1 (continued)

University (Public AAU)	TNC interlocks	Total firm interlocks	% of TNC
Cornell University	30	72	41.67 %
Carnegie Mellon University	28	108	25.93 %
New York University	20	108	18.52 %
Case Western Reserve University	17	63	26.98 %
Emory University	17	62	27.42 %
University of Rochester	17	54	31.48 %
Brown University	15	63	23.81 %
Johns Hopkins University	15	81	18.52 %
Stanford University	14	71	19.72 %
Princeton University	11	39	28.21 %
Vanderbilt University	11	50	22.00 %
Rice University	10	31	32.26 %
Columbia University	7	30	23.33 %
Tulane University of Louisiana	7	24	29.17 %
Yale University	7	28	25.00 %
Brandeis University	6	26	23.08 %
Syracuse University	6	16	37.50 %
Duke University	4	31	12.90 %
Harvard University	1	13	7.69 %
Total (Private AAU)	487	1834	26.55 %

Table 3.2 Average of total firm interlocks, TNC interlocks, and % of TNC by private/public AAU group*

	Total firm interlocks	TNC interlocks	% of TNC
Public	24.57	3.66	15.06 %
Private	70.54	18.73	25.97 %

*Total firm interlocks: Private(M: 70.54, SD:41.84) > Public (M:24.57, SD:23.15): t(36)=5.06, p < .001, d=1.42)
TNC interlocks: Private (M:18.73, SD:12.11) > Public (M:3.66, SD:5.57): (t(33) = 5.90, p < .001, d=1.68)
% of TNC: Private (M: 26%, SD:7%) > Public (M: 15%, SD:14%): (t(54)=4.04, p < .001, d=0.96)
M Mean, *SD* Standard deviation, *d*: Cohen's D effect size
The effect size for all three exceeds Cohen's standard for a large effect (d = .80)

ARWU Rankings and TNC Ties

Additionally, we also explored how these TNC ties are related to global rankings of AAU institutions within the Shanghai Jiao Tong University's Academic Ranking of World Universities (ARWU). Our underlying assumption here is that more interlocks between AAU institutions and TNCs will bring in greater resources that can contribute to key activities of the institutions in a global setting, elevating the institution's position in the global ranking competition and improving its global

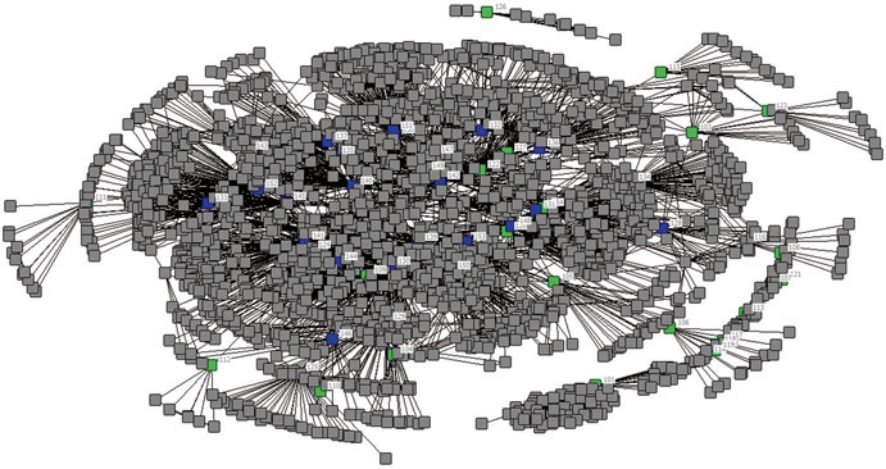

Fig. 3.1 Map of the total network

prestige. When we compared the sales and revenues of TNCs to the non-TNCs in our dataset, the former had approximately three times the financial resources of other corporations, while the size of corporations in terms of the number of employees did not show much difference. Also, considering the TNCs' global network (e.g. overseas subsidiaries) and know-how (non-financial resources), the resources at their disposal are larger. TNCs' financial and non-financial resources could positively affect AAU institutions' global prestige.

To test whether this is the case, we examined the correlation between the number of TNC ties and the ARWU rankings. We chose to use ARWU because of its emphasis on research output and achievement, its ability to be used internationally as a comparable research output indicator, as well as its ability to impact the decisions of university administrators and policy makers (Halffman and Leydesdorff 2010; Cantwell and Taylor 2013). For private AAU institutions, the number of TNC ties explains 15 % of the variation in the ARWU ranking (correlation is 0.38). For public AAU institutions, these ties explain only 6 % of the variation in ARWU (correlation is 0.25). These findings suggest that, for private AAU institutions, TNC connections play a more important role in the ranking placement than for public AAU institutions.

Mapping the Organizational Networks

The organization networks give us a visual indicator of Table 3.1. Figure 3.1 is a map of the total network. The blue (private) and green (public) squares indicate the type of university while the grey squares represent firms connected to the universities through trustees. Each trustee is considered an interlock between a university

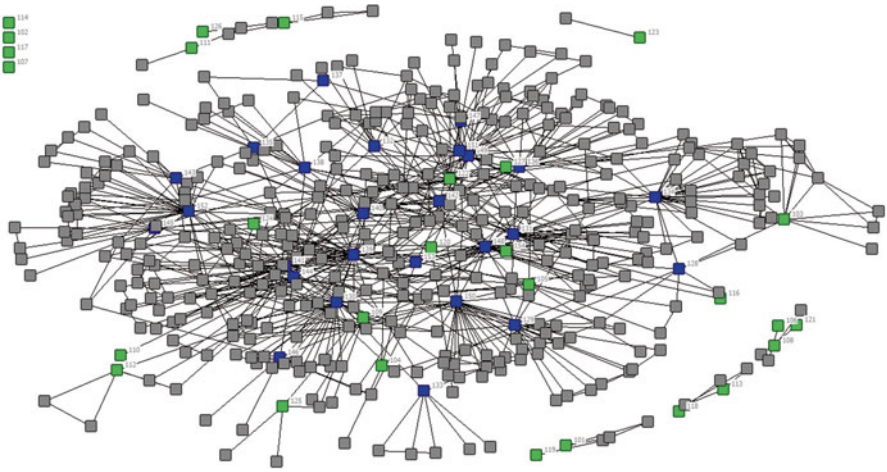

Fig. 3.2 Map of the TNC network

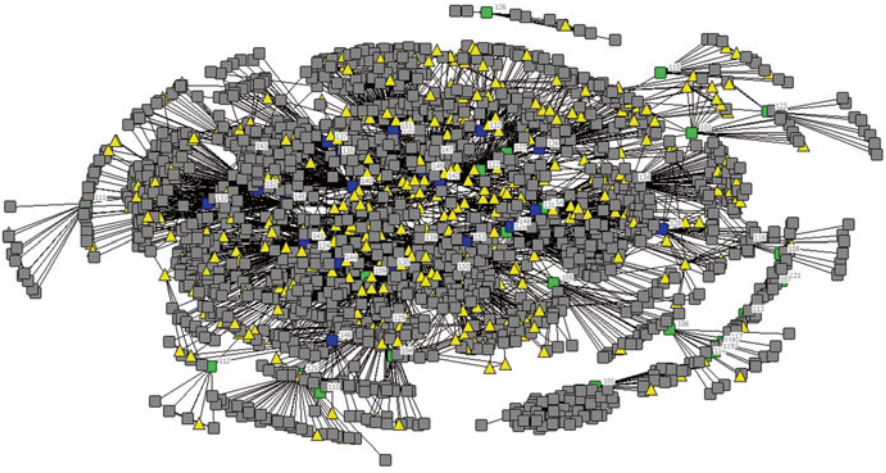

Fig. 3.3 Network of all firms with TNC sub-network (*yellow*)

and a firm. If, for example, a single university trustee is connected with two firms, that would account for two university-firm interlocks.

Figure 3.2 is a map of universities and their connections to only TNCs, whereas Fig. 3.3 depicts the network of universities and all firms with TNCs represented by yellow triangles.[5] We can also observe from these figures that private universities were more central in the network, which means they were connected to the firms that were also tied to other universities. When we examined the TNC network only,

[5]A list of universities and their corresponding ID numbers for the organization networks can be found in Appendix A1 of Chap. 9.

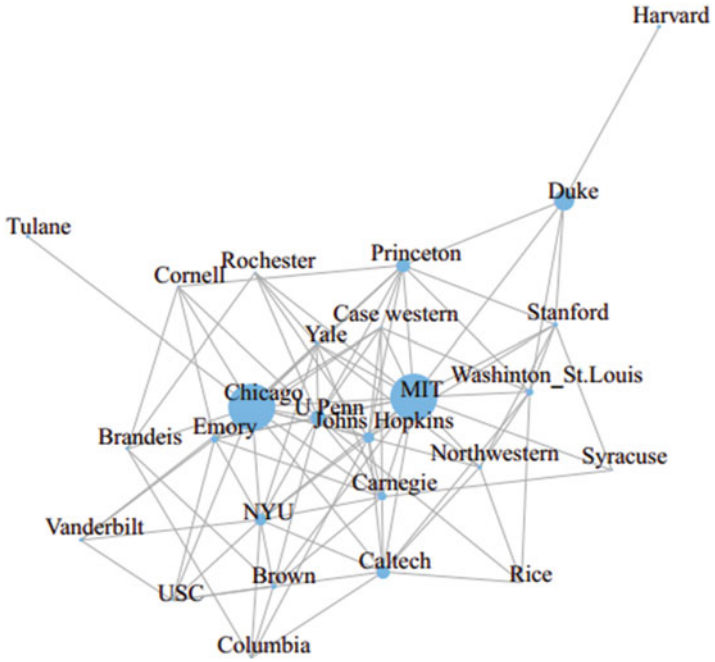

Fig. 3.4 Key actor analysis for private AAU institutions-TNC network. Key actors are weighted by betweenness centrality measure

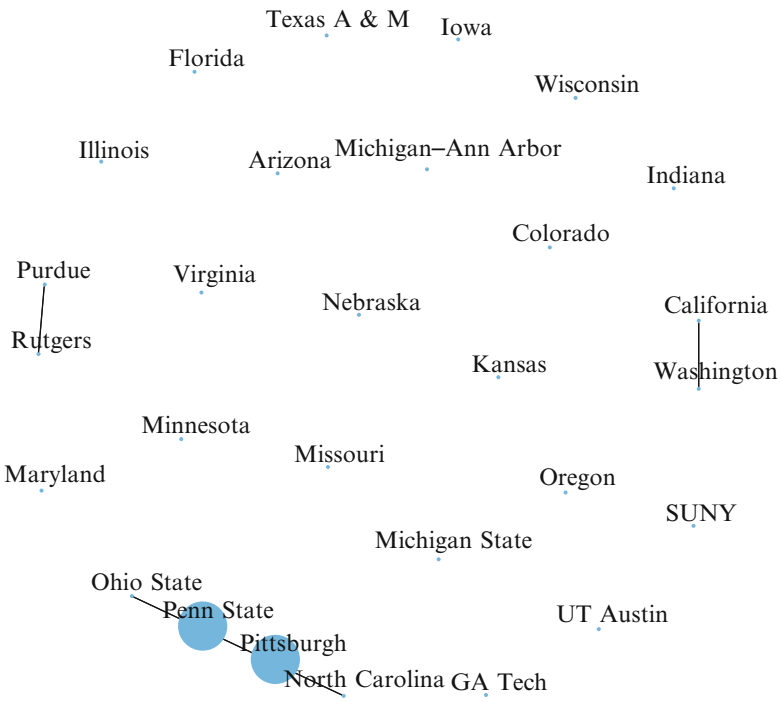

Fig. 3.5 Key actor analysis for public AAU institutions-TNC network. Key actors are weighted by betweenness centrality measure

we could observe that the network was smaller and less dense. As mentioned, private institutions had more TNC ties than did the public ones, which was congruent with the layout of the total university-firm network.

We have also conducted Key Actor Analysis using several centrality measures (see Barringer and Slaughter Chap. 8, in this volume, for more detail about centrality measures) in order to better understand the nature of university-TNC connections, and to flesh out which universities were central actors in the network. Figures 3.4 and 3.5 show key actors weighted by betweenness centrality measure for private and public AAU networks, respectively. The bigger the node representing a university, the more important that university was in connecting organizations, which presumably enhances its control over the network. We can observe that in the private AAU network universities were connected to each other, which was not the case in the public AAU network (with the exception of Pennsylvania State University and University of Pittsburgh, which resembled private AAU institutions in their TNC connections). These connections between universities themselves meant that they were connected to those TNCs which were also connected to other universities, thus creating a much denser network of interlocks.

On average, the key actors in the total network also were central in the TNC network (e.g. Massachusetts Institute of Technology, University of Chicago, University of Pennsylvania, and New York University for the private AAU network; University of Pittsburgh and Pennsylvania State University for the public AAU network). Further, the key actors in the network were, on average, the ones with the most firm connections for both groups, as we expected. Future research might look more deeply into the qualitative nature of these connections in order to uncover the motivations and mechanisms behind these university-industry partnerships.

The Key Industries

Table 3.3 provides key industries which connected AAU institutions to TNCs through their university trustees. About 37 % of TNCs were classified as diversified firms, compared to 28 % of the total firms. When combined together, Manufacturing was the leading industry, followed by Finance and Insurance, and Professional, Scientific, and Technical Services.[6] Close examination of the Manufacturing category indicated that Chemical Manufacturing and Computer and Electronic Product Manufacturing comprised over 33 % of the manufacturing sub-categories.[7]

Rather than using the full NAICS codes, we focused on the broad NAICS categories as defined by the first two numbers of the six digit NAICS codes for each firm.

[6] There are differences between diversified and non-diversified firms. Manufacturing is overwhelmingly dominant in diversified firms, followed by Professional, Scientific, and Technical Services, and Wholesale Trade. However, the Finance and Insurance sector takes a rather small part in diversified firms compared to non-diversified firms. See Chap. 9 for further information.

[7] Manufacturing includes food, apparel, wood product, chemical, metal, machinery computer electronic semiconductor, motor vehicle manufacturing, etc.

Table 3.3 Industries connected to AAU through trustees

Industry	Freq.	Percent
No industry information	38	9.60 %
Diversified firms	145	36.62 %
Manufacturing	69	17.42 %
Finance and insurance	39	9.85 %
Professional, scientific, and technical services	21	5.30 %
Information	20	5.05 %
Management of companies and enterprises	11	2.78 %
Retail trade	10	2.53 %
Mining	8	2.02 %
Wholesale trade	7	1.77 %
Accommodation and food services	6	1.52 %
Utilities	4	1.01 %
Arts, entertainment, and recreation	4	1.01 %
Construction	3	0.76 %
Transportation and warehousing	3	0.76 %
Administrative and support and waste management and remediation services	3	0.76 %
Real estate and rental and leasing	2	0.51 %
Health care and social assistance	2	0.51 %
Educational services	1	0.25 %
Total	396	100.00 %

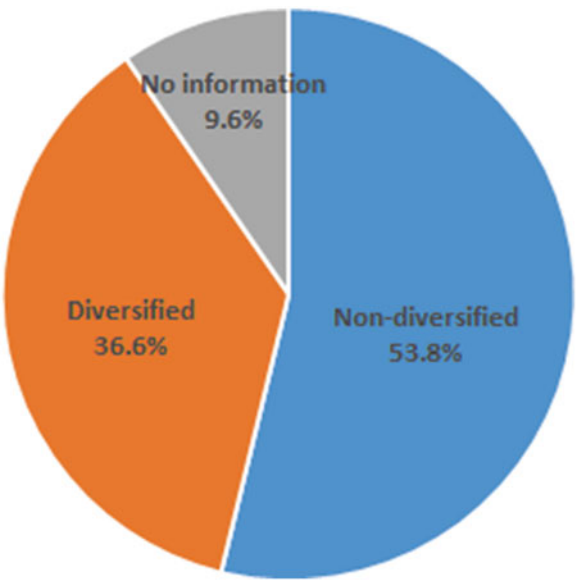

Fig. 3.6 Summary of industry classification

This approach represented the 20 broad industry categories.[8] The NAICS codes allowed us to determine which of the TNC firms are diversified. Diversified firms were defined here as those firms that have more than one NAICS code with the various codes falling into different broad NAICS categories. Of all of the TNCs, 145 firms (about 37 % of our sample TNCs) were categorized as "diversified firms." For our sample, we were unable to obtain industry classification information for 9.6 % of the firms (Fig. 3.6).[9]

We did not include how each university differs in terms of industry connections, but, in general, for public AAU institutions, the more TNC interlocks the university had, the more diversified industry connections the university had (e.g., University of Pittsburgh, Rutgers University, Ohio State University). On the other hand, for private universities, larger numbers of TNCs did not necessarily coincide with more diversified industry connection (e.g. Johns Hopkins University, Vanderbilt University, New York University). However, overall, with several exceptions, a larger number of TNC interlocks tended to indicate more diversified connections for both groups.

Conclusions

Answering our first research question, this study on interlocks between the AAU institutions and TNCs demonstrates that the network between AAU institutions and corporations extends beyond the borders of the U.S. As findings indicate, this holds especially true in the case of private AAU institutions, which have more interlocks with TNCs than do public AAU institutions. Indeed, the majority of private AAU institutions (21 out of 26) have at least 20 % of their corporate interlocks to TNCs. By contrast, only 9 out of 28 public AAU institutions had at least 20 % of their corporate interlocks to TNCs. One reason for this might be that private AAU institutions are more systematically motivated to integrate with corporations that operate across nation-state borders because they find interlocks with those corporations beneficial in their intensive competition with other private AAU institutions. Another explanation could be that since private AAU institutions have more interlocks with corporations in general than do public AAU institutions, this increases the likelihood that most of them have interlocks also with TNCs. Moreover, one can also ask whether private AAU institutions seek to establish interlocks with large corporations, and often these just happen to be TNCs. This last possibility applies, of course, also to public AAU institutions, though in their case trustees often are appointed by governors, and these appointments are more likely politically motivated than in the case of private AAU institutions (e.g. Mathies and Slaughter 2013). For this reason, public AAU institutions might have connections to TNCs in other

[8] Please refer to the census website for further details of NAICS. https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart_code=31&search=2002%20NAICS%20Search

[9] For more information on the missing information for the industry classification, see Chap. 9.

ways (e.g. the boards of their foundations) than through the governing trustee boards (ibid., 1287–1288; Pusser et al. 2006, p. 771).

Our findings also indicate that the number of TNC ties, just like other internationalization components such as international staff and students (see Delgado-Márquez et al. 2011, p. 279), do not have a decisive role in how AAU institutions are ranked in ARWU. This finding is not a surprise given, for instance, that federal dollars are still the most important source of R&D funding, and the amount of financial resources, in turn, is one of the key factors influencing universities' position in the ARWU (e.g. Cantwell and Taylor 2013; Mathies and Slaughter 2013). Also, the know-how and practical knowledge these interlocks may provide to AAU institutions with projects such as international branch campuses (IBCs) may not directly impact the ARWU rankings, depending upon the type of work undertaken at IBCs. Faculty research may not be emphasized as much at IBCs versus the home campus, depending upon, for example, the availability of labs and equipment for science and engineering faculty. Indeed, Shams and Huisman (2014) note there is little evidence that IBCs are heavily involved with intensive research endeavors. In addition, interlocks with TNCs may help to induce corporate donations to specific international projects at an AAU institution that are not necessarily focused on metrics used in the ARWU.

Moreover, findings also demonstrate that private AAU institutions' TNC network is denser than public AAU institutions' TNC network. This finding is similar to previous research findings (e.g. Pusser et al. 2006). As AAU institutions compete as global research universities, this difference in the density of the TNC network may influence how internationally competitive a university could be or the types of international resources at their disposal (whether or not this difference directly affects positioning in the ARWU).

Through the key actor analysis, we gain understanding about which institutions are more central in connecting organizations in the TNC network. Institutions more central in these networks possess more power or control over the whole network. From the figures, we see that institutions in the private network are more interconnected, reflecting the denser characteristics of the TNC private network as a whole. More private institutions seem to possess power over the private TNC network than do their peers in the public TNC network. This could reflect the highly competitive nature within the private sector. Also, for many of the reasons just stated previously, private institutions are more connected to each other through trustees and TNCs.

In terms of our second research question, the relationship between individual universities and various industries is a complex one with many impacting factors. It can best be described as collective impacts from geographical locations (of universities and industries), industry structure, regional economic policies, strength of certain academic programs, alumni involvement and influence, institutional policies and leadership. Understanding these collective impacts through an individual institutional perspective is perhaps best achieved through a case study approach that investigates the nuances of industry connections and relationships. However, this

lies outside the focus of our chapter, and therefore analysis of the industry connections is constrained to a general overview and summary.

Even this overview reveals interesting details. Unlike Mathies and Slaughter (2013), we did not find life sciences and health sciences strongly connected to AAU institutions. This finding seems to suggest that in the case of health sciences interlocks are mostly established through U.S. firms instead of TNCs. Perhaps most interestingly, numerous interlocks with Finance and Insurance seem to illustrate how the players of global financial markets are not only tightly interconnected with each other (see Vitali et al. 2011), but are also establishing cross-border connections with other types of actors such as AAU institutions. This pertains especially to the public AAU network, where the finance sector is more prominent. In the private AAU network, central firms are more diversified.

Moreover, TNCs might be willing to integrate through interlocks with prestigious universities, such as AAU institutions, which already are highly positioned in university rankings (and already have substantial R&D funding). As suggested by the concept of the Matthew effect (see Merton 1968), these interlocks then in turn have potential to bring more resources to respective universities, helping them to sustain and possibly increase their position in the global rankings. Thus, this transnational sub-network between AAU institutions and TNCs might contribute to inter-organizational stratification in the field of higher education. Here the background idea is that it is not so much AAU institutions that are seeking TNC interlocks, but TNCs (as one group of "customers" screening global university rankings)[10] that are seeking interlocks with AAU institutions (and other highly ranked universities). This insight is feasible, especially if further research indicates that less prestigious universities do not have TNC interlocks to same extent as do AAU institutions.

This chapter suggests that trustees help shape universities' transnationalization through interlocks to TNCs. We argue the fluidity of nation-state boundaries with interlocks allows TNCs to benefit from scientific innovation, while institutions may be able to garner additional external revenues. Prestige in the form of global university rankings could be influenced by the infrastructure and resources these external revenues can provide. In some cases, university trustees tied to TNCs may provide know-how and professional expertise to institutions as they may have insight into how to develop and coordinate projects in particular geographic locations or across nation-state borders. This knowledge could prove advantageous as institutions seek to transnationalize through various activities. For instance, for those institutions that seek to develop international branch campuses, these types of relationships that provide knowledge "in country" are of significant benefit as institutions navigate foreign systems.

In broader terms, interlocks that constitute transnational sub-network between AAU institutions and TNCs can be seen as channels that serve the globalizing inter-

[10] TNCs (as well as other corporations) are likely to screen especially those rankings that would use dimensions such as regional impact or knowledge transfer in assessing performance.

ests of TNCs as they aim to build and strengthen their innovative capacity and competitiveness in the global economy. Through these interlocks, especially private AAU institutions are drawn into the constitutive elements of global capitalism, i.e. TNCs' global production networks (Kauppinen and Cantwell 2014). However, given the relatively small number of foreign-based TNCs in our sample, domestic interlocks still seem to form a strong core of the overall AAU institutions – corporations network.

In globalization studies it has been demonstrated that TNCs, and their controllers and owners (i.e. transnational capitalist class), have gained more and more political and economic power in different countries, and have gained an upper hand over those corporations and respective capitalists who do not orientate transnationally (e.g. Robinson 2004; Sklair 2002). However, this study reveals that those universities that have the highest number of TNC interlocks tend to be the same universities that have the highest number of corporate interlocks in general, and none of the AAU institutions have more TNC interlocks than other types of corporate interlocks.

Thus, this indicates that TNCs are not dominating the studied network.

In this respect, this study does not provide support for those theories of global capitalism arguing that the transnational capitalist class (i.e. directors and owners of TNCs) has become a new ruling class in different social spheres. However, pure numbers do not make it possible to make decisive conclusions, since a smaller number of TNC interlocks does not necessarily mean that TNC representatives would not have the largest degree of influence in decision-making and agenda-setting on boards of trustees, for instance, in terms of "shaping national research policy to promote technology innovation and economic development" or influencing current and future investment decisions at universities as well as broader strategic goals in order to "maximize profits for both academe and industry" (Mathies and Slaughter 2013, p. 1289).

The university – industry network is indeed a paradox and not only for the reason that it may simultaneously stimulate economic innovation and systemic conflict of interest (Mathies and Slaughter 2013), but also because it may simultaneously stimulate such economic innovation and related policy conditions that are not necessarily primarily designed to boost the U.S. economy or AAU institutions, but rather TNCs and their globally oriented agenda. Interlocking with resourceful and prestigious global actors might be an efficient mechanism by which to gain more resources and status via global university rankings, but it is another question as to whom this mechanism would benefit: respective universities, or some segments of them; respective nation-states, their innovation systems or citizens; or global partners and global accumulation of capital irrespective of any particular nation-state borders?

Furthermore, existing studies have suggested that transnational interlock network between corporations is facilitating the emergence of a transnational class-wide rationality, political unity and social cohesion among the network (e.g. Sklair 2002; Robinson 2004; Burris and Staples 2012; Murray 2014). Our study suggests that AAU institutions and their boards of trustees are not external to these processes, but rather are illustrative examples of the types of social spaces into which these

processes are expanding. Thus, interlocking between AAU institutions and TNCs might be contributing to transnational class, or at least elite, formation.

We believe interlocking between AAU institutions (as well as other universities) and TNCs (as well as other types of globally oriented actors) is an important research topic as we attempt to gain a more comprehensive understanding on how boundaries between higher education, states and markets are being blurred both within and between nation-states. In the future, researchers could adopt a longitudinal research strategy to study whether the number of interlocks between AAU institutions and TNCs change with time. Other areas of future research in this topic include studying whether there are changes over time in terms of which industry sectors have, in the case of TNCs, most interlocks with AAU institutions. This would provide further insights into which fractions of the transnational capitalist class are most extensively represented in AAU institutions' boards of trustees. Another relevant way to move forward would be to study the number of foreign trustees in the AAU institutions' boards of trustees. Studying systematically the nationality of trustees could provide valuable new insights into how a burgeoning transnational capitalist class, or more broadly the global business elite, is integrating and developing common interests, identity, cohesion and solidarity with other elites, and transmitting and enforcing their norms and values across different social spheres (see also Pusser 2012). Moreover, methods and available literature do not make it possible to know whether AAU institutions consciously target TNCs as possible sources of trustees, whether TNCs are motivated to develop interlocks with AAU institutions to get access to their research, or whether TNCs are seen by AAU institutions as just one subset of corporations without any distinct qualities.

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Chapter 4
The Field Dynamics of Stratification Among US Research Universities: The Expansion of Federal Support for Academic Research, 2000–2008

Barrett J. Taylor

Universities in the US compete vigorously for governmental research support (Slaughter and Cantwell 2012), with the largest share of research and development (R&D) funding supplied by the US federal government (National Science Board [NSB] 2014). Although competition can be fierce, these funds are not allocated in an economic market (Marginson 2013). Rather, federal research funds are allocated in quasi-markets, meaning competitions between public and private providers to secure funds that will allow them to pursue public purposes (LeGrand and Bartlett 1993). Quasi-markets promise increases in efficiency because they borrow from the neoclassical economic logics that accompany neoliberal policies. More recent evidence suggests, however, that quasi-market competition prompts universities to try to win rather than to become more efficient. Rather than promoting effectiveness, then, quasi-markets channel resources to universities that behave in preferred ways (Taylor et al. 2013).

Suzanne Mettler (2011) terms the web of policies that utilize market-like mechanisms "the submerged state." This mode of government channels wealth upward to already-advantaged individuals, households, and organizations. However, because the submerged state operates via incentives, subsidies, and competition, this upward redistribution seems to result from economic processes rather than from policies. Policies, in other words, cloak themselves behind a veil of market-like allocation that denies their very status as policies. The submerged state thereby "disguises or subverts government's role, making the real actors appear to be those in the market or private sector" (p. 9).

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I understand the submerged state as shaping US research universities in important ways. In keeping with the general neoliberal retreat from direct government spending, I expect private (not-for-profit) universities to prosper relative to their public peers. This would occur because direct spending on public universities has abated (Desrochers and Wellman 2011) while the indirect benefits enjoyed by most private universities endure. Perhaps the quintessential policy of the submerged state is tax relief which, in Mettler's (2011) account, creates often-invisible redistribution that tends to benefit the already advantaged. Liberalized policies that reduce top taxation rates, especially on capital, allow wealth to be accumulated and passed on via inheritance (Alvaredo et al. 2013; Piketty 2014). Such an environment benefits organizations with large endowments, which, in the US, are primarily private research universities (Cantwell, Chap. 9 in this volume). Wealthy universities accumulate advantages relative to their peers, and deploy these advantages to secure future benefits. The result is likely to be both growing wealth for the private sector relative to publics, and increasing stratification within the field of research universities.

To be sure, I do not mean to imply that federal support for R&D is the only driver of stratification among US universities; clearly tuition fees, endowments savings, and other factors also play a role. However, federal research policy in the US, like taxation, adheres more neatly to the contours of the "submerged state" than do these other mechanisms. Individual faculty members enter competitive processes to secure research support (Stephan 2012), making it easy to view the winners as meritorious and therefore deserving of their positions. In other words, as in the "submerged state," meritocratic evaluation of research support may conceal the role of policymakers in determining the kinds of projects that receive support (Taylor et al. 2013). This arrangement makes it relatively easy to overestimate the role of market forces while underestimating the effects of government policies (Fligstein 2001; Mettler 2011). Yet, as I argue in the following sections, government policy – especially federal R&D policy (Slaughter and Cantwell 2012) – proves intimately linked to the growing stratification of research universities in the US.

Federal Research Support and Growing Stratification

A "field" consists of organizations that face common opportunities and constraints (Fligstein and Dauter 2007). Field members typically share understandings of how resources are allocated and who possesses status within the field. Moreover, although such hierarchies are far from uncontested, field members tend to accept the de facto reality of stratification. "Challengers" seek to improve their individual status rather than altering the fundamental nature of the field, in part because they share meaning-making structures with other members of the field (Fligstein and McAdam 2011, 2012; van Wijk et al. 2013).

I conceptualize research universities in the US as a field because they closely adhere to these conditions (Taylor and Cantwell 2015). Research universities

espouse similar missions and compete for similar resources such as students, faculty members, and revenues from a variety of sources (Weisbrod et al. 2008). Hierarchies among these universities are both widely understood and taken-for-granted (Marginson 2006). While research universities encompass multiple missions, and often reallocate resources gleaned from one activity in support of another (Leslie et al. 2012), field hierarchies tend to reflect resources gleaned through the research enterprise (Marginson, Chap. 2 in this volume). To be sure, endowment savings and other resources do matter (Rosinger, Taylor, and Slaughter, Chap. 5 in this volume). However, international league tables tend to confer status based upon research activity rather than accumulated wealth (Cantwell and Taylor 2013). As a result, external support for research confers both status and revenue; that is, grants and contracts are won through competitions that pronounce a university's excellence while also providing funds. Accordingly, changes in federal support for academic research offer important insights into the field of US research universities.

Federal Support for R&D: Field Stability and Change

Scientific research is expensive (Archibald and Feldman 2011). Absent policy interventions, it is unlikely that industrial firms would conduct sufficient basic research to facilitate scientific and technological advancement (McMahon 2009; Stephan 2012). For these reasons, the US federal government – like most other national governments that possess the capacity to do so – has long invested in research and, especially, academic R&D.

Federal spending on research was idiosyncratic and inconsistent, however, until the Cold War. Spurred by Vannevar Bush's (1945) claim that science constituted an "endless frontier" along which American interests could expand, and facing military challenges symbolized by the Soviet Union's launch of the *Sputnik* satellite, the US federal government deepened its investment in academic research in the years following World War II. The dominant rationale for this expansion was the hope that research would yield scientific discoveries with military uses (Stephan 2012). Federal investment in academic R&D did not end with the close of the Cold War, however, as rationales shifted to other goals such as ensuring global economic competitiveness and combating disease (Slaughter and Rhoades 1996). Total federal funding for academic R&D grew from 1945 to 2000 even as rationales for these expenditures shifted (Stephan 2012).

At the outset of the 2000s, however, the extent and mixture of federal R&D support changed sharply. From 1998 to 2002, the budget of the various agencies that constitute the National Institutes of Health (NIH) approximately doubled (Stephan 2012). These agencies collectively award the largest share of total federal R&D support. Accordingly, total federal spending on academic research spiked rapidly. In constant dollars, total federal investment in academic research more than doubled between 1996 and 2012 (NSB 2014, Fig. 5.1). Moreover, these funds flowed to

areas that were generally emphasized at US research universities. NIH funds primarily support research in the life sciences, an area in which US academic researchers are particularly active (Stephan 2012). In 2011, for example, more than 30 % of science and engineering (S&E) publications in the US were in medicine or the life sciences (NSB 2014, Table 5.21). Academic patenting activity also tends to be higher in the life sciences than in other fields (Taylor, Rosinger, and Slaughter, Chap. 6, in this volume).

These reasons, combined with the aforementioned status and resources attendant to research revenues, suggest that dramatic changes in available federal funding for R&D likely entailed profound consequences for the field of US research universities. Fields do not arise organically and achieve permanence. Rather, they are created by particular constellations of actors, often with government participation (Fligstein 2001). Once established, fields regularly overlap, abut, and collide with one another. These relationships allow individuals and resources from one field to shape activities in another. As a result, field-level changes may occur (Fligstein and McAdam 2011, 2012; van Wijk et al. 2013). The dramatic changes in federal research policy in the 2000s may have wrought equally dramatic changes in the field of US research universities.

University Responses to Field-Level Changes

While fields often collide with other fields (Fligstein and McAdam 2011, 2012), this is not the only mechanism by which fields change (Goldstone and Useem 2012). Indeed, in order for macro-level factors (such as federal R&D policy) to reshape field hierarchies, micro-level actors (such as scientists and administrators on a particular campus) must respond to changing conditions. Such responses are likely to reflect existing resource allocation mechanisms and precedents, which in turn shape the ways in which the resources, people, and rules of other fields will operate in the new arena (Holm 1995). These individual and organizational responses to shifting conditions themselves reshape the field. As they do so, possibilities for future strategic action are opened or closed (Zietsma and Lawrence 2010).

The iterative manner in which micro-level actors and macro-level processes change field conditions is perhaps best illustrated by a consideration of the neoliberal policies in which US higher education is enmeshed (Ball 2012; Harvey 2005). In this environment, public universities have, on average, received a declining share of their budgets via direct state support (Desrochers and Wellman 2011), and have had to compete with growing vigor for revenues from other sources (Weisbrod et al. 2008). By contrast, the state support generally available to private universities – in the form of tax advantages on accumulated wealth and portable student financial aid – remained relatively unchanged, in keeping with the contours of the submerged state (Mettler 2011). The consequences of these policies for higher education are much discussed (e.g., Slaughter and Rhoades 2004).

However, universities themselves have not been passive in the ascent of neoliberal ideology. Rather, business schools, especially those located at elite private research universities in the US, have powerfully shaped and legitimated the neoliberal policy environment via social scientific studies that support market-like policies (Fourcade and Khurana 2013). Law schools also have contributed to the neoliberal ascent by devising rules and regulations that mediate tensions between capitalist accumulation and democratic policymaking (Grewal and Purdy 2014).[1] Just so, there appears to be little hesitation among faculty and administrators in the case of expanded federal research support. Descriptive evidence suggests that universities eagerly pursued resources made available via the NIH doubling. The influx of new federal research support did not correlate with expanded publication output (Sachs 2007). Indeed, the number of S&E articles published per 1 million dollars of academic R&D spending fell almost by one-half – from 5.35 to 2.62 – between 1998 and 2012 (NSB 2014, Table 8–50 [interactive]). Rather than efficiencies, the availability of new funds seemed to spark growth for a few incumbents within the field. Universities deployed new personnel, strategies, and facilities in an effort to capture federal funds. Such initiatives often consumed resources from other activities (e.g., instruction) and savings (e.g., endowments) in an effort to generate additional R&D resources (Stephan 2012). Universities with more slack resources – that is, those that were already successful – almost certainly were able to pursue federal funds more aggressively than were their peers (Cantwell and Taylor 2015; Slaughter and Cantwell 2012). This suggests that the NIH doubling and attendant expansion of federal support for academic R&D did not lead to expansion of new investigators or the broadening of the number of universities conducting extensive scientific research (Stephan 2012). Rather, it seems, funds flowed to familiar recipients even more rapidly than outputs could expand. In other words, stratification among US research universities may have increased as additional federal funding for academic research entered the field

As this statement implies, changes in federal funding for academic R&D are likely to heighten stratification within the organizational field of US research universities. Fields are inherently hierarchical (Fligstein and McAdam 2012). By injecting additional competition for resources into the field of research universities, policymakers in the US federal government have created conditions that tend to yield heightened stratification (Slaughter and Cantwell 2012). Moreover, such stratification is bound up with other actors in the field such as global ranking schemes that seek to measure research outputs but also legitimate inequalities in power and inputs (Cantwell and Taylor 2013; Kauppinen et al., Chap. 3 in this volume; Marginson, Chap. 2 in this volume; Pusser and Marginson 2012, 2013). Collectively, these processes may both contribute to growing inequality and make stratification appear to be the result of economic rather than political processes.

[1] To be sure, the embrace of neoliberal policies on campuses has not been whoesale, as indicated by counter-movements such as "law and society" (Silbey 2002) and "saltwater" economics (e.g., Akerlof 2003), See also Pusser's chapter in this volume.

The Changing Field of US Research Universities

To explore stratification and changing field dynamics over time, I utilized data on research universities – those identified by the Carnegie Foundation as conducting a "high" or "very high" level of research activities – made public by several national sources in the US. I used data on enrollment and financial characteristics collected by the Integrated Postsecondary Education Data System (IPEDS) of the US Department of Education. Figures on R&D expenditures were drawn from the NSF's "Survey of Research and Development Expenditures at Universities and Colleges." Finally, the endowment data used in this study were drawn from the Council for the Advancement of Education, a nonprofit organization that tracks such figures through its "Voluntary Support for Education" survey.

Data covered the period 2000–2008. This window of time began with the midpoint of the NIH doubling,[2] and ended with the "Great Recession," which introduced other, potentially confounding policy factors into the field of US research universities (Douglass 2010). To ensure consistent measurements over time, I standardized all finance figures for inflation using the Consumer Price Index calculated by the US Bureau of Labor Statistics.

Because I am interested in increased stratification within the field, I sought to identify stable classes of organizations, and to chart changes in the membership of these classes over time. This approach allowed me to determine whether the 2000–2008 period witnessed growth in the number of "elite" universities, reductions in the number of "middle class" universities, or other changes. Categories of universities such as "elite" or "middle class" were suitable for an analysis of stratification within the field, but were not readily identified by existing quantitative indicators. Such concepts are often called latent constructs. I used MPLus (6th edition) software (Muthen and Muthen 2011) to identify latent categories of universities. As detailed in the Rosinger, Taylor, and Slaughter, Chap. 5 in this volume, latent variable analyses identify unobservable classes of organizations based on observable characteristics (McCutcheon 1987).

I explored whether stratification increased between 2000 and 2008. This topic required classes that were standardized across all years of the dataset, but in which membership can fluctuate. To achieve this end, I modified the research design outlined in Rosinger, Taylor, and Slaughter, Chap. 5 (in this volume) by assigning unique identification numbers to each observation. This approach ensured that a university could appear in only one class per year, and forced classes themselves to be consistent over time. What appeared to be a "static" analysis therefore functioned as a "multilevel model" while being more parsimonious to estimate than a multilevel latent class analysis or other explicitly dynamic model (Muthen and Muthen 2011). This design allowed me to chart changing membership in stable

[2] The US federal governments "IPEDS" database engaged in a substantial transformation of variable definitions in the late 1990s. Resulting confusion made it difficult to extend the present analysis backward beyond 2000.

classes over time. In other words, I could determine not only which universities were "elite" at any given time, but also which universities had recently joined or exited this group.

I used a wide range of variables to identify latent categories of universities. Research capacity is intimately linked to stratification (Marginson 2006), with international rankings systems such as the Shanghai Jiao Tong ARWU tending to confer status on universities that garnered substantial inputs (Cantwell and Taylor 2013). Accordingly, I used several measures of research capacity, including doctoral degrees per 100 FTE, and R&D expenditures per FTE funded by the US federal government, industry, one or more US state government, and the institution's own coffers. Notably, however, universities are multi-product organizations that can reallocate resources internally in an effort to pursue different aspects of their missions (Leslie et al. 2012). Because universities often reallocate resources to support research activities rather than instruction-focused units (Slaughter et al. 2015), including measures for instructional capacity presented a fuller range of a university's ability to generate research revenues than would a simple focus on R&D. Measures of instructional capacity included: faculty members per 100 full-time equivalent (FTE) students; baccalaureate degrees per 100 FTE; percent of applicants granted admission; net tuition and fees revenues per FTE; and general subsidy – that is, non-tuition spending on instruction (Winston 1999) – per FTE. These measures facilitated exploration of the possibility that a university could prosper in multiple ventures – research and instruction – simultaneously. Finally, many private universities in the US have accumulated substantial wealth in the form of endowments (Cantwell, Chap. 9 in this volume). Such funds could insulate certain universities from the need to compete for research revenues. Accordingly, I included this measure in my analysis of private universities.[3]

Public Research Universities

The Hierarchy of Public Research Universities

Because the researcher must select the number of classes a priori, analyses that seek to identify latent categories are dependent upon specification (McCutcheon 1987). To guard against the possibility that results reflected analytic decisions rather than actual patterns in the data, I conducted analyses that specified two, three, four, and five classes of public universities. The four-category model provided greater precision than did the three-category results, as it identified a small but distinct group of universities. The five-class model, by contrast, created an additional category with few observations in it; in other words, it added complexity without contributing

[3] As Cantwell details in his chapter in this volume, public universities also hold endowments. However, these funds are often allocated for the support of a multi-campus university system, and so are not directly comparable to private endowments for the purpose of the present analysis.

substantial information. Accordingly, I present results of the four-class analysis – which is both parsimonious and informative – in this chapter.

Table 4.1 describes the membership of each of the four classes of public universities. This table also reports results of a series of statistical t-tests that indicate whether the mean of a category's members differs significantly from the sample mean on a particular variable. The great majority of these tests revealed significant differences, suggesting that the four classes differ notably from the group as a whole.

The first group, termed the "middle class," included universities that were, on average, somewhat typical of the sample as a whole. This was indicated by the insignificant differences between middle class universities and the overall sample in faculty members, baccalaureate degrees, industry supported R&D, and doctoral degrees. Middle class universities, more than any of the other groups, seemed representative of public research universities generally. Somewhat unsurprisingly, then, this was the largest category of universities, ranging from 46 to 63 members in a year and representing almost half of all cases.

Despite this general similarity to the sample as a whole, however, interesting contrasts emerged. Net tuition levels were significantly lower than the sample average, and proved moderate by the standards of classes two and three. Admission was non-selective by the same comparison.

Even starker differences emerged when considering research measures. Middle class universities on average spent more of their own funds, and fewer federal funds, on R&D than did members of the sample as a whole. The exception to this rule was state-supported R&D, where middle class universities have the highest per-student spending of any group. While statistically distinct, however, this source of funding differs minimally in substantive terms because states, on average, make relatively small direct contributions to R&D. In other words, state-supported research is highly unlikely to extend on a broad scale that replaces federal funds.

Externally sourced research support is associated with status as well as revenue (Cantwell and Taylor 2013). As such, the limited R&D resources available to the middle class group suggested the modest social position held by many of these universities. This group included familiar but non-prestigious organizations such as Kansas State University, Oregon State University, the University of Tennessee, and West Virginia University.

The second class was composed of "elite" public universities. These organizations possessed the greatest instructional and research capacity of any cases in the sample. Universities in this category employed significantly more faculty members per 100 FTE than did their peers, and these faculty members produced significantly larger numbers of baccalaureate and doctoral degrees. Net tuition receipts also exceed the sample mean. Moreover, these universities enjoyed substantial non-tuition resources (i.e., "general subsidies") for instructional spending. That is, relative to their peers, elite public universities expended a great deal on their students' educations in excess of what the students themselves funded through tuition.

Even more dramatic differences emerged when examining elite public universities' R&D expenditures. Industry-, institution-, and state-supported R&D expenditures significantly exceed sample averages. Federally supported research

Table 4.1 Means of members of four latent classes of public universities (standard deviations in parentheses), 2000–2008

Variables	Sample average	"Middle class"	"Elite"	"Strivers"	"Poor relations"
Faculty members per 100 FTE students	6.438 (2.415)	6.574 (1.693)	9.498** (3.762)	8.095** (2.661)	4.876 (1.153)
Baccalaureate degrees per 100 FTE	14.522 (5.813)	14.076 (5.852)	17.138** (2.705)	15.221* (3.402)	14.192 (6.692)
Percent of applicants granted admission	71.0 % (15.218)	75.6 %** (12.7)	57.9 %** (19.5)	61.8 %** (12.8)	70.8 % (14.3)
Net tuition and fees revenues per FTE (in thousands)	$6.960 (2.565)	$6.468** (1.828)	$7.421** (1.564)	$12.594** (1.991)	$5.970** (1.741)
General subsidy per FTE (in thousands)	$8.389 (4.736)	$7.509** (3.381)	$17.507** (5.896)	$6.253** (3.429)	$7.536** (3.138)
Federally funded R&D per FTE (in thousands)	$4.798 (4.189)	$4.524** (2.009)	$13.257** (4.886)	$7.165** (0.691)	$1.943** (1.739)
Industry funded R&D per FTE (in thousands)	$0.489 (0.610)	$0.498 (0.528)	$1.181** (0.999)	$0.716** (0.691)	$0.201** (0.215)
Institution funded R&D per FTE (in thousands)	$2.096 (1.768)	$2.325** (1.360)	$4.342** (2.698)	$2.180 (1.568)	$1.057** (1.110)
State funded R&D per FTE (in thousands)	$0.779 (0.919)	$1.100** (1.111)	$0.948* (0.744)	$0.544** (0.503)	$0.333** (.418)
Doctoral degrees per 100 FTE	0.775 (0.517)	0.756 (0.434)	1.531** (0.519)	1.028** (0.456)	0.522** (0.383)
Total observations	1044	498	103	96	347

Results of "two-tailed" t-tests indicating whether class differs from sample mean depicted as **$p<0.01$, *$p<0.05$

expenditures distinguished this group from its peers even more sharply, and amounted to about 250 % those of the sample as a whole. While elite public universities were distinguished from their peers in many ways, the magnitude of the differences in federally supported R&D were especially dramatic.

The "elite" class included many of the universities that Marginson (2006) denoted as dominant players in the global research market. Admission was selective, resources were abundant, and the capacity to command funds to support research towered over that of peer institutions. This group included prestigious public universities such as the Georgia Institute of Technology, the University of North Carolina-Chapel Hill, the University of Washington, and the University of Wisconsin-Madison. This small category consists almost solely of these few name brand universities, with limited in- and out-group mobility. Total membership was between 10 and 12 universities per year.

The third group, "strivers," was positioned between the middle class and the elite. Strivers' advantages over their middle class peers were most clearly seen in instruction. Relative to members of the middle class, striving universities practiced more selective admissions, collected greater tuition receipts, employed more faculty members, and generated more baccalaureate degrees.

Despite these advantages over the middle class, however, striving universities possessed smaller research capacities than did the elite. A lack of research resources, in other words, kept these otherwise-successful universities from the highest ranks of the status hierarchy. Doctoral degrees, industry-funded research, and federal support for R&D exceeded sample averages, but fell well below the level attained by elite universities. This difference proved starkest in the area of federal research support, where strivers averaged only 54 % of the funds collected by elite public universities.

Regular members of the striving category included the Pennsylvania State University and the University of Pittsburgh. Both of these universities were members of the prestigious Association of American Universities, or "AAU," yet neither ranked atop international league tables (Cantwell and Taylor 2013). As these examples suggested, this category included universities widely regarded as strong organizations within the national context, but lacking the research capacity and global status of their "elite" counterparts (see Marginson, Chap. 2 in this volume). Put another way, whereas elite universities would be recognized as such both locally and globally, striving universities could attain national reputations without attaining international status. This category exhibited some variation over the years, from 7 to 17 members.

Finally, "poor relations" on average fell below the levels of the other classes in many categories. Interestingly, comparatively few of these differences proved apparent in instruction. Poor relations did not differ from sample averages when measured by the relative size of the faculty, baccalaureate degrees, and admission selectivity. Notably, however, they collected and expended fewer resources for these activities than did other public universities; both net tuition receipts and subsidy spending per student fell significantly below the sample average.

The starkest differences between poor relations and their peers became evident upon consideration of research resources. Measures of research capacity lagged far

behind universities in all other categories. Poor relations spent less on R&D from all sources, and granted fewer doctoral degrees, than did the sample as a whole. In other words, while these universities on average possessed relatively limited instructional capacities, their research resources were even more acutely circumscribed. Frequent members of this category include Florida Atlantic University, Kent State University, Old Dominion University, Texas Tech University, and the University of Alabama. Membership in this fairly large group varied between 29 and 44 universities per year.

Changes Over Time in the Field Hierarchy

That public research universities could be divided into several distinct sub-samples that constitute a *de facto* hierarchy was of course not surprising. Indeed, this was in some sense a consequence of system design. Hierarchically differentiated systems, in which a few universities consumed the largest share of resources and emphasized research, while others used relatively fewer resources and focused on instruction, were common responses to dramatic enrollment growth in the US during the 1960s, 1970s, and 1980s. The archetype of such a system was the University of California Master Plan (Kerr 2001; Richardson et al. 1999). As such, the presence of four classes of public universities was not only unsurprising; it was, to some extent, intentional.

What may prove of greater interest, then, are the changes that this designed hierarchy underwent from 2000 to 2008. Figure 4.1 charts trends in class membership – measured by the percentage of sampled universities that belonged to a particular category – during this time period. The passage of time initially brought growth in the "middle class" group. From 2000 to 2004, an increasing number of public universities collected approximately average instructional and research resources. Total higher

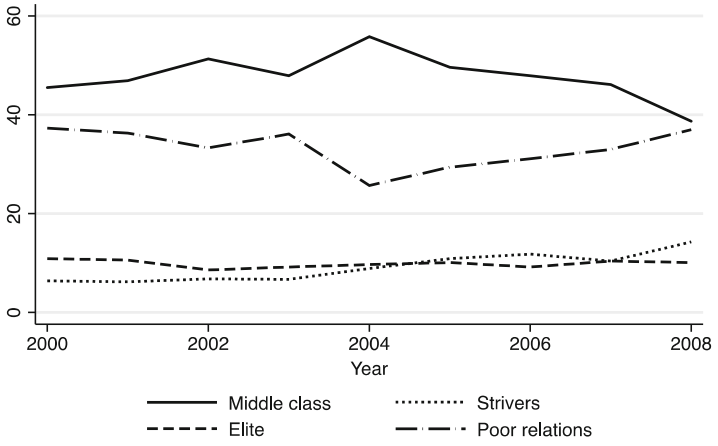

Fig. 4.1 Percent of public universities located in each of four latent classes over time, 2000–2008

education enrollments grew during this period (Schofer and Meyer 2005), and it seems that a rising tide temporarily lifted several boats. For example, the University of Oklahoma "rose" from the poor relations group to the middle class in 2002.

As discussed in detail previously, however, over the course of this time period increasing amounts of public support – especially for research (Slaughter and Cantwell 2012; Stephan 2012) – were allocated via competitive processes. As expected, these shifts in the resource environment changed the field of public research universities. Starting in 2004, "middle class" universities, with their ties to state governments for R&D support and tendency to focus on instructional activities that were approximately equal to those of their peers, began to constitute a smaller and smaller share of the sample. Fewer universities were average.

A few middle class universities appeared to move up in stratified space. As such, membership in the strivers group grew slowly but steadily over time. Only 6 % of cases were strivers in 2000. That figure had increased to 14 % by 2008. Organizations that "rose" from the middle class to the group of strivers included the University of Colorado-Boulder (2005) and Michigan State University (2007).

The majority of formerly middle class public universities, however, moved "down" in the field's status hierarchy. While the number of strivers increased slowly, the number of poor relations grew dramatically. After initial declines in their number, poor relations constituted 37 % of cases in 2008, a share that almost equaled the 39 % that were middle class. Organizations that "fell" from the middle class to the poor relations category included Stony Brook University (2002), the University at Buffalo (2003), and the University of California-Riverside (2008).

Interestingly, however, the number of elite public universities proved relatively flat during this time period. That is, even as competitions yielded a few upwardly-mobile universities, these "winners" did not become elite. Positions atop social hierarchies are scarce, and the addition of a new entrant displaces an existing member of the group (Marginson 2006). Such displacements were not apparent in our analysis. Competition allowed middle class public universities to move into the upper-middle or, more commonly, the lower class, but not into the elite. In other words, the hierarchy of the field changed everywhere but at the top. Intensifying competition for federal R&D support seemed to have produced no true "winners," a few moderately successful entrants, and a good many more "losers."

Private Research Universities

The Hierarchy of Private Research Universities

As in the analysis of public universities, I specified two, three, four, and five classes of private universities. The five-category model created classes with few members while three-category model included substantially different universities within a single category. Table 4.2 presents results of the four-class analysis, as well as t-tests indicating significant differences between particular variables and the sample mean.

Table 4.2 Means of members of three latent classes of private universities (standard deviations in parentheses), 2000–2008

Variables	Sample average	"Elite"	"Tuition-focused"	"R&D super elite"	"Private money super elite"
Faculty members per 100 FTE students	12.371 (7.499)	16.492** (5.473)	7.590** (2.674)	24.377** (8.623)	24.619** (13.222)
Baccalaureate degrees per 100 FTE	14.042 (3.279)	13.617 (3.508)	14.772** (3.050)	10.376** (0.851)	12.172** (0.835)
Percent of applicants granted admission	42.1 % (22.5)	28.8 %** (16.5)	54.5 %** (20.1)	24.5 %** (7.6)	19.9 %** (4.8)
Net tuition and fees revenues per FTE (in thousands)	$20.868 (4.489)	$21.621 (4.971)	$20.477 (4.041)	$19.018 (6.372)	$20.992 (0.885)
General subsidy per FTE (in thousands)	$24.275 (25.406)	$40.403** (22.287)	$6.688** (4.516)	$83.795** (18.015)	$45.222** (6.091)
Federally funded R&D per FTE (in thousands)	$18.235 (23.332)	$23.818** (7.700)	$5.289** (3.581)	$113.409** (15.48)	$38.528** (9.077)
Industry funded R&D per FTE (in thousands)	$1.373 (2.210)	$1.384 (1.021)	$0.517** (0.527)	$3.020** (1.684)	$10.573** (1.895)
Institution funded R&D per FTE (in thousands)	$2.137 (2.377)	$3.602** (2.724)	$0.819** (0.840)	$5.222** (1.924)	$2.771 (2.060)
State funded R&D per FTE (in thousands)	$0.543 (0.820)	$0.814** (1.146)	$0.327** (0.415)	$0.737 (0.555)	$0.684 (0.704)
Doctoral degrees per 100 FTE	1.918 (1.373)	2.434** (0.930)	1.172** (0.519)	5.391** (2.682)	3.366** (1.798)
Endowment per 100 FTE (in millions)	$30.070 (40.031)	$56.447** (49.975)	$8.248** (7.456)	$48.157* (33.308)	$54.878** (27.615)
Total observations	427	161	230	18	18

Results of "two-tailed" t-tests indicating whether class differs from sample mean depicted as **$p<0.01$, *$p<0.05$

The first category consisted of "elite" private research universities. This group included 15–19 members per year. Like elite public universities, these organizations demonstrated robust capacities for both instruction and research. Elite privates employed more faculty members, admitted fewer applicants, and spent more of their own funds on education than did the sample as a whole. Differences between elite privates and their peers proved even more pronounced in the domain of research. Elite privates collected significantly more research support from the federal and state governments, and expended far more of their own funds on R&D, than did the sample as a whole. This substantial support for research contributed to a significant increase of 0.5 doctorate per 100 FTE relative to the sample average. These universities also commanded the largest per-student endowments of any group.

While both elite public universities and elite privates attained high status, the capacities of private universities dwarfed what was found among elite publics. This gap proved evident in many areas, but was nowhere more pronounced than in federal R&D support. On average, elite privates collected about 180 % of the per-student federal R&D expenditures of elite publics. As such, even relative to elite public universities, these elite privates attained global status (Cantwell and Taylor 2013; Marginson 2006). Frequent members of this class included well-known universities such as Cornell University, Princeton University, Stanford University, the University of Chicago, and Yale University.

Elite private universities also towered over the "tuition-focused" privates that appear in column two. The tuition-focused group constituted the largest category of private universities, representing about 54 % of total observations, or 25–27 universities per year. Relative to their peers in other categories, these universities employed few faculty members per 100 FTE students, practiced less selective admissions, and spent few institutional dollars on education beyond what students themselves contributed via tuition payments (it is in this sense that the universities are "tuition-focused"). Baccalaureate degree production was the highest of any group and significantly exceeded the sample average, while doctoral degree production was the lowest, also by a significant margin. Further evidence of tuition emphasis appeared in an examination of research capacity, as these universities on average expended significantly less on R&D from all funding sources than did their peers. Research revenues, in other words, played a relatively minor role in the operations of these universities. Endowments per student also were the lowest of any group, and, at only about 27 % of the sample mean, were significantly smaller than the group as a whole.

While tuition-focused privates clearly demonstrated more limited capacities than did their elite private peers in classes two and three, these were nonetheless high-status and well-resourced universities. Indeed, descriptive data on this class' instructional characteristics compared favorably with the characteristics of elite public universities. However, tuition-focused privates lagged well behind elite publics on both federally and institutionally supported R&D expenditures (see Table 4.1). This again implies that research revenues generally – and federally supported R&D in particular – constituted a major source of differentiation within the field. Frequent members of this class were well known but less-than-elite organizations such as Boston University, Brandeis University, New York University, and Syracuse

University. Each of these universities held membership in the AAU during the study period[4] (though not every university in this category does so), yet none could match the research capacity of their more elite peers.

Category three included two "super elite" universities that distinguished themselves from their peers by their extraordinary capacity to capture federal research support. This capacity was made possible by an exceptionally high number of faculty members relative to the size of the student body. Faculty appeared to emphasize graduate rather than undergraduate instruction, as doctorates more than doubled the sample mean while baccalaureate degrees fell significantly below the average. Further, faculty members appeared to be exceptionally skilled at securing research support, as research funding from all sources (save state contributions) exceeded sample averages. Special emphasis appears to have been given to federal research support, however, as these universities secured more than six times the sample average of federal R&D funding. Indeed, despite holding slightly smaller endowments than did their elite peers, the R&D super elite collected more than four times as much in federal research support as did members of the elite. These funds appeared to provide some spillover benefits to students – the primary beneficiaries, presumably, were doctoral students – as subsidy spending dwarfed that of members of any other class. The only two members of this group were the California Institute of Technology and the Johns Hopkins University.

Finally, the fourth category of universities combined slightly richer endowments, substantial support from industry, and a less dramatic but nonetheless exceptional capacity for capturing federal research revenues. These "private money" members of the super elite employed a similar number of faculty members to the R&D super elite. Interestingly, however, while they dramatically exceeded the sample mean in federal R&D funding, they surpassed their elite peers by less than 100 % by this measure. However, they dwarfed all other groups in support gleaned from industry. Members of the private money elite collected more R&D support from industry than their tuition-focused peers gathered from all sources. Endowments also exceeded those of the R&D super elite, although they fell nominally below elite private universities. The only two members of this category were Duke University and the Massachusetts Institute of Technology.

Changes Over Time in the Hierarchy of Private Research Universities

The hierarchy of public universities, as discussed above, witnessed notable changes over the sample time period. Membership in the classes of private research universities, by contrast, proved remarkably stable. This stability is depicted in Fig. 4.2. Between 2000 and 2008, the largest group, tuition-focused privates, constituted

[4] Syracuse withdrew from the association in 2011.

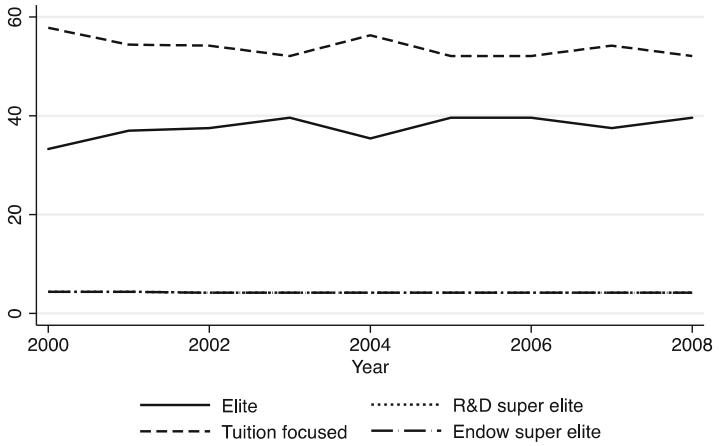

Fig. 4.2 Percent of private universities located in each of four latent classes over time, 2000–2008

between 52 % and 58 % of all cases. The share of universities that were elite varied within a similarly narrow band, falling between 33 % and 40 %. The two groups of super elite privates remained completely flat and identically sized. Indeed, the lines representing the two groups overlap perfectly in Fig. 4.2.

Overall, the hierarchy of elite private universities proved so stable that a university that changed class "permanently" – that is, that changed from one category to another and remained in that group for the remaining years in the sample – proved notable. Only one such change occurred, when Carnegie Mellon University moved from "tuition-focused" to "elite" in 2001. With this minor exception, it appeared that the hierarchy of private research universities had been established prior to the period of the NIH doubling, and did not change in response to shifting environmental conditions.

The Field Dynamics of Stratification

The analyses presented above suggest that research revenues generally, and federally-sponsored R&D specifically, are drivers of growing stratification. As such, I understand growing stratification as a result of the policies of the "submerged state" and its tendency to allocate funds via competitions that mask the role of policy and policymakers (Mettler 2011). Results suggest that rising stratification, which is likely to result from such competitions (Slaughter and Cantwell 2012), is particularly evident among public universities. Elite public universities charge similar tuition prices to their middle class peers; what makes these universities elite is their ability to prevail in competitions for research support. On average, elite publics collect almost three times as much per student in federal support for research as do

their peers. Similarly, striving and middle class publics confer comparable numbers of baccalaureate degrees per student, but members of the more-advantaged group collect almost twice as many dollars in federal R&D support as do those in the less advantaged group.

The role of federal research support proved somewhat different among sampled private universities. This sub-field witnessed little change in its hierarchy over time; class memberships proved remarkably stable in the face of the NIH doubling. This reflects the fact that R&D-based stratification was acute well before 2000, and was maintained throughout the study period. Indeed, the gap between elite universities such as Princeton and a few "super elite" competitors was driven almost exclusively by research support. One group of two super elite universities excelled in collecting federal research support, while two additional universities paired extremely high levels of government revenues with substantial industry funding.

One explanation for the stability of the private university hierarchy is the role of endowments. These funds often take decades or even centuries to amass, and larger fortunes tend to grow more rapidly than do small ones (Piketty 2014; Weisbrod et al. 2008). Because endowment returns are often (though not always) unrestricted funds that can be allocated to support virtually any activity – including competition for research funding – it is possible that endowments play a crucial role that is underestimated here. Further, endowments are tax-free holdings, and so are privileged by the submerged state (Mettler 2011). Future research could consider total endowment holdings rather than allocating holdings per 100 FTE students. Such an approach would foreground the stark absolute differences between endowment sizes.

Results also illuminate the role of the submerged state in channeling wealth toward a particular subset of universities. Relative to their enrollments, elite privates tower over the resources available to elite publics. Further, the four members of the super-elite appear to exist in a fairly distinct social space even from their elite private peers. Much as the submerged state reduces support for visible programs in exchange for invisible subsidies such as tax credits (Mettler 2011), so the decline of state appropriations is juxtaposed with the perpetuation of tax advantages for endowment-based private universities. The result seems to be the growing wealth of the private sector generally, and for elite and super elite members of the private sector in particular, relative to the publics.

To be sure, I do not mean to suggest that research stands alone as a driver of stratification. Indeed, research and instructional revenues often go hand-in-hand.

In general global hierarchies reflect research output whereas national stratification follows a complex interplay of student demand, tradition, and resource accumulation (Marginson, Chap. 2 in this volume). My results suggest that, in the US, these two hierarchies may be converging on one another. As already advantaged universities continually prevail in competitions – especially, though not exclusively, for federal research support – the opportunity for creative strategies that steer a college or university into a particular resource niche diminish because there are ever-fewer niches to occupy. To be somewhat glib, the four universities that have attained "super elite" status seem unlikely to vacate that niche. Where once a university could emphasize particular operations in an effort to achieve some markers of

excellence, increasingly, it seems, a few elite – and a very few super elite – universities consume the vast majority of resources.

These findings raise important questions because the steepening of hierarchies over time can constrain strategic action (Fligstein and McAdam 2012; Zietsma and Lawrence 2010). Faculty members at poor relations publics may develop strong research programs but, absent institutional support, find them difficult to sustain. Successful researchers likely will be hired away by wealthier universities that can offer richer compensation and more generous infrastructure. This is not meant to imply that individual action will become unimportant. I do suggest, however, that strategic actions by individual faculty members and administrators must be understood in the context of rapidly-increasing stratification that is driven in large part by federal R&D policy. As stratification increases, the possibility to do anything other than travel in well-developed channels wanes. I further suggest that, while this statement holds true of all research universities in the US, it is particularly true of private universities, whose hierarchy is longer established and more invariant. Among public universities, by contrast, the steepening of hierarchy is a recent and, likely, ongoing phenomenon.

One reason for the advantage that private universities hold relative to their public counterparts may be institutional scale. My analyses attempt to hold scale constant by allocating revenues, expenditures, and degrees per FTE student. Yet, as public universities have faced declining direct support from the states, they have responded by increasing total tuition revenues (Desrochers and Wellman 2011). This strategy has often meant increasing total enrollment. Insofar as this proves to be the case, public universities may see their capacities somewhat under-stated in this analysis because the denominator (FTE students) has grown faster than has the numerator (revenues, expenditures, and degrees) in these calculations. At the same time, because admission selectivity – that is, remaining relatively small in size – is an important source of status (Winston 1999), these results may accurately reflect the field status of universities that rely upon efficient large-scale operations rather than less efficient but high-status modes of "boutique" production.

While this limitation enjoins caution on interpretation of findings, it also suggests a provocative area for future research. As mentioned previously, hierarchy among public universities is in some sense a design feature of a system intended both to stimulate and accommodate rising enrollment demand (Kerr 2001; Richardson et al. 1999). Yet as enrollments have attained and exceeded the standards of "mass" higher education (Schofer and Meyer 2005), costs have risen (Archibald and Feldman 2011) and revenues have become relatively scarcer (Desrochers and Wellman 2011). Public universities in the US undertake a difficult task, seeking to manage rising costs, uncertain revenues, and enrollment growth.

What is more, students from disadvantaged backgrounds tend to enroll at lower resource universities (Morphew and Taylor 2010; Taylor and Morphew 2014), suggesting that rising inequality of universities and individual households may be linked precisely because (rather than in spite) of increased college attendance (Mettler 2014). In other words, the inequality that I conceptualize as intimately related to federal R&D policy is likely to have consequences far beyond the research

mission – a relationship that is itself implied in the design of a hierarchically differentiated system. As such, this analysis calls for a broader understanding of the ways in which field dynamics may have fundamentally altered the work of research universities – especially public universities – in the US.

A second approach to future research emphasizes a more precise rather than broader conception of stratification among US research universities. While I have mapped field contours and organizations' places within hierarchies, I have not identified individual-level mechanisms that explain these conditions. University activity may be explained by a complex interaction of academic managers, faculty initiatives, and trustee connections (Slaughter et al. 2014; Mathies and Slaugher 2013). Further research in this vein could substantially illuminate the micro-level processes by which field- and organization-level patterns are created, maintained, and exacerbated.

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Chapter 5
The Crème de la Crème: Stratification and Accumulative Advantage Within US Private Research Universities

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Higher education is a positional good that implies an element of competition for scarce opportunities, status, and resources (Marginson 2006). This competition has intensified in recent decades with regulatory changes that accompanied the 1970s neoliberal policy turn, which created new markets and opportunities for institutions to compete for resources (Slaughter and Rhoades 2004). For example, changes in endowment investment vehicles (see Cantwell, Chap. 9 in this volume) have enabled accumulation of resources by a small group of private colleges and universities that already possessed high status and substantial economic resources (Humphreys 2010; Vedder 2008). As a result, the field of research universities is dominated by a small group of elite institutions that control a large share of total resources held by colleges and universities (Marginson, Chap. 2 in this volume).

Changes in federal student aid policies to award financial aid directly to students and to increase the availability of student loans also created a context in which institutions compete for students. Success in these academic competitions relates to cultural status and advantage (Marginson, Chap. 2 in this volume). At institutions where demand for seats far exceeds supply, entrance becomes more desirable because of the social status associated with this rare opportunity (Weis, Chap. 14 in this volume). Scarcity of seats – and control over it – allows institutions to maintain or increase their positional advantage (Zemsky et al. 1997). Because the same educational spending costs a student less if a college or university contributes more dollars from its own funds (Winston 1999, 2004), institutions with more economic

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capital such as endowment holdings are able to use accumulated financial wealth to leverage enrollment. Put starkly then, changing environmental conditions suggest financial (e.g., endowment holdings) and academic (e.g., enrollment demand) resources may become even more entwined with one another than historically has been the case.

In this chapter, we consider how changing conditions in the field of higher education have enhanced between-university stratification. Specifically, we trace this process of heightened stratification among US private research universities over a period of nearly two decades in the 1990s and 2000s. Because Bourdieu (1984) and related scholars (e.g., Fligstein and McAdam 2011, 2012) highlight the ways in which the rules and structures of a field serve the interests of the already-advantaged, we first provide an overview of changes in the regulatory and finance environments of US higher education. We posit that these changing conditions facilitate the accumulation of resources and status by a few universities. While high-status universities often boast familiar and famous names (Marginson 2006), stratification is not readily identified using current classification systems. Such classifications tend to emphasize locus of control and mission (e.g., private research universities). However, substantial variation exists within these two categories; both globally prestigious institutions and struggling organizations can be considered research universities. We therefore used latent profile analysis, a quantitative technique that uncovered categories of organizations from available data, to identify and describe subgroups of private research universities characterized by similar patterns of financial and academic resources. This approach allowed us to identify "winners" and "losers" in the competitions that increasingly characterize US higher education.

Findings indicated that economic and cultural capital – measured by financial and academic resources – were concentrated in a small number of private research universities. Between 1991 and 2008, the distinction between "the crème de la crème" and other private research universities became more pronounced. In other words, institutions with higher levels of resources leveraged these advantages to compete for and obtain more resources, resulting in accumulative advantage and a widening status gap between a small group of universities and all others.

Private Research Universities, (De)regulatory Policies, and Resources

Although often applied to the study of individual faculty members (e.g., Gonzales 2014; Mendoza et al. 2012) or students (see Weis, Chap. 14 in this volume), Pierre Bourdieu's work also is widely influential in the study of organizations such as universities (Emirbayer and Johnson 2008; Naidoo 2004). Analyses in this tradition typically conceptualize universities as inhabiting, perpetuating, and legitimating stratified social space. This stratification occurs in both material and cultural

dimensions. In this account, material or economic factors are primary, but cultural practices cement tangible inequality by indicating the "good" ends to which economic wealth has been turned (Bourdieu 1984).

The utility of Bourdieu's framework to studies of higher education is well established. Universities allocate opportunities, credentials, and material resources to individuals (Bourdieu 1993a), and so shape social classes by drawing individuals into shared social space (Bourdieu 1984, 1990). Moreover, universities are themselves stratified, with some attaining higher status and greater wealth than others. Among US research universities, for example, financial resources, skilled labor, and position in rankings of "world class" universities prove tightly encumbered (Cantwell and Taylor 2013).

For Bourdieu, then, stratification proves a defining reality of social life (Bourdieu 1977b, 1993b; Johnson 1993). However, the relationship between universities and social stratification, like most of the social processes Bourdieu identified, only rarely reflects conscious decisions. Typically, in this account, actors reproduce the existing social order, including the stratification of the field, rather than pursuing conscious or instrumental change (Bourdieu 1977a; Bourdieu and Passeron 1977). The result is that wealth and status are typically linked together and invariant. In other words, elite universities will remain both in-demand and well resourced over time, while their competitors remain in their own status positions.

At times, however, changes in the environment can reshape the contours of a social field. In these cases, the rules of the field may change, and status hierarchies may become fluid. Such unsettled periods do not persist for long, however, and "incumbents" in the field typically retain or even improve their standing as a result of such tumult (Bourdieu 1993a, b; Fligstein and McAdam 2011, 2012).

We understand the broad changes in US higher education policy since the 1970s, commonly denoted as "neoliberalism," as indicative of just such a shift in field conditions. Such changes, in this theoretical model, are likely to provoke intentional responses rather than subconscious reproduction. Fligstein and McAdam (2011, 2012) posit that incumbents act strategically, sometimes pushing against the rules of the field, to preserve their place in the field's hierarchy. If these predictions prove accurate, the combination of changing field conditions and responses to them could yield heightened stratification among US private research universities as universities with more resources seize opportunities created by field destabilization. This suggests that economic savings (e.g., university endowment holdings) are tightly coupled with practices that confer cultural status (e.g., enrollment demand).

Competition and Changing Field Conditions

Many regulatory and finance policies in the 1970s were characterized by a neoliberal policy shift that emphasized free market rhetoric and de-regulation of market activity (Harvey 2005). Such policies touted supply-side narratives as justification for reforming tax codes, generally in a manner that routed resources "upward" to the

wealthiest households and away from traditional public services such as higher education (Mettler 2011, 2014). Somewhat predictably, widening wealth inequality at the household level resulted (Piketty 2014; see also Weis, Chap. 14 in this volume). This pattern found its analog in US higher education in the growing gulf between spending by the wealthiest private institutions relative to all other colleges and universities (Taylor and Morphew 2013).

In the neoliberal context, US higher education was cast as a means to stimulate economic growth, and market-like competition for resources became the preferred mechanism for shaping university behavior (Mettler 2014; Taylor et al. 2013). This shift is perhaps most readily apparent in universities' research function (Slaughter and Cantwell 2012). The US federal government has long awarded research grants and contracts via competitive processes (Kerr 2001). However, this competition for federal support greatly intensified during the 1990s and 2000s as growing numbers of researchers sought funding, the costs of scientific research increased, and university revenue streams from other sources proved variable (Stephan 2012; Taylor, Chap. 4 in this volume). Indeed, pressures to compete for R&D funding from the federal government and other sources appear to have prompted a restructuring of academic science, with fixed-term research staff growing in prominence as numbers of permanent, tenure-line faculty decline (Cantwell and Taylor 2015).

An analogous policy shift has occurred in undergraduate enrollments. Beginning in the 1970s at the federal level (Leslie and Johnson 1974), and in the 1980s in many US states (Heller 2006), portable student financial aid increasingly placed government monies in the hands of students rather than awarding funds directly to institutions. Such policies were conceived as mechanisms for securing access to higher education for low-income students (Mettler 2014), on the assumption that universities would compete for students to secure these funds by lowering tuition prices to attract price-sensitive enrollees (Hearn and Longanecker 1985; Heller 1997). Subsequent growth in federal student aid primarily has been in the form of student loans (Hearn 1998), the purpose of which differs notably from that of federal grants. While the federal Pell and other grant programs directed aid toward low-income students to support college access, loans provided increased choices among different types of institutions (Mettler 2014). Student loans, in other words, increased competition for students by widening the range of campuses they could pay to attend. This changing policy environment increased the purchasing power of students and stimulated competition between institutions for students and the federal dollars they brought with them.

While neoliberal policies have explicitly injected competition into resource allocation in US higher education since the 1970s (Leslie and Johnson 1974), these policies did not create a market in the economic sense (Marginson 2013). Rather, they generated "quasi-markets" (Le Grand and Bartlett 1993) in which universities respond to policy directives rather than pursuing effective or efficient operations (Taylor et al. 2013). Because such competitions emphasize victory rather than operational efficiency, universities are likely to invest substantial amounts of human and financial resources in efforts to prevail in future competitions. Operations that are unlikely to contribute to success in market-like competitions may be ignored

(Slaughter et al. 2015). In other words, policies that emphasize competition are likely to prompt reorganization geared toward prevailing in competitions rather than toward improving outputs (Cantwell and Taylor 2015). As Bourdieu suggests, however, it is likely that the reorganization of field conditions will maintain or heighten stratification rather than opening doors for new entrants to the ranks of the elite.

Slack and Financial Savings

"Slack" (or "input slack" – see Archibald and Feldman 2008) describes an organization's surplus resources relative to demands on those resources. A university with more slack is readily able to reorient itself toward success in future competitions or to reinvest slack resources in a process of accumulation. Conversely, a university whose resources barely cover operational expenditures – that is, a university with little or no slack – is unable to accumulate savings (Cantwell, Chap. 9 in this volume; Ehrenberg and Smith 2003). Such universities have little opportunity to organize themselves toward prevailing in future competitions.

The close relationship between university wealth accumulation and success in future competitions partially reflects the curious ways in which the United States does and does not regulate university investments. Because of the economic opportunity and positive externalities universities arguably provide, private (not-for-profit) higher education institutions enjoy tax-exempt status on endowment earnings (e.g., capital gains, dividends, and interest from investments) (Vedder 2008). As a group, Vedder (2008) estimates colleges and universities received about $6 billion in tax breaks on endowment earnings in 2007. Over time, and as Cantwell discusses in detail elsewhere in this volume, the investment strategies of elite private institutions have shifted from more traditional investments in equities (e.g., stocks and bonds) to less regulated markets, such as hedge funds, venture capital, and real estate (Brown and Tiu 2013; Ehrenberg 2009; Humphreys 2010; Sedlacek 2014). Reflecting their elite origins, these alternative investment strategies are sometimes referred to as the "Yale model" of investing after an early adopter of these shifts (outlined by Swensen 2000). Likewise, commodities such as timber and minerals have proven particularly lucrative for the few universities that invest in them, but also carry a high level of risk due to volatility in these markets (Weisbrod et al. 2008). The tax-exempt status of endowment income reduces some of the risk associated with alternative investment strategies while simultaneously increasing the rewards, allowing universities to pursue some investment strategies unavailable to individuals and private investment firms (Humphreys 2010).

For a few institutions, alternative investment strategies represent a new opportunity to generate revenue. However, the vast majority of institutions holds dramatically smaller endowments and devotes returns from its savings to cover current operating expenditures. One result is that the wealthiest institutions often pursue aggressive investment strategies and build their endowment principal, while their less-advantaged peers spend rather than save (Ehrenberg and Smith 2003;

Humphreys 2010; Weisbrod et al. 2008). Indeed, much of the growth in endowment holdings over time has been concentrated at institutions with the largest holdings (Lerner et al. 2008). As a result, the public subsidizes institutions with larger financial savings more than those with less wealth through tax exemptions provided for endowment earnings (Reich 2014; Vedder 2012). Public policies, in other words, may be implicated in the concentration of wealth among a few private universities.

Accumulation and Enrollment Demand

Bourdieu (1977b, 1990) identifies the school a student attends as a crucial mechanism by which class status is perpetuated. Many students apply for a fairly small number of desirable seats at elite universities. These institutions typically subsidize students heavily in an effort to demonstrate their own elite status, suggesting that university accumulation of wealth shapes the ability to recruit students (Winston 2004). A seat in a prestigious university is a scarce positional good (Marginson 2006); when one student secures that seat, another is excluded. The highest-performing academic institutions – organizations that, as Marginson notes in this volume, tend to be recognized intuitively within a national system – are likely to be the most selective. Because demand for seats at these schools is great, campus officials enjoy considerable discretion in selecting the students to whom they will offer enrollment. Outside of this tiny elite group, however, the majority of colleges and universities attract students by investing in consumer amenities such as dining and recreation facilities (Jacob et al. 2013). To be sure, there are exceptions to this general pattern, such as universities that offer specialized degrees and programs to fit into a niche market. Such exceptions are rare, however, because universities compete in quasi-markets that privilege certain policy goals rather than neoclassical markets that reward efficiency and effectiveness (Taylor et al. 2013). The resulting social space leaves some, but comparatively few, opportunities for the development of "niche" or specialized organizations. Rather, a small number of elite organizations tend to dominate the field (Slaughter and Cantwell 2012).

Universities that have accumulated great wealth can translate their holdings into the kinds of academic programs and support services students find attractive, while holding tuition relatively constant, because they can supplement tuition receipts via investment returns or other revenue streams (Winston 2004). As Winston (1999) outlined, a university that has accumulated greater wealth than its peers

> Has more and better maintained building and grounds, more computers, a more distinguished and influential faculty with lighter teaching loads that leave more time for public engagement and research, a richer menu of student services from psychological to career counseling, better food and fewer double or triple occupancy dorm rooms, smaller classes, more varied courses and programs, more outside speakers and debates, and extracurricular activities that are better funded. All that at a price that's low relative to the cost of supplying these items. (p. 21)

As a university increases its ability to attract students and becomes more selective in which students it will admit, it positions itself to prevail more regularly in competitions for tuition-paying students (Morphew and Taylor 2010; Winston 1999, 2004; Zemsky et al. 1997). Repeated successes shape the decisions of future students because existing students make contributions to a university's "academic resources." These contributions range from standardized test scores that are factored into universities' *US News & World Report* rankings (Bastedo and Bowman 2011; Bowman and Bastedo 2009) to "peer effects" that improve other students' learning (Winston and Zimmerman 2004). Much like financial resources, we expect that these benefits accumulate over time. In other words, success in (economic) competition yields accumulation, which predicts success in future competitions (for students), leading to a cycle of further accumulation.

Data and Methods

Sample and Data

We studied the financial and academic resources of 57 private universities observed annually from 1991 to 2008. Sample institutions were research universities characterized by "very high" and "high" research activity, as determined by the 2010 Carnegie Classifications for the Advancement of Teaching.[1] Although the private research universities in our sample represent a small number of higher education institutions, we limited our analysis to these institutions for several reasons. First, these institutions shared similar missions, as indicated by Carnegie classifications, which informs and constrains decisions about raising and spending revenue (Weisbrod et al. 2008). This can be seen with respect to the research function endorsed by these organizations. Private universities routinely capture 45 to 55 % of the value of a federal research grant for "indirect costs" (Stephan 2012). Although these funds often do not cover the full cost of research, they nonetheless provide an important subsidy to research universities. Despite the importance of these funds for research universities, organizational types that do not emphasize research – such as community colleges or liberal arts colleges – do not typically pursue these grants on a large scale. By selecting institutions with similar missions, observed differences in resources may be more clearly attributable to accumulative advantage rather than differences in focus.

Second, private research universities both represent a disproportionate amount of wealth held by higher education institutions and display a great deal of variation in

[1] We excluded three research institutions characterized by "high" and "very high" activity from our sample because they serve as research institutes (Rockefeller University) or offer only graduate degrees (Teachers College and Claremont Graduate University).

levels of resources. These universities, on average, collect and spend more non-tuition dollars than higher education organizations of any other type (Winston 2004). Yet substantial variation within the category remains, with some private research universities contributing tens of thousands of dollars from their own funds toward students' education, while others use tuition revenues to subsidize non-educational operations (Taylor and Morphew 2013). These patterns obtained within our own data. For example, endowment value per student ranged from $10,000 to $636,000 at sampled institutions in 1991, in inflation-adjusted 2009 dollars. Likewise, sampled institutions varied in academic resources, with average SAT entrance exam scores ranging from 1080 to 1580 (maximum score was 1600) in 1991. This variation in financial and academic resources allowed us to observe stratification within a sample of institutions characterized by already relatively high levels of resources. This proved appropriate for our approach, which considered the relationship between economic and cultural capital (Bourdieu 1986) and emphasized stratification as a likely consequence of neoliberal policy environment (Fligstein and McAdam 2011, 2012; Slaughter and Cantwell 2012).

Variable Selection

Data were drawn from multiple sources, including the Delta Cost Project (which uses data from the National Center for Education Statistics' Integrated Postsecondary Education Data System), College Board's *Annual Survey of Colleges* (2011), and the National Association of College and University Business Officer's (NACUBO) Commonfund Study of Endowments. We used market value of endowment to indicate private research institutions' financial wealth. We divided these holdings by full-time equivalent enrollment (FTE) to account for the number of students across whom resources are spread and adjusted for inflation using the Consumer Price Index.

Academic resources included an array of factors related to enrollment demand, the supply of available seats, and the extent to which campus administrators could select the students who filled those seats. In pursuit of status and prestige, private research universities compete with each other for students with high academic credentials. In efforts to increase selectivity, institutions may adopt strategies to generate excess demand, which allows campus managers to increase admissions selectivity without shrinking the size of the entering class (Winston 1999). Likewise, institutions may restrict the supply of seats and, in so doing, make each scarce seat more desirable to prospective students. By increasing demand and/or restricting supply, institutions can improve their positional advantage relative to other colleges and universities. Thus, enrollment demand provided a sense of the cultural status associated with attendance in the elite private sector. To indicate enrollment demand, we included measures of supply (number of first-time, first-year students enrolled),

demand (number of applications), and selectivity (75th percentile SAT scores of enrolled students[2]).

Analytic Technique

This chapter sought to identify natural subgroups, or profiles, of institutions based on endowment holdings and enrollment demand. We then examined how levels of savings and demand changed over time within classes. Based on our theoretical model, we expected that institutions with high levels of financial resources (endowment holdings) also would have high levels of academic resources (SAT scores, higher demand, and restricted supply). We also anticipated that, over time, these differences would become larger, with wealthier institutions (both financially and academically) displaying accumulative advantage over less wealthy institutions.

To identify and describe subgroups of private research universities, we used latent profile analysis (LPA) with data from the first year of our sample, 1991. LPA identifies previously unknown subgroups, or profiles, based on patterns or systematic relationships between specified variables – in this case, endowment holdings and enrollment supply, demand, and selectivity. The profiles of institutions we identified may be intuited based on theory and research, but have not been classified in such a way using existing data. This analytic technique therefore provided a means by which to bridge the gap between theory and data because it isolated otherwise-unidentified profiles that help explain the covariance between the financial and academic resources identified above (McCutcheon 1987). LPA is a form of latent class analysis used for continuous variables (Lazarsfeld and Henry 1968) such as endowment holdings and enrollment demand.

LPA provided several advantages over other methods commonly used to identify relationships between observed variables. First, latent profiles were discrete rather than continuous, making it easier to identify distinctions in economic and cultural capital (measured by financial and academic resources) between sampled institutions. Second, LPA provided statistical criteria for selecting the number of profiles that best fit the data (Vermunt and Magidson 2002). As a result, it was particularly useful when theory predicted that competition would increase stratification, but no prior research indicated the approximate number of categories into which universities would fall.

[2]We converted 75th percentile ACT scores to equivalent SAT scores using College Board concordance tables when more than 50 % of students at an institution provided ACT scores. To ensure comparability of data over time, we adjusted scores using tables from College Board (2014) and Dorans et al. (1997) to account for the SAT re-centering in 1995 and the writing section addition in 2005.

We used LPA with data from the first year of our panel (1991) to identify profiles. Then, each institution was assigned to a profile according to its most likely class membership. To examine stratification of profiles over time, we used descriptive statistics and figures to examine levels of financial and academic resources within profiles from 1991 to 2008. The resulting analysis both identified categories of universities and charted changes in the economic and academic resources they controlled over time.

Results

Table 5.1 provides descriptive statistics for variables in our analysis. Between 1991 and 2008, mean endowment holdings more than tripled in inflation-adjusted dollars from $112,000 to $350,000 per student. Although the average sampled institution amassed a great deal of wealth through endowment growth, descriptive statistics suggested this growth was not evenly distributed across all institutions. In 1991, endowments ranged from $10,800 to $636,000 per student in constant dollars. By 2008, the smallest endowment had grown modestly to $17,000 per student, while the top end of the range increased more than threefold to $2.2 million per student. These figures show that, even within the small subset of private research universities at which the majority of endowment holdings was already concentrated (see Cantwell, Chap. 9 in this volume), much of the growth occurred among the wealthiest universities.

Over the same time period, sampled institutions experienced growth in enrollment demand. These universities expanded seats, or supply, to meet some of the growing demand. However, growth in enrollments proved much slower than growth in applications. This facilitated increases in selectivity. In other words, as observed by Winston (1999) and many other scholars of US higher education, private research universities cemented their high status by restricting enrollment access. In 18 years, student demand for sampled institutions more than doubled from an average of 7000 applications per campus to 16,500 applications. Institutions did not expand seats apace, with enrollment increasing by just 300 seats on average. Over the period we observed, demand increased 136 % while enrollment levels grew just 26 %. Average institutional SAT scores slowly increased from just less than 1350 in 1991 to more than 1400 in 2008. This slow growth is unsurprising because SAT scores are upward-bounded at 1600 whereas the other measures can increase infinitely.

Table 5.1 Descriptive statistics for sampled private research universities, 1991 and 2008

Variables	Mean	Standard deviation	Minimum	Maximum
Endowment per student ($000) (1991)	112.15	130.16	10.84	636.16
Endowment per student ($000) (2008)	350.33	506.91	17.52	2284.24
% change in endowment, 1991–2008	212.38 %	–	–	–
First-year applications (1991)	7003.36	4339.86	633	20,328
First-year applications (2008)	16549.42	9886.74	1854	38,010
% change in applications, 1991–2008	136.31 %	–	–	–
First-year enrollment (1991)	1328.05	818.07	181	4584
First-year enrollment (2008)	1679.04	947.78	236	4601
% change in enrollment, 1991–2008	26.43 %	–	–	–
SAT scores (1991)	1346.18	117.89	1080	1580
SAT scores (2008)	1416.14	114.81	1110	1580
% change in SAT scores, 1991–2008	5.20 %	–	–	–

Notes: Endowment per student was adjusted for inflation using the Consumer Price Index

Latent Profile Analysis

We predicted that a competitive resource environment would lead to some institutions accumulating advantage over others. Latent profile analysis allowed us to examine where and how these distinctions in financial and academic resources occurred. In the first year of our dataset, 1991, we found three profiles of institutions characterized by clear differences in endowment holdings and enrollment characteristics.[3]

Private research universities in the first profile were characterized by larger endowment resources. With 36 members, this group of "endowment-focused" universities was the largest of any latent profile. The 14 members of the second profile placed greater emphasis on enrollment, as evidenced by greater numbers of applications and seats, than did their peers in the first group. Relative to almost any other group of institutions in US higher education, the universities in these first two latent profiles were wealthy and prestigious. However, even these institutions lagged far behind the very small group of elite institutions in the third group. This elite profile, which we termed "the crème de la crème" to reflect their advantage over other

[3] We relied on two measures to determine the number of profiles that best fit our data: sample-size adjusted Bayesian information criterion and relative entropy. The tests, however, did not consistently indicate that one model was better than another. As a result, we presented the three-profile model, which demonstrated that the coupling of economic and cultural capital was particularly strong in a small group of elite institutions while other institutions emphasized either endowment or enrollment resources. Importantly, the same elite class emerged in the two-profile model, suggesting results were relatively robust to alternate model specifications. Our theoretical framework likewise provided guidance in model selection by explaining how some institutions may accumulate advantage in economic and cultural capital over others.

Table 5.2 The crème de la crème

California Institute of Technology
Harvard University
Massachusetts Institute of Technology
Princeton University
Rice University
Stanford University
Yale University

wealthy and selective private research universities, consisted of just seven sampled universities (listed in Table 5.2) that demonstrated vastly higher levels of both economic and cultural resources than the other profiles. In other words, even though sampled universities, as a group, consumed a large share of total higher education resources, within this elite group, resources were allocated disproportionately toward a small number of universities. In Fligstein and McAdam's (2011, 2012) account, these seven institutions can be described as "incumbents" who controlled a disproportionate amount of advantage in the field.

The advantage enjoyed by "the crème de la crème" became clear when we considered mean values of financial and academic resources of the three profiles in 1991 (presented in Table 5.3). Endowment holdings at "the crème de la crème" in this year reached $379,000 per student, in constant dollars, an amount more than 5 times as large as the endowment holdings of the "endowment-heavy" profile whose endowment per student averaged $73,000 that year. "The crème de la crème" also enjoyed greater success in competitions for students, on average, than did their peers. At the mean institution in the elite profile, 9600 students applied for fewer than 1200 seats, indicating that demand for seats far exceeded supply – about 12.5 % of applicants enrolled at these universities. The other two profiles yielded a robust but somewhat less impressive excess demand: about 20 % of applicants enrolled at the mean institution in these two profiles. In other words, institutions in these two latent classes were selective but less so than "the crème de la crème." Differences in selectivity also were reflected in institutional SAT scores, which exceeded 1500 at "the crème de la crème" by 1991 while the other profiles were in the 1300s.

While "the crème de la crème" held high levels of economic and cultural resources in the form of endowment holdings and enrollment demand, interesting differences also emerged between the other two institutional profiles. Although demand for seats outweighed the supply of seats at "endowment-focused" universities, mean enrollment levels were the lowest of the three profiles. Indeed, "endowment-focused" institutions enrolled fewer than 1000 students on average in 1991. The mean "enrollment-focused" institution, in contrast, enrolled nearly 2400 students and received the most applications of the three profiles. Despite differences in supply and demand for seats between the two profiles, differences in endowment holdings and SAT scores were not statistically significant. This suggests institutions in these two profiles had not fully distinguished themselves from each other in either financial or academic resources the way institutions in "the creme de la creme" had done.

Table 5.3 Descriptive statistics by latent profile, 1991 and 2008

	Latent profile 1 "Endowment-focused"			Latent profile 2 "Enrollment-focused"			Latent profile 3 "The crème de la crème"		
Variables	1991	2008	% Change	1991	2008	% Change	1991	2008	% Change
Endowment per student ($000)	73.06 (62.82)	165.90 (156.37)	127.07 %	58.51 (39.75)	217.24 (176.74)	271.29 %	379.25 (137.94)	1440.57 (623.53)	279.85 %
First-year applications	4683.77 (2427.38)	12478.36 (7549.46)	166.42 %	11847.69 (3521.15)	26427.29 (8962.99)	123.06 %	9651.67 (4605.79)	17730.57 (8777.69)	83.70 %
First-year enrollment	951.28 (401.19)	1317.33 (521.54)	38.48 %	2380 (809.60)	2877.14 (975.85)	20.89 %	1161.86 (649)	1143 (514.16)	−1.62 %
SAT scores	1309.71 (95.04)	1380.56 (109.91)	5.41 %	1340 (107.92)	1435 (93.87)	7.09 %	1535.71 (25.07)	1561.43 (20.35)	1.67 %
# of institutions	36			14			7		

Standard deviations in parentheses

Notes: Means are based on classification of institutions according to their most likely profile membership. Endowment per student was adjusted for inflation using the Consumer Price Index. Means between "the creme de la creme" and other latent profiles are significantly different at the .05 level in 1991 and 2008 for endowment holdings and SAT scores.

These findings suggested two important dimensions of status attainment within the field of US private research universities. First, and most obviously, elite status reflected the ability to command both financial and cultural resources. Second, and somewhat surprisingly, the returns to these resources increased geometrically when they were held jointly. The larger endowments of "the crème de la crème" were obvious, but growing academic resources also became apparent when considering selectivity rather than total demand or enrollments. Relative to their peers in groups one and two, elite universities enrolled the lowest share of their applicants and had the highest institutional SAT scores. Members of the "crème de la crème" thereby exceeded endowment-focused universities in accumulating economic wealth, and surpassed their enrollment-focused peers in admissions selectivity. In other words, the most endowment- or enrollment-focused universities belonged not to one of those profiles, but, effectively, to both. This suggested that – as Bourdieu (1984), Winston (1999), and others posited – economic and academic resources compounded one another.

We next examined returns to the elite group's advantage over time (Table 5.3). Over nearly two decades, endowment holdings at "the crème de la crème" grew rapidly until they topped $1.4 million per student, a nearly 280 % change. Endowments in the other two profiles increased more slowly. The "endowment-focused" profile saw a 127 % change in endowment holdings over time, growing to $166,000 per student. This growth was more modest than the increase in holdings experienced by "enrollment-focused" institutions. These institutions – the poorest profile in 1991 – experienced a similar change in endowment holdings as "the crème de la crème." However, because they started at a lower level in 1991, the mean institution in this group had accumulated a little over $217,000 per student by 2008. While this indicated substantial wealth, it nonetheless constituted less than the per-student endowment holdings at the elite class 18 years earlier, in constant dollars.

These results indicated that the aggregate growth in endowment levels over time within our sampled institutions was largely concentrated in a very small group of elite institutions. Figure 5.1 shows the sharp distinction in growth of endowment holdings by latent classes between 1991 and 2008. While institutions in the other two profiles experienced slow but steady growth in endowment levels per student, "the crème de la crème" demonstrated clear returns to accumulated advantage over time.

Figure 5.2 shows growth in demand for student seats over time by latent profile. Demand, indicated by number of applications, grew quickly in all profiles, remaining highest in "enrollment-focused" universities. By contrast, enrollment showed little change in response to increased demand, particularly within the elite class. As depicted in Fig. 5.3, enrollment grew somewhat at less-resourced institutions. For example, "enrollment-focused" universities expanded seats by 500 on average to accommodate some of this growing demand. By contrast, first-year seats at the elites stayed relatively constant over time, even shrinking slightly. Perhaps not surprisingly, given Bourdieu's (1986) description of the reproduction and expansion of capital over time, these high-resource universities experienced greater demand

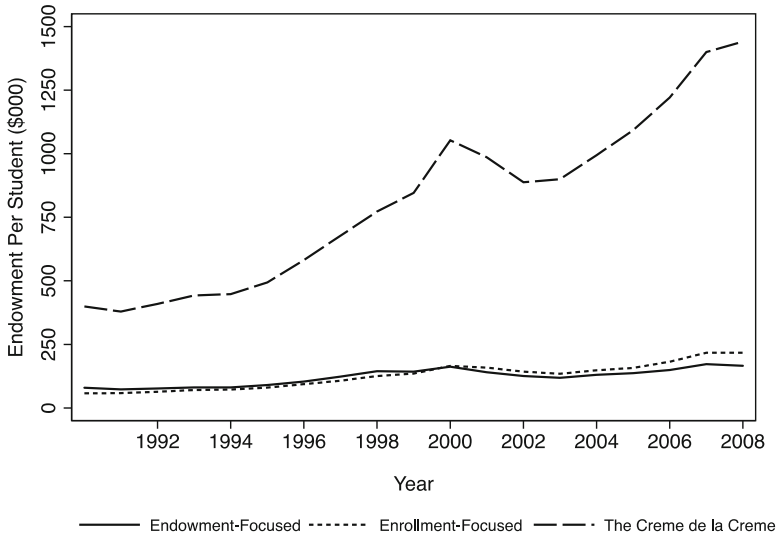

Fig. 5.1 Endowment per student ($000) in constant dollars at sampled institutions by latent profile, 1991–2008

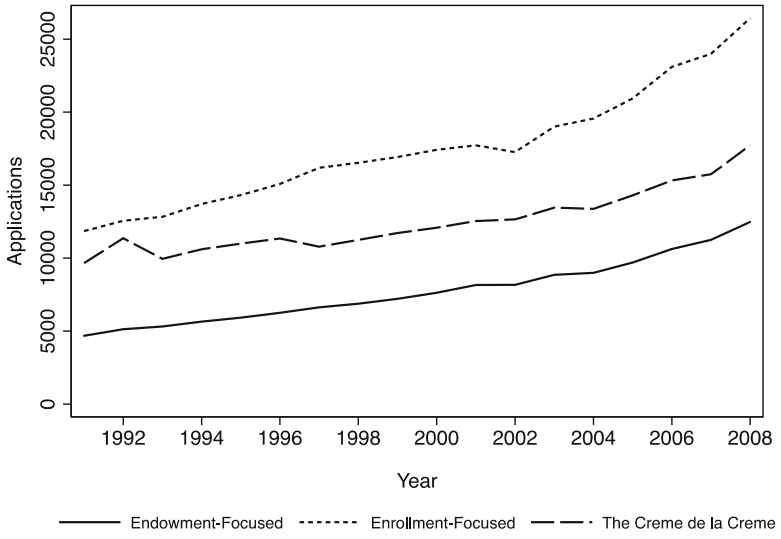

Fig. 5.2 Applications at sampled institutions by latent profile, 1991–2008

for seats relative to supply than institutions in the other latent profiles. In 2008, around 6 % of applicants to institutions in the elite profile enrolled while 10 % of applicants enrolled at the mean institution in the other profiles. Thus, "the crème de la crème" increased their positional advantage over other sampled institutions in the time period we observed.

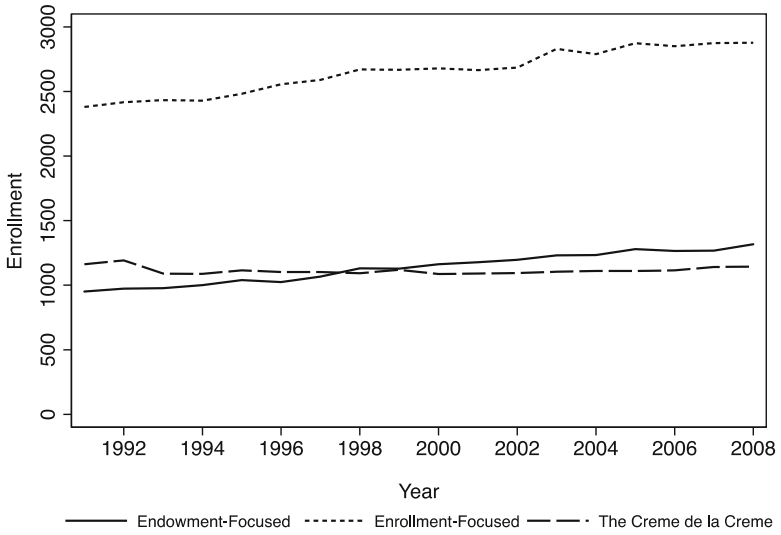

Fig. 5.3 Enrollment at sampled institutions by latent profile, 1991–2008

Overall, universities in the profiles that emphasized either endowments or enrollments experienced gains from 1991 to 2008. "Enrollment-focused" institutions in particular saw large changes in endowment levels. The field of private research universities, in other words, became wealthier – in accumulated dollars and academic demand – over this time period. However, these gains were not distributed evenly throughout the field. Over time, the elite group of just seven institutions distinguished itself by an ever-widening margin that was measurable in both economic and cultural resources. Dramatic changes injected greater competition into the field between 1991 and 2008, yet these changes reproduced or even exacerbated existing inequality. As Fligstein and McAdam (2011, 2012) would predict, changes in the field benefited incumbents – "the crème de la crème" – and thereby increased stratification. Put starkly, our findings indicated that some of the wealthiest and most prestigious private universities in the United States spent the 1990s and 2000s reaching a level of endowment and enrollment resources that "the crème de la crème" had already surpassed at the start of the period.

Discussion

In this chapter, we conceptualize changes associated with the neoliberal regulatory regime as shifts in the field conditions of higher education. Drawing on scholarship from Bourdieu as well as Fligstein and McAdam, we argue that, while stable fields tend to reproduce stratification, the destabilization that resulted from neoliberal reforms likely heightened between-university inequality. Our analysis suggests that

elite private institutions use the space opened by competition-based changes to leverage their accumulated assets to secure ever-larger troves of financial and academic resources.

While all US private research universities appear to engage in these behaviors, a small group of elite universities – the seven we termed the "crème de la crème" – prove far more successful in these endeavors than their peers. In other words, the "winners" in our analysis won big. Endowment growths have been spectacular – indeed, changes in endowment holdings proved more dramatic than any other change we observed. This growth in wealth demonstrated that, as Bourdieu (1993a) posited, economic capital is primary in the consideration of the social space (and position) a university occupies. At the same time, changes in enrollment demand and the cultural status conferred by admission selectivity cemented this stratification. By restricting seats, generating excess demand, and recruiting high-scoring students, these elite private institutions are able to maintain their position. These high-resource universities then use their previous gains to further expand academic and financial resources. This leads to accumulative advantage for already privileged private institutions, closing a "virtuous circle" (Merton 1968) that might appear "vicious" to universities that wish to join the elite but find the bar for entering this category continues to rise over time.

These findings prove consistent with previous research suggesting that economic disparities between US private institutions have increased over time (Taylor and Morphew 2013; Winston 2004). Although broadly consistent with these previous accounts, our analysis provides two distinct advantages over prior research. First, we draw on previous work to provide a theoretical model through which to understand how policy changes, which we conceptualize as a shift in field conditions, are associated with increased stratification of economic and cultural capital between universities. Rather than merely documenting such a pattern, in other words, we – like other contributors in this volume – offer a partial explanation for it based on theory. Second, we provide a classification of accumulative advantage over time, which shows differences among institutions with similarly high levels of endowment holdings and enrollment demand. Rather than merely noting that private research universities prosper relative to other institutional types, then, we can illustrate the ways in which a small subgroup of elite privates benefit even relative to their otherwise-successful peers.

Our study calls for future research into the strategies adopted by private research universities in response to changing field conditions. As Fligstein and McAdam (2011, 2012) suggest, incumbents carefully guard their position in the field. Our research identifies these incumbents and demonstrates their resource accumulation but it raises questions about the specific strategies these institutions use to preserve their position. A few of these institutions, though not all, overlap with the New England institutions that Humphreys (2010) included in a study of alternative investment strategies. Unsurprisingly, Yale University also appears on our list of elite schools, and much is known about its investment portfolio (Swensen 2000). To more critically examine heightened competition and its consequences for the field of higher education, future research may consider the specific channels through

which these resources flow. For example, university trustees – particularly trustees of wealthy private universities – serve as links between institutions and external opportunities to increase revenues with investment strategies using trustee networks. It is likely these trustee networks with firms involved in economic development and innovation serve as important channels for resources, yet not every institution has equal access to networks via trustees (Barringer and Slaughter, Chap. 8 in this volume). Knowledge about the networks of trustees at elite private research universities would provide a better understanding of the mechanisms through which de-regulatory policies have opened the door for some institutions to accumulate massive amounts of the wealth relative to others. Cantwell's Chap. 9 in this volume outlines a conceptual model to guide such work, but detailed qualitative studies and close inspections of portfolios remain to be conducted.

While this paper describes accumulative advantage within the group of private research universities, public research universities also face rapidly changing field conditions. Public research universities are often compelled by state regulation to keep tuition prices low and expand access by increasing enrollment, making attainment of status, prestige, and funding more difficult. Taylor's Chap. 4 in this volume outlines the declining status of public research universities relative to their private peers. Notably, state support as a share of revenues has declined in recent decades (Rizzo 2006), leading to rising tuition levels and increasing reliance on tuition revenue. As constraints imposed by state regulations retreat alongside direct governmental support, it is possible some public institutions have shifted enrollment strategies, such as expanding out-of-state resident seats, to compensate for declining shares of state support, thus increasing prestige through greater national visibility and increased tuition revenue. The neoliberal turn represents changing field conditions for public research universities and leaves open the possibility for these universities to cross boundaries and expand markets and resources in new ways, which future analysis should consider.

A final consideration of this chapter involves what happens next. Our analysis demonstrates that to be elite, institutions must accumulate both financial and academic resources – and a lot of them. Few institutions – indeed, only seven in the group we examined – prove able to do this. Even broad environmental changes may produce little movement in hierarchies. Rather, a small group of "incumbents" described by Fligstein and McAdam (2011, 2012) become even more dominant and virtually untouchable by the rest. In an environment where resources are increasingly distributed through competitive mechanisms, the rest must still compete, but in what might be described as a losing battle characterized by rising inefficiency and growing stratification.

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Chapter 6
Patents and University Strategies in the Prestige Economy

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Universities in the United States (US) exist in a "prestige economy," meaning that they vie for resources and status simultaneously (Brewer et al. 2002; Gonzales et al. 2014; Rosinger et al. in press; Slaughter et al. 2015; Weisbrod et al. 2008). For universities, status is often achieved through research excellence (Marginson 2006). Research activities can generate substantial revenues from federal and state governments, nonprofit organizations, and industry (National Science Board [NSB] 2012), and universities subsequently can use these revenues to subsidize other activities (Mettler 2014; Stephan 2012). Moreover, the high status of research and development (R&D) activities is legitimated by rankings systems that valorize and quantify research output (Cantwell and Taylor 2013a; Pusser and Marginson 2012, 2013; Sauder and Espeland 2009).

Unsurprisingly, then, US universities have transformed their instructional offerings (Taylor et al. 2013) and staffing (Cantwell and Taylor 2013b; Stephan et al. 2014; Taylor and Cantwell 2015) in an effort to capture status and resources via R&D activities. Indeed, although tuition is the largest source of income for private and, increasingly, public universities (Desrochers and Hurlburt 2014), a few, mostly private, research universities collect sufficient revenues from R&D (Lombardi et al. 2011; Taylor Chap. 4 in this volume) that undergraduate education may function as a "loss leader" relative to the returns to research. This suggests the important contours of academic research in the US. While many universities engage in R&D,

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a few succeed but many do not. The resulting research-based hierarchy is recognizable both within the US and globally (Cantwell and Taylor 2013a; Marginson 2006; Chap. 2, in this volume).

We draw on Fligstein and McAdam's (2011, 2012) concept of "strategic action fields" to understand university responses to these environmental conditions. In this account, social space is unequal, and tends to route both resources and status to already-advantaged "incumbents." Historically, higher education has been a highly stratified operation, with a relatively small number of universities (Rosinger, Taylor and Slaughter Chap. 5, in this volume; Taylor Chap. 4, in this volume, 2015, in press) occupying the top positions in rankings (Cantwell and Taylor 2013a). In other words, some universities and some areas of the university (Slaughter and Cantwell 2012; Taylor et al. 2013; Tuchman Chap. 10, in this volume) are far more likely to prosper than are others. Within the confines of this uneven domain, however, the decisions of individual actors continue to shape events. Actors in privileged domains confront a richer menu of options and face higher probabilities of success than do their peers. Nonetheless, campus officials must make complex choices in the face of stark environmental challenges.

We understand academic patenting as an occasion for making such strategic decisions. Patents are a protection of intellectual property granted by the United States Patent and Trademark Office (USPTO) (2014). This protection provides exclusive rights to novel and non-obvious uses of intellectual property, designs, and plant innovations for a period of 20 years. Among university R&D activities, academic patenting has received a substantial amount of scholarly attention and patents figure in some university rankings (e.g., Dasgupta and David 1994; Feller 1990; Nelson 1996; Slaughter and Leslie 1997; Slaughter and Rhoades 2004; Slaughter et al. 2014).

Patents occupy an unusual role in the prestige economy of US higher education. On the one hand, patents are commonly understood as sources of status and revenues. Beyond their own commercial value, patents – like many other aspects of the academic R&D enterprise (e.g., Mathies and Slaughter 2013; Taylor and Cantwell 2015; Zhang and Ehrenberg 2010) – may help universities to generate additional funding for research. Because federal investment in university-based R&D increasingly emphasizes research's contribution to economic growth (Nelson 1996; Orszag and Holdren 2009; Slaughter and Rhoades 1996), as indicated by new policies such as the National Science Foundation's (NSF) (2011) I-Corps, patents may convince funding agencies to invest additional resources in a project or investigator.

On the other hand, the realities of academic patenting may prove complex and contradictory. Very few scientific discoveries yield products that can be produced profitably on a large scale (Mansfield 1995). Even when such "innovations" do occur, the return often is delayed, sometimes appearing a decade or more after the initial investment and discovery (Stephan 2012). This means that the vast majority of academic patents are unlikely to produce substantial revenues (Guellec and van Pottelesberghe de la Potterie 2000; Henderson et al. 1998; Patel and Ward 2011; Sampat et al. 2003; Trajtenberg et al. 1997). Because academic research is expensive, with institutional contributions to R&D growing rapidly over recent decades

(NSB 2012), patents and other applied research projects may consume resources without generating external funds to keep pace with expenditures (Newfield 2009). Insofar as this proves true, patents may be related to this volume's theme of stratification in surprising ways. Well-resourced universities – many of which are private universities – may perceive patents as unlikely to yield revenues. As such, they may patent less, or at least more strategically, than do their less well-resourced peers. Strategic action, in other words, may be found both in university actions and in the activities that universities opt not to undertake.

Existing analyses provide conflicting evidence on the role of academic patenting. Although the number of university-assigned patents has increased over time (Weisbrod et al. 2008), the vast majority of these patents has been (Henderson et al. 1998) and remains (NSB 2012) concentrated in a small group of universities. Patents are associated with the industrial ties of university trustees (Slaughter et al. 2014), but also are inconsistently enforced by universities that hold them (Rooksby and Pusser 2014). This chapter seeks to highlight how patenting activity shapes both the contours of the field of higher education (i.e., institutional stratification) and the possibilities of strategic action within these environmental constraints.

Patenting and Private Advantage

Patenting and Co-Production

US universities are "multi-product firms" (Cohn et al. 1989; Johnes and Johnes 2009; Lacy 2010; Leslie et al. 2012), meaning they engage in multiple activities simultaneously. Patenting is deeply enmeshed in many universities' activities. Most intuitively, patenting is linked with other dimensions of academic research such as the publication of peer-reviewed journal articles, which is the traditional unit of R&D output. Although some evidence suggests that substitution of research outputs occurs, in general patents and peer-reviewed papers seem complementary (Azoulay et al. 2009; Crespi et al. 2011; Fabrizio and DiMinin 2008). In other words, on average, as publications increase, so do patents.

However, patents are produced alongside other activities beyond publishing. Funders of university-based R&D anticipate immediate contributions to labor-force preparation (e.g., degrees) alongside long-term goals such as technology development, job creation, economic growth, and international economic competitiveness (NSB 2012; Nelson 1996; Slaughter and Rhoades 1996). This occurs because the R&D projects that yield patentable discoveries often employ doctoral students and postdoctoral fellows. As such, patents and "elite" human capital (McMahon 2009; Stephan 2012), in the form of graduate degrees, are generated simultaneously.

Finally, but crucially from the perspective of the organization itself, patents may be generated alongside additional research revenues. That is, the awarding of a patent imparts status to a research project, and so may increase an investigator's chance of generating future funding to support his/her research agenda (Slaughter et al.

2014; Stephan 2012). Such funding comes from many sources. The US federal government bears the largest share of academic research costs, contributing approximately 60 % of total outlays in most years (NSB 2012). Smaller but important contributions come from state governments, industry, nonprofit organizations, and especially higher education institutions themselves (Weisbrod et al. 2008). Notably, however, these latter funding sources are likely to favor "close to the market" projects rather than more fundamental lines of inquiry (Geiger and Sa 2008; Hearn et al. 2014; Hearn et al. 2013), which implies that patents – with their resonance of commoditized knowledge – may contribute to the successful pursuit of revenues from these sources.

Patents and Competition in the Prestige Economy

The theory of academic capitalism explains the consequences of endless competition for universities (Slaughter and Rhoades 2004). In this account, knowledge, people, and resources flow through new circuits created by competition. Universities reorient themselves toward winning these competitions rather than toward efficient or effective operations (Taylor et al. 2013; Cantwell and Taylor 2015). In Fligstein and McAdam's (2011, 2012) terms, campus officials' strategies emphasize securing resources from the environment, but the field in which these officials operate favors some universities and some kinds of resources over others (Rosinger, et al. in press). These relationships entail several consequences for an analysis of academic patenting:

Stratification. US colleges and universities are sharply stratified by financial resources. Some have accumulated substantial wealth while others struggle to remain viable organizations (Winston 2004, 1999). This hierarchy tends to grow steeper over time (Taylor and Morphew 2013), in part because wealthy organizations can save surplus resources while less well-resourced schools have relatively little slack for investment (Ehrenberg and Smith 2003). Competition for resources tends to heighten stratification even further because well-resourced universities are likely to prevail in such contests (Slaughter and Cantwell 2012). In other words, a university that secures a research grant or contract this year is likely to win another in future years. Stephan (2012) terms this kind of competition a "tournament" that many enter, but in which relatively few prevail. Our analysis of patents therefore accounts for the possibility that already-advantaged universities patent in different ways than do less-advantaged universities. Successful universities that do well in patenting may do so on a grand scale, while those that find few rewards in patenting may retreat from this activity.

Private advantage. The theory of academic capitalism also highlights the ways in which ceaseless competition for resources is normalized into organizational activities (Slaughter and Rhoades 2004). In Harvey's (2005) account of neoliberalism, the governing ideology that accompanies academic capitalist knowledge regimes, the state retreats from direct governance, thereby expanding the roles

available to nonprofit organizations. That is, as governments increasingly use competition rather than direction to shape university behavior, nonprofit organizations such as political parties and religious bodies assume responsibility for the pursuit of public purposes (Pusser, Chap. 17, in this volume). As a result, policymakers come to favor private not-for-profit universities because these organizations seem ideologically preferable to state-supported organizations.

This suggests that academic capitalist processes will favor the private nonprofit sector over public providers. Indeed, private universities tend to score better than do publics on contested evaluative metrics such as the Shanghai Jiao Tong ARWU rankings of global research universities (Cantwell and Taylor 2013a). Private universities often pay high salaries for "star" scientists, who are themselves a measure considered in global league tables (Halffman and Leydesdorff 2010) and who are expected to generate substantial external research support (Alexander 2001; Zucker and Darby 2009).

Beyond the recruitment of star faculty, preeminence in rankings partially reflects private universities' ability to respond to incentives in the resource environment – that is, to act strategically amidst field-level constraints (Rosinger, Taylor and Slaughter, Chap. 5 in this volume). For example, private universities shift the portfolio of degrees that they confer (Taylor et al. 2013) and their internal allocation of resources (Ehrenberg et al. 2007; Leslie et al. 2012) in efforts to secure external funding for research. This heightened sensitivity to environmental conditions suggests that private universities may be particularly likely to possess some highly-cited patents. However, because these accounts suggest that private universities are generally more strategic than are their public peers, these insights also caution that private universities may be unlikely to engage in the wholesale pursuit of academic patents. Rather, they may pursue patents only when such activity serves their interests, and retreat from patenting in other cases.

Segmentation and internal resource allocation. An additional consequence of competition for resources is organizational segmentation, meaning the advantaging of some areas of the university, particularly those that are more likely to produce research revenues, relative to others (Slaughter and Cantwell 2012). Segmentation may manifest itself as the advantage of one academic unit over another. For example, in US universities, S&E fields tend to be favored relative to humanities, fine arts, and social science units (Slaughter et al. 2015).

In other cases, however, segmentation may result in the favoring of one activity over another. For example, campus decision-makers may prioritize research over instruction. As they pursue R&D support, universities often contribute to research efforts by providing "start-up" packages for new faculty members and investing in infrastructure (Stephan 2012). Indeed, on average institutional funding exceeds state and industry contributions to academic R&D among US universities, and has grown rapidly over time (NSB 2012). These funds are drawn from other revenue sources that are reallocated toward research (Leslie et al. 2012; Ehrenberg et al. 2007), which highlights the possible role of internal resource allocation in university patenting activity. Campus decision-makers might route resources away from instruction and toward more prestigious and, ideally, externally fundable research

activities (Newfield 2009).[1] Put simply, some universities – particularly wealthy universities (stratification), and especially private universities (private advantage) – may shift funds toward activities that are likely to generate additional resources. Insofar as this is the case, it is not merely external research revenues that will be associated with increases in academic patenting. Rather, revenues from a variety of sources may predict patenting activity.

Contemporary Academic Patenting in the US

Changes Over time

To illuminate the nature of academic patenting in the US, we collected data from the USPTO on patents that listed a US research university as the assignee or co-assignee. We limited our search to 75 universities – 45 public and 30 private – that engaged in the highest levels of patenting activity on average. Each of these organizations is designated as a "research university (very high activity)" by the 2005 Carnegie Classifications for the Advancement of Teaching, and so conducts an extensive research enterprise. However, we do not include all "very high activity" universities because not all universities – even within this classification – engage in high levels of patenting. Patents, as noted previously, were concentrated within a relatively small number of US universities (NSB 2012). Unlike some research universities, the cases we selected each reported at least one patent for every year of our sample. By excluding institutions that did not hold a patent, we were able to better identify patenting strategies at universities that pursued this activity. Put slightly differently, we were not interested in patenting *per se*, but in patenting as an occasion for universities to exhibit strategic decisions that illuminated field conditions. As such, we sampled only universities that engaged in patenting. Although this does not allow us to extend our findings to all US colleges and universities or even to all US research universities, it enables us to consider the nature of the research enterprise at a small group of universities engaged in patenting.

We observed sampled universities annually from 1988 through 2004.[2] This time period captures years in which academic patenting became more widespread among US universities (National Science Board 2012; Slaughter and Leslie 1997), and so included only the years that universities' holding of intellectual property (such as patents) has grown. Our temporal sample closed in 2004 because patents can take

[1] We acknowledge that these activities often prove financially dubious, with the costs of research often outweighing the "indirect cost" payments that it generates (Newfield 2009). We pay only scant attention to this point, however, because we seek to describe actual behaviors rather than optimal ones.

[2] The exception is 1999–2000, during which academic year the US Department of Education did not collect data on several independent variables of interest in subsequent regression models. Data for the 1999 academic year therefore represent imputed rather than observed values.

many years to be awarded. Data from years after 2004 might include patent applications that had not been granted when we constructed our database in 2010–2011, but which would be granted in the future.

Figure 6.1 illustrated changes over time in the mean number of patents held by the 45 sampled public research universities. This figure indicated that the mean number of patents in this subsample increased more than fourfold from 1988 through 1998. The average public university held approximately six patents in 1988, a number that had grown to approximately twenty-five by 2004. Notably, however, this growth did not occur evenly. Growth was concentrated during the years prior to 1998, after which the mean number of patents awarded to public universities remained relatively constant. Moreover, this growth was concentrated in universities at or above the 75th percentile of annual patents. Very high patenting universities held membership in the prestigious Association of American Universities, and typically were flagship campuses that were well-known both within the national system and globally (Marginson 2006). Examples included the Universities of Florida (41.1 mean patents per year), Minnesota-Twin Cities (42.1), Texas at Austin (81.8), and Wisconsin-Madison (67.8). Iowa State University (44.6), a fellow member of the AAU with strong programs in applied agricultural and veterinary sciences, also held a large mean number of patents. Among these very high patenting universities, the number of patents tended to grow faster than it did among universities at or below the median. This pattern evoked the theme of between-university stratification. In stratified social space, flagship and AAU public universities enjoyed greater opportunities – including but not limited to the opportunity to patent – than did their less well-resourced peers.

Figure 6.2 reported change over time among the 30 sampled private universities. The patterns reported in this figure contrast sharply with those found among public universities. Whereas average public university patenting increased steadily from

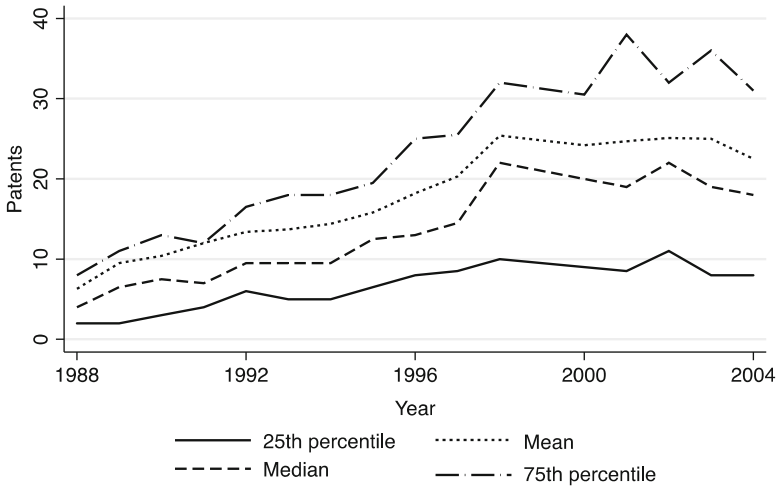

Fig. 6.1 Patents held by sampled public universities, 1988–2004

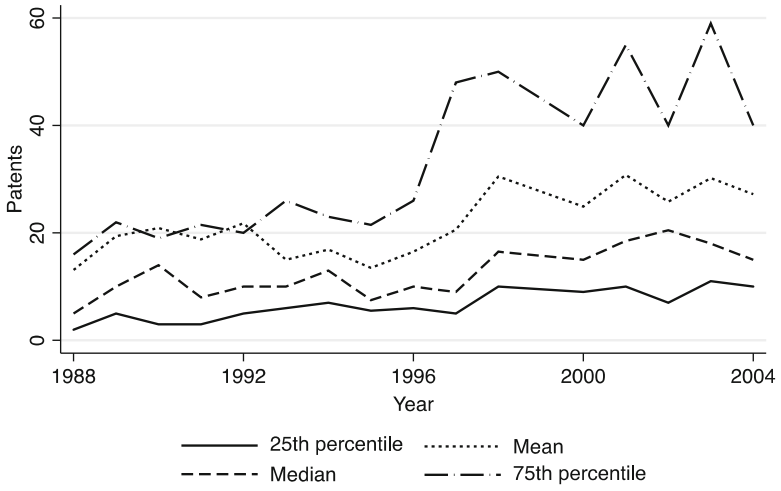

Fig. 6.2 Patents held by sampled private universities, 1988–2004

1988 through 1998, the mean number of patents held by private universities grew unevenly throughout the temporal sample. Trend lines representing the 25th percentile, median, and 75th percentile reveal the reasons for this. At and below the median, private universities held relatively few patents. The number of patents held at the 75th percentile, by contrast, climbed quickly and dramatically over the study period. Indeed, during 2 years early in the sample, the large number of patents held by a few universities biased the mean number of patents so far upward that it exceeded the seventh-fifth percentile.

Like sampled public universities, then, private universities seemed to demonstrate heightened stratification over time. Unlike the public subsample, however, this variation proved sufficiently dramatic to imply that high-patenting private universities effectively constituted a *sui generis* subgroup. The most prominent member of this subgroup was the Massachusetts Institute of Technology ("MIT"), with a staggering 222.5 mean patents per year. Other very high patenting universities included Cornell University (49.6) and the Johns Hopkins University (54.2). These universities both held far more patents than did their peers, who engaged in relatively little patenting, and often exceeded the capacity of high patenting public universities. High patenting private universities therefore appeared to be engaged in a qualitatively different set of activities than were other universities.

Changes Over Time in Other University Characteristics

Taken together, descriptive Figs. 6.1 and 6.2 suggested the nature of private advantage in academic patenting among US universities. Private universities, on average, held more patents than did public universities. However, these patents were

concentrated in a few private universities that held 30 or more patents. Most private universities engaged in relatively little patenting. In this context, "private advantage" seemed to indicate that private universities either patented to a wide extent or hardly at all. Private universities, in other words, might patent strategically. Public universities, by contrast, almost uniformly engaged in some patenting, but at lower levels than did the most successful privates.

Because we conceived patents as "co-produced" alongside various other university outputs, we expected that increases in other activities – such as peer-reviewed journal articles and doctoral degrees – would predict increases in patents. We also expected that increases in externally funded R&D expenditures would predict increases in patents because the principle of between-university stratification suggested that the same universities would regularly prevail in a wide variety of contests. Organizational segmentation suggested that universities with more S&E-intensive offerings, all else equal, would be more likely to hold large numbers of patents. Due to the principle of within-organization resource allocation (Leslie et al. 2012), however, we also expected that resources that were not intuitively associated with research – such as tuition receipts or donations – would predict increases in patents because universities might reallocate these funds toward R&D activities. Finally, in keeping with the theme of private advantage and noting the clear distinctions in the graphs above, we expected that the relationships between these university characteristics and academic patenting would be different for public and private universities.

We drew data from several sources to pair these concepts with quantitative variables. Data on peer-reviewed publications came from Thompson-Reuter's "Web of Knowledge" portal. We used this interface to identify publications in which at least one author was affiliated with a sampled university. We obtained a wide variety of data related to university finances, enrollments, and faculty from the US Department of Education's Integrated Postsecondary Education Data System (IPEDS). We also used IPEDS data on degrees conferred that had been standardized by NSF. These figures, made public through the "WebCASPAR" portal, provided consistent definitions of "broad fields" in which degrees were awarded, and so allowed for comparisons over time. We also obtained data on universities' R&D expenditures from the NSF's *Survey of R&D Expenditures at Colleges and Universities*. This survey provided information on funding by source, allowing us to include measures of federal, university, state, industry, and institutional R&D contributions. All finance figures were adjusted for inflation using the Consumer Price Index (CPI) calculated by the US Bureau of Labor Statistics.

Descriptive data on selected characteristics of sampled public universities in 5-year windows between 1988 and 2003 are presented in Table 6.1. This table highlighted several important characteristics of the public subsample. First, in keeping with the theme of privatization broadly (Taylor and Morphew 2014), the public universities we studied notably increased their tuition revenues in constant dollars from 1988 through 2003. Direct government support increased much more slowly. In other words, tuition receipts comprised a larger share of the average public university's total revenue in 2003 than in 1988.

Table 6.1 Means of selected variables (standard deviations in parentheses) at sampled public universities for selected years, 1988–2003, in 5-year increments. Finance figures in millions of constant US dollars

Variables	1988	1993	1998	2003
Patents awarded	6.3	13.7	25.3	25.0
	(6.5)	(15.5)	(20.9)	(21.6)
Revenues from tuition and fees	$66.9	$102.0	$141.0	$214.0
	(40.3)	(58.9)	(81.2)	(133.0)
Revenues from state appropriations	$172.0	$200.0	$239.0	$268.0
	(75.1)	(84.0)	(101.0)	(103.0)
Revenues from private gifts	$27.0	$42.3	$58.4	$48.2
	(20.9)	(34.3)	(47.0)	(49.3)
Federally-supported R&D	$42.3	$48.1	$49.5	$74.5
	(32.2)	(37.6)	(23.3)	(55.7)
State-supported R&D	$11.2	$11.1	$11.9	$10.5
	(11.6)	(11.6)	(11.5)	(9.3)
Industry-supported R&D	$4.5	$5.3	$6.3	$6.2
	(3.9)	(4.4)	(5.3)	(5.6)
Institution-supported R&D	$17.7	$20.6	$24.0	$29.4
	(12.5)	(13.4)	(14.7)	(20.2)
Total doctoral degrees conferred	279.8	323.1	350.4	318.6
	(149.2)	(165.6)	(180.9)	(157.4)
Share of doctoral degrees in S&E fields	49.9 %	51.9 %	51.9 %	51.2 %
	(15.9)	(16.0)	(13.9)	(14.2)
Total baccalaureate degrees conferred	3,880.2	4,305.8	4,250.8	4,628.2
	(1,537.3)	(1,711.6)	(1,669.7)	(1,890.5)
Articles published in peer-reviewed journals	1,256.9	1,336.5	1,571.0	1,796.2
	(668.6)	(724.9)	(830.1)	(941.1)
Full-time equivalency enrollment	24,858.9	24,670.5	25,544.4	27,338.9
	(9,075.4)	(8,158.8)	(8,969.4)	(9,411.0)

Second, and perhaps in response to declining direct government support, over time sampled public universities expanded their R&D enterprises. This growth proved apparent through a consideration both of research expenditures from various sources (in constant dollars) and of research outputs such as patents and journal articles. While funding for R&D increased generally, it did not grow evenly across all sources. Federal and institutional contributions to R&D increased dramatically, while state and industry contributions held relatively flat. A range of outputs also increased steadily over time. The number of peer-reviewed journal articles increased by more than 40 % between 1988 and 2003. Degrees also generally increased, although growth varied by field and level. The number of doctoral degrees and share of these degrees conferred in S&E fields held relatively constant, but the average number of baccalaureate degrees increased notably.

Table 6.2 presented descriptive data on the 30 sampled private research universities. These universities dramatically increased their revenues from a variety of

Table 6.2 Means of selected variables (standard deviations in parentheses) at sampled private universities for selected years, 1988–2003, in 5-year increments. Finance figures in millions of constant US dollars

Variables	1988	1993	1998	2003
Patents awarded	10.2	17.5	31.2	35.2
	(14.7)	(21.7)	(25.7)	(34.1)
Revenues from tuition and fees	$124.0	$184.0	$179.0	$237.0
	(65.1)	(95.8)	(116.0)	(155.0)
Revenues from private gifts	$55.5	$79.3	$163.0	$185.0
	(45.8)	(73.6)	(110.0)	(127.0)
Federally supported R&D	$76.3	$81.9	$83.3	$111.1
	(76.4)	(78.3)	(76.7)	(93.5)
Industry supported R&D	$6.2	$7.0	$7.0	$8.5
	(5.1)	(7.2)	(7.0)	(11.5)
Institution supported R&D	$7.8	$9.5	$10.6	$14.6
	(7.8)	(7.7)	(8.3)	(11.3)
Total doctoral degrees conferred	229.9	270.5	259.5	259.0
	(150.1)	(172.1)	(147.3)	(149.8)
Share of doctoral degrees in S&E fields	53.2 %	56.3 %	57.2 %	58.4 %
	(23.9)	(21.7)	(20.3)	(17.0)
Total baccalaureate degrees conferred	1,408.2	1,467.0	1,544.6	1,736.4
	(616.9)	(651.7)	(775.4)	(938.6)
Articles published in peer-reviewed journals	1,526.5	1,614.5	1,698.6	2,010.0
	(950.7)	(1,009.3)	(845.3)	(1,008.2)
Full-time equivalency enrollment	10,592.7	11,207.7	11,429.0	12,560.4
	(5,146.8)	(5,382.9)	(5,825.8)	(6,503.2)

sources over time. Net tuition receipts, already much higher than those collected by the average sampled public university due to the absence of a direct state subsidy, almost doubled in constant dollars over the study period. Gifts grew even more dramatically, increasing more than threefold in constant dollars. This suggested that private advantage, on average, may have been reflected in greater resources collected by private universities over time.

Private research universities also witnessed increases in a range of R&D-related inputs and outputs. Like public universities, privates secured only minor increases in industry-supported R&D[3] while experiencing dramatic increases in federal and institutional research funding. Federal contributions grew by more than 40 %, while institutional contributions almost doubled, in constant dollars. These figures echoed previous research on private universities indicating that officials at these campuses tended to expend institutional research funds in an effort to generate additional research revenues from sources such as the federal government (Ehrenberg et al. 2007).

[3] Because comparatively few private universities secure R&D support from the state, we do not include that measure in our analyses of private universities.

Sampled private universities, like their public peers, also secured gains in R&D-related outputs. Peer-reviewed journal articles grew steadily over the study period. Baccalaureate and doctoral degrees conferred also increased. Despite this rapid growth, however, public universities continued to award more degrees of both kinds, on average, than did privates. Private universities further differed from publics in the composition of these degrees, with privates concentrating doctoral degrees in the sciences more heavily than did public institutions.

Predictors of Academic Patenting

To understand strategic action with respect to research more fully, we used regression analysis to predict the number of patents assigned to a university in a given year. The dependent variable in our regression analysis – the logged count of assigned patents – is appropriate for linear regression using the method of ordinary least squares (Cameron and Trivedi 2010).[4] However, because our dataset included multiple observations of the same university over time, we could not employ traditional cross-sectional techniques.[5] For this reason, we included a series of "fixed" university-level effects.[6]

Our dataset also called our attention to the role of time, which we addressed in three ways. First, because academic patenting has varied substantially over time (NSB 2012), we included a series of binary variables indicating each year (minus one) of our temporal sample. These "fixed" year-level effects adjusted our estimates for changes over historical time such as revisions in patent application or granting procedures.

Second, because patenting has changed simultaneously with a broad array of academic capitalist processes, it was possible that the relationships between patents and variables of interest may have changed over time. For example, as institutional contributions to R&D grew over time (NSB 2012), universities may have netted diminishing (or increasing) returns to each additional dollar spent. We tested for this possibility by interacting our independent variables with a log-linear time trend. This approach allowed us to consider how university patenting has changed during the period in which neoliberal policy priorities have been ascendant in the US.

[4] We consider co-assigned patents to be the equivalent of 0.5 assigned patents. Due to the distribution of this variable (see Figs. 6.1 and6.2), we employed the logarithmic transformation to reduce the influence of high-leverage outliers (i.e., institutions that produce a large number of patents annually).

[5] Such analyses would likely yield biased results, as a regression model that badly estimates relationships for a particular university in 1993 likely yields other poor estimates in 1995 and 1998 (Zhang 2010).

[6] Fixed effects regressions de-mean data to analyze within-university variance. Accordingly, regression coefficients indicate predicted changes over time for a given university (Rabe-Hesketh and Skrondal 2012).

Third, we lagged all time-variant independent variables by 4 years. In our model, then, we consider patents in a given year to be a function of the independent variables measured 4 years prior. This strategy addressed the problem of "simultaneous determination" inherent in the analysis of multi-product organizations. Put differently, the organizational effort that generated a patent likely also yielded various other products – such as degrees and publications – that we used to predict patents. The relationship between journal articles and patents therefore might reflect this confluence rather than the actual relationship between these two variables. Lagging independent characteristics helped to address this concern.

Public universities. Regression results for our analysis of academic patenting among public universities appear in Table 6.3. These results refined our insights into the nature of the research enterprise at US public universities in important ways. Early in the study period, increases in industry-funded research expenditures predicted growth in the number of patents. In the first year of the study, for example, a 1 % increase in industry-funded R&D predicted a 0.23 % increase in patents held

Table 6.3 Predicted number of patents assigned to sampled public universities, 1988–2004. All independent variables lagged by 4 years

Variables	Public universities	Jointly significant?[a]
Log of federally supported R&D expenditures	–0.932**	Yes ($p \approx 0.010$)
	(0.300)	
X Log-linear time trend	0.360**	
	(0.130)	
Log of state supported R&D expenditures	0.0996	No ($p \approx 0.355$)
	(0.0724)	
X Log-linear time trend	–0.0276	
	(0.0354)	
Log of industry supported R&D expenditures	0.230*	Yes ($p \approx 0.081$)[b]
	(0.0997)	
X Log-linear time trend	–0.0984*	
	(0.0475)	
Log of institution supported R&D expenditures	–0.104	Yes ($p \approx 0.023$)
	(0.137)	
X Log-linear time trend	0.155*	
	(0.0658)	
Logged count of doctoral degrees	0.295	No ($p \approx 0.221$)
	(0.317)	
X Log-linear time trend	–0.273	
	(0.156)	
Share of doctoral degrees in S&E fields	0.00331	No ($p \approx 0.330$)
	(0.00611)	
X Log-linear time trend	–0.00440	
	(0.00317)	

(continued)

Table 6.3 (continued)

Variables	Public universities	Jointly significant?[a]
Logged count of baccalaureate degrees	0.548	No ($p \approx 0.386$)
	(0.622)	
X Log-linear time trend	–0.0353	
	(0.222)	
Logged count of peer-reviewed journal articles	0.368	No ($p \approx 0.177$)
	(0.554)	
X Log-linear time trend	0.157	
	(0.230)	
Log of tuition revenues	–0.169	No ($p \approx 0.612$)
	(0.334)	
X Log-linear time trend	–0.0710	
	(0.144)	
Log of state appropriations	0.270	No ($p \approx 0.729$)
	(0.498)	
X Log-linear time trend	–0.00839	
	(0.188)	
Constant	–5.375	–
	(11.41)	–
Observations	567	–
Number of universities	45	–
R-squared	0.412	–

Robust standard errors in parentheses
*$p<0.05$; **$p<0.01$
[a]Significance at 0.05 level determined by an F test with (2, 44) degrees of freedom
[b]Although this test is significant at the level $p<0.10$ rather than $p<0.05$, we nonetheless interpret the terms as significant because both individual regressors attain significance at the $p<0.05$ level

by a particular university, all else equal. This relationship proved intuitive; industry funds tended to support "close-to-the-market" research, and patents were likely to be associated with such projects. Over time, however, this positive relationship attenuated. Industry funds, in other words, made declining relative contributions to academic patenting over time.

As the importance of industry funding waned, the role of federally- and institutionally-supported R&D became more pronounced. Interestingly, both of these variables began the study period by predicting declines in the number of patents held by a particular university. However, these negative relationships weakened over time. Indeed, institutional contributions to R&D became a positive predictor of academic patents during the study period.

These relationships suggested that, in 1988, a public university probably patented in an effort to establish or enhance relationships with industry. Over time, however, this presumptive relationship attenuated, and federal and institutional dollars replaced industry funds. One explanation for this decline may be that industry funders rarely contributed "indirect costs" that helped to under-write the costs of

academic research. By contrast, funds from the federal government do contribute to utilities, campus maintenance, and other "indirect costs" (Newfield 2009; Stephan 2012). As the cost of R&D has risen, sampled public universities seemed to substitute federal and, especially, institutional resources – both of which had previously been associated with *lower* levels of patenting – for industry funds over time. Indeed, by the end of the study period, institutional spending on R&D predicted increases in patent assignments. As a result, it seems likely that, over time, public universities increasingly relied on their own discretionary funds to pursue patents.

From our theoretical perspective, these findings may entail implications for stratification among public research universities. Presumably, a university that could support its research enterprise via externally sourced support would do so. Yet, increasingly, public universities rely upon discretionary funds that could be allocated toward other activities (Leslie et al. 2012). This suggests that, on average, public universities may indeed fare worse in the field than do their private counterparts. Moreover, because institutional contributions to research are drawn from other revenue sources, it suggests that well-resourced public universities may fare better over time than do their less-advantaged public peers (see Taylor Chap. 4 in this volume). With institutional spending on R&D becoming a more important predictor of patenting success, universities that can direct funding to R&D may see increasing returns while others do not. Likewise, segmentation may occur as resources are increasingly allocated toward research that is more likely to produce patents (e.g., S&E fields) than to other academic units such as the humanities and social sciences.

Private universities. Regression results for sampled private universities appeared in Table 6.4 As with sampled public universities, research funding from industry initially proved a positive predictor of increases in patents held. Net of other factors, a 1 % increase in industry-supported R&D expenditures predicted an increase of 0.4 % in academic patents at a given university in the first year of the study. Over time, however, this relationship attenuated. Like public universities, private universities appeared to net diminishing returns to industry-supported R&D with respect to patenting.

No other independent variables proved significant predictors of academic patenting among private universities, yet within-unit R^2 – a number, not a statistic, and so a figure that must be interpreted with some caution – suggested reasonably good model fit. We understood this apparent paradox in light of the nature of private university patenting, as described in Fig. 6.2. This figure indicated that patenting was localized among a few private universities. Private universities at the 75th percentile patented far above mean and median figures. Where patenting occurred beyond these universities, it appeared closely related to revenues derived from industry.

In other words, sampled private universities appeared to engage in patenting strategically. Patenting occurred when it was associated with revenues from industry or when it was broadly emphasized by a university. When it was not of obvious strategic benefit, however, patenting seemed to become a low-priority activity for private universities. In Fligstein and McAdam's (2012) terms, patenting seemed to represent a strategic response that savvy actors marshaled in response to field conditions

Table 6.4 Predicted number of patents assigned to sampled private universities, 1988–2004. All independent variables lagged by 4 years

Variables	Private universities	Jointly significant?[a]
Log of federally supported R&D expenditures	–0.248	No ($p \approx 0.650$)
	(0.330)	
X Log-linear time trend	0.0287	
	(0.145)	
Log of industry supported R&D expenditures	0.361	Yes ($p \approx 0.031$)
	(0.187)	
X Log-linear time trend	–0.193*	
	(0.0720)	
Log of institution supported R&D expenditures	–0.114	No ($p \approx 0.422$)
	(0.113)	
X Log-linear time trend	0.102	
	(0.0781)	
Logged count of doctoral degrees	–0.290	No ($p \approx 0.451$)
	(0.330)	
X Log-linear time trend	–0.00570	
	(0.112)	
Share of doctoral degrees in S&E fields	0.00388	No ($p \approx 0.809$)
	(0.00614)	
X Log-linear time trend	–0.00121	
	(0.00223)	
Logged count of baccalaureate degrees	–0.262	No ($p \approx 0.894$)
	(0.552)	
X Log-linear time trend	0.0777	
	(0.264)	
Logged count of peer-reviewed journal articles	0.617	No ($p \approx 0.579$)
	(0.611)	
X Log-linear time trend	–0.169	
	(0.177)	
Log of tuition revenues	0.104	No ($p \approx 0.285$)
	(0.696)	
X Log-linear time trend	–0.216	
	(0.248)	
Log of gifts and donations	–0.639	No ($p \approx 0.177$)
	(0.351)	
X Log-linear time trend	0.262	
	(0.137)	
Constant	10.55	–
	(11.52)	–
Observations	365	–
Number of universities	31	–
R-squared	0.531	–

Robust standard errors in parentheses
*$p<0.05$; **$p<0.01$
[a]Significance at 0.05 level determined by an F test with (2, 30) degrees of freedom

that might be more or less favorable to these activities. Insofar as this proved the case, the relationship between patenting and its inputs would be obscured by the fixed university-level effects that were included in the model, thus accounting for the relative lack of explanatory power found among the independent variables. Such an interpretation contrasted sharply with the behavior of sampled public universities, who drew on revenues from other sources to support patenting activities over time.

Patents and Private Advantage

Academic patenting can signal both status and the pursuit of additional resources. As such, it constitutes a visible component of the "prestige economy" in which US research universities operate (Rosinger, et al. in press). What is less clear, however, is the substantive role of patenting within that context. Taken together, descriptive and regression results suggest that the relationship between patenting and strategic action differs in important ways for public and private universities, and that this relationship has changed over time.

Public universities engage in low levels of patenting on average, and demonstrate comparatively little variability about that central point (see Fig. 6.1). Interestingly, however, the means of attaining this modestly consistent level of patent output appear to have changed over time. Public universities once relied on revenues from industry to support patenting. As the return to these funds declined, however, federally- and institutionally-supported R&D expenditures became positive predictors of academic patenting. Public universities, in other words, seem to pursue patenting regardless of whether it is funded robustly by industry sources.

The theory of academic capitalism suggests that quasi-market competition encourages universities to engage in particular behaviors, even when these activities are neither effective nor efficient for the pursuit of organizational goals. As public university decision-makers substitute revenues from federal and institutional coffers for the declining return to industry funds, a skeptical observer might ask whether academic patenting pays off for public universities. Indeed, why patent at all? For public universities, in other words, patenting may relate more to the "prestige" element of the prestige economy than to financial returns. Our analysis is unable to demonstrate this; alternate interpretations, such as the possibility that public universities simply sought any available revenues (Weisbrod et al. 2008), must also be considered. We nevertheless raise the possibility in order to encourage policymakers and future researchers to explore whether quasi-markets for research revenues encourage efficiency, or merely incentivize universities to win competitions even if the costs severely tax other revenue streams.

Patenting among private universities contrasts sharply with the behavior of their public counterparts. Private universities engage in higher average levels of patenting, but exhibit considerable variation about this central tendency. Indeed, variation proves so pronounced that patenting proved almost idiosyncratic, and therefore

difficult to predict in the context of fixed-effects regression. Only one measure – industry-funded support for R&D – was a significant predictor of academic patenting.

Collectively, these two findings suggest that private universities pursue patents strategically. On the one hand, they may patent at modest levels when financial support from industry permits. On the other hand, patenting may occur on such a wide scale that it is part of a broader strategy to engage external constituents on the part of the university. In both cases, such strategic behavior contrasts sharply with public universities' emphasis on patenting as a widespread, but small-scale, activity. Private universities, in other words, seem more closely aligned with the "economic" or resource generation component of the prestige economy than did their public counterparts.

While we articulate our analyses and interpretation with some conviction, we also acknowledge their limitations. Patents constitute a data source of variable quality since not all patents are cited or otherwise used (Guellec and van Pottelesberghe de la Potterie 2000; Henderson et al. 1998; Patel and Ward 2011; Sampat et al. 2003; Trajtenberg et al. 1997). Counting patents, in other words, risks including a few important breakthroughs alongside dozens of more modest disclosures. Despite these important differences in patent quality, we have treated all sampled patent applications and grants as equivalent. Further, because we focus on the university as our unit of analysis, we ignore faculty who patent beyond the scope of the university. Such activity makes an important contribution to overall patenting in the US (Thursby et al. 2009). Collectively, these critiques suggest that aggregate university-level patents constitute a "noisy" measure of academic work.

While these limitations enjoin caution on the extent to which we can make detailed arguments about academic patents, it does not disturb our primary contentions, which relate to university behavior rather than to patenting *per se*. Our results suggest that public and private research universities in the US respond to the prestige economy in fundamentally different ways. Private universities appear to act more strategically, while public universities tend to pursue activities that may yield status without necessarily proving profitable. As is discussed in other chapters in this volume, these sector differences contribute to notably different revenue flows and behaviors for public and private universities.

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Part II
Senior Management, Trustees, and Policymakers

Chapter 7
The Imaginators of English University Reform

Susan Wright

From 2010, when a Conservative-Liberal coalition came to power in Britain, until July 2014, when the minister for Universities and Science resigned and was effectively not replaced, the government engaged in a torrent of reforms. Student fees tripled to a maximum of £9,000 per annum and students were to pay for this through a system of government funded student loans. Universities were allowed to recruit unlimited numbers of students who left school with top grades (three specialised subjects at grades A, A and B or above, later changed to ABB) and later the cap on student numbers was entirely removed. The government ended all state funding for teaching in subjects apart from Science, Technology, Engineering and Medicine (STEM) – a move especially affecting the arts and social sciences – and then authorised the ingress of for-profit companies into a hitherto public (not for profit) university sector, permitting unlimited numbers of their students to access government loans to pay their fees. A week after his dismissal, the former minister sent a further shockwave through the system by proposing that universities should buy the student loan book from the government.

Ideas for these changes were circulating amongst policy advisers, consultancies, interested private companies and university leaders in an orbit of which many academics were unaware (for example IPPR 2013a, b; PA Consulting 2009, 2014; PwC 2010). The intensity, extent and speed of the changes to higher education took many academics by surprise; they wildly exceeded what anyone had imagined possible yet they were achieved within existing legislation and merely required minor regulatory changes. When and how were the 'conditions of possibility' for these changes put in place? How could a few detailed changes have such big effects? And how could these changes happen below the radar of public or academic debate? In devilling away at these questions, I found the answers to lie in the detail of the legal

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ownership of English universities and the rationale and methods of state accounting systems. They also lie in the emergence of a web of policy advisers in government, consultancies and think tanks who are networked internationally and who are both generating a new imaginary of the future university, and have the detailed knowledge of legal and financial details to navigate and engineer change. These I call the imaginators.

The Imaginators of a New University World

There is a conundrum about the current transformation of universities. Governments and university leaders, especially in the Western world, are introducing similar changes that emphasize competition, 'autonomy' and 'freedom' (Wright 2014), yet reform in each country and even in each university differs in detail. Rizvi (2006) argues that this combination of similarity and difference is accommodated by the idea that there is a widely shared new 'social imaginary,' meaning a common backdrop against which people develop a shared understanding of the problems to be addressed, even if the solutions are flavoured with local political ideologies and legislative and administrative systems. Rizvi criticises the way the current policy imaginary, which is called for shorthand 'globalisation', is often presented as a pre-given 'thing' that exists outside thought and agency. This suggests that 'globalisation' has achieved hegemonic status, becoming the taken-for-granted thinking that makes everyday practices possible and legitimate.

Common features of this imaginary include a re-purposing of universities to make them drivers of competitiveness in the so-called global knowledge economy and a mandate that universities network with other 'knowledge organisations' to transfer their knowledge into innovative products, new ways of organising industrial production, and a re-thinking of the role of the state and welfare services. Universities also are said to need a clear corporate structure with strategic management separated from the day-to-day work of academics and students. In some countries changes in governance have been imposed on universities by legislation, but universities in the UK initiated the move to strategic management themselves (Jarratt 1985).

A further feature is that universities are no longer protected from industrial and political interests in a ring-fenced public sector. Instead they are becoming just one part in an extensive new ecology or university-industrial complex made up of a wide array of private firms and institutions of governance (called 're-sectoralisation' by Olds 2010; Robertson et al. 2012, 32). These shifts are associated with the emergence of a loose network of policy makers, industrialists, politicians, researchers and staff of international agencies, think tanks, consultancies and national governments. This network of strategically positioned people are 'imaginators' because they both envision and engineer change.

The English University Sector

In order to explore how those features of the new global imaginary were brought to bear on English universities, it is first necessary to set the scene of the English university sector. I call it the English sector, because, although it was 'British' for much of the twentieth century, in 1999 powers over education and training were devolved to Scotland and Wales and their parliamentary assemblies decided not to follow the direction of university reform in England. In particular, whereas England raised student fees, Scotland and Wales decided that higher education should be free at the point of entry for their citizens (Gallacher and Raffe 2011).

Even though until very recently all but one English university received public funding and all worked for a public purpose and were not-for-profit, the sector is described in terms of various divisions and missions. The terms most often used are 'old' as against 'new' universities. Each of the 'old' universities is founded on the basis of an individual Act of Parliament or Royal Charter. They are independent corporations founded for a public purpose, which gives them charitable status (and tax reductions). They are responsible for their own solvency, appoint their own staff, select their own students, and award their own degrees. They are not, however, financially independent and through the twentieth century they became increasingly reliant on public funding. By the mid-1960s, a national system of free and publicly funded higher education at autonomous 'old' universities had been established.

The 'new' universities developed through a different route. The expansion of higher education in the 1960s also included the establishment of polytechnics, eventually numbering over 50 in England. They were funded and controlled by local authorities and did not have access to national research funding. They offered diplomas and degrees focussed especially on the professional and vocational training needed for the urban economy. Their curricula were often developed in collaboration with professional associations and their degrees were validated by a national Council for National Academic Awards (CNAA). In other words, they did not have the same autonomy as universities, not even when the 1998 Education Reform Act took the polytechnics out of local authority control. They were established as corporations appointed in the first instance by the Secretary of State and funded by a separate funding council at arms-length from the ministry. During the late 1980s, when government was trying to expand the numbers and reduce the unit cost of degree students, polytechnics competed with universities, driving down the costs. Government rewarded them by abolishing the binary divide between universities and polytechnics in 1992. Polytechnics became the 'new' universities, with their own degree-awarding powers, in a redefined university sector.

As government became increasingly interventionist, its policy grew more inconsistent, one moment expanding student numbers, the next cutting them. Vice chancellors had had a 'committee' since 1919 for informal mutual consultation but in the 1980s its lobbying role increased. Notably the Jarratt Report in 1985 advised them to reorganise universities as businesses with themselves as CEOs. After 1992, when the number of universities doubled, this committee became an advocacy organisation for

British Universities (renamed Universities UK in 2000 and currently representing 134 of the 140 universities and colleges in the sector). Within this large grouping of universities, subgroups with different interests formed. In 1994, the major research-intensive 'old' universities (now numbering 24) formed the Russell Group (named after the hotel where they conferred prior to meetings of Universities UK nearby). Russell Group members receive approximately two-thirds of all university research grant and contract income in the UK, award over half the doctorates and attract about a third of all international university students (from outside the EU). In response, 17 smaller research-intensive universities formed their own '1994 Group' to defend their universities' interests. When their highest performing members joined the Russell Group in 2012, 'new' universities regrouped. The University Alliance of 20 'new' universities and Million+with 16 affiliates lobby for the different interests of their members and work closely with think tanks like IIPR and London Economics to produce reports and media campaigns on the problems facing higher education. In addition, there are various regional groupings of universities, such as the North West Universities that formed a European Unit as a wholly owned company to facilitate its 12 member universities' access to European funding. Many universities have not joined any of these mission groups and all still belong to Universities UK. However, splits between universities with different 'missions' and interests have made it difficult for the sector to engage in policy debates with one voice.

Changes to this sector have been piecemeal and incremental, and involved five main elements. The first element was funding cuts and the introduction of disciplines intended to induce universities to bring an economic calculus to bear on all their activities. In 1981 the Thatcher government announced cuts on the 'old' university sector so sudden and severe, averaging 17 % and extending to 44 %, that there were doubts whether the worst affected would survive (Jarrett 1985, 10 para. 2.8). Public funding per home student declined by 40 % over 20 years (Dearing 1997: summary report para. 83). Attempts to persuade old universities to respond to these straitened circumstances by privatisation were largely unsuccessful. Universities outsourced their peripheral services (canteens, cleaning, security) to private companies and some contracted with financiers to improve their student accommodation, but when such a scheme spectacularly failed at Keele University and resulted in the sacking of 8 % of the academic staff to pay the debt, universities became very cautious. When the Blair government vastly expanded its public-private partnerships (PPPs), universities largely viewed them as traps of long term indebtedness.

The second element was massification. Whereas only 5 % of the 17–30 year old cohort went to university in the early 1960s, this had increased to just under 15 % by the 1970s before suddenly increasing from 15 % to 33 % between 1988 and 1996. Although Tony Blair fought the 2005 general election on the mantra 'Education, education, education,' the participation rate only crept up from 42 % in 2006 to 46 % in 2010 (BIS 2014). My analysis of the discourses in New Labour's green paper (DES 1998), white paper (DES 2003) and Higher Education Act (DES 2004), parliamentary debates and ministerial speeches reveals a profound shift from treating education as a social good, collectively provided across social classes and

generations through redistributive taxation, to an ideal of education as a personal investment in a positional good (Wright 2004). If every knowledge worker/citizen governed their own conduct in order to achieve this ambition, they would advance the government's model of neo-liberal governance. In fact, massification had the contrary effect. It widened opportunities for 50 % of young people from middle and upper socio-economic groups to go to university, whereas only 19 % from lower economic groups did so (Hansard 2004: col. 171). The latter were also disproportionately clustered in 'new' universities and found their degree was not sufficiently prestigious to improve their position in the labour market – a phenomenon called 'perverse access' (Jary and Thomas 1999).

The third element of the reforms was the differentiation of the higher education sector. A Research Assessment Exercise (RAE), starting in 1986 and held every 4–6 years, involved disciplinary panels of academics peer-reviewing the work of all the departments submitted for evaluation from every university. At each RAE, the number of top-ranked departments (5*, 5 and 4) increased but so did the concentration of research-active academics and government funding on those departments. For example, in RAE 1996, 59 % of research active staff were in the top 1,244 departments (43 % of the total) whereas in 2001, 80 % of research-active staff was concentrated in 1,663 top departments (63 % of the total) (calculated from RAE 2001). State research funding for each Grade 5* department was 3–4 times greater than that allocated to the 36 % of research departments that were not top-ranked, and from 2004 the latter ceased to receive any state research funding at all – a move which had especially deleterious effects on new universities. This punitive and divisive system concentrated resources on top departments and punished departments further down the league tables by reducing their funding rather than enabling them build up their research capabilities.

The fourth element ran counter to this process of differentiation. In 1997 a Quality Assurance Agency (QAA) was established to try and reassure government, employers and students that degrees of the same title – BA or MA – were of equivalent level and nature throughout the sector. An elaborate and costly process of six yearly quality checks on all degree programmes in all subjects was devised (Shore and Wright 2000). However, unlike the equivalent research assessment exercises, the ranking of departments' teaching was never attached to differential funding.

The fifth feature was the creation of a higher education market. The Dearing Report argued that graduates who personally benefitted from higher earnings (the graduate premium was estimated at 11–14 %) should contribute towards their tuition costs once they were in employment (Dearing 1997, 95–116). Instead, in 1998 the first Labour government introduced an up-front fee of £1,125 per year for all students, later changed to a loan for fees to be repaid when the graduate earned above £15,000 per annum. A further, major change was made in 2004 when the Labour government's Education Act introduced differential fees ranging from zero to whatever the university thought the market would bear. Faced with a revolt by the Labour MPs against their own government's legislation, a compromise set a 'cap' at a maximum of £3,000 per year. In effect a market was instituted but its operation was delayed because all universities charged the maximum £3,000 for all courses.

Conservative-Liberal Coalition's 'Omnishambles'

The Conservative-Liberal Coalition came to power in May 2010 on an austerity ticket. As a way to handle the financial crisis, the Coalition's austerity narrative harked back to Mrs Thatcher's 'good housekeeping' arguments that a country, like a household, must cut expenditure and not live beyond its means. This argument was not applied to personal debt, where the bulk of UK debt lay;[1] rather, it was focused on cutting publicly provided services. The government argued that extensive and sudden cuts (a shock doctrine) would force people to come up with new solutions and create new providers – the so-called 'Big Society.' In effect the austerity narrative was a cover for creating a market place in previously public spaces with few restrictions on market entry. Higher education was opened up in this way – a process that took off when the government found that it needed no legislation to privatise and marketise the sector because a network of imaginators had done the preparatory work and were ready to act.

The Coalition inherited a national review, the Browne Report (2010),[2] set up by the previous Labour government. Its report on 12 October 2010 recommended that government stop funding university teaching. Instead, universities should rely on students' fees, which would make them compete for income. However, additional government funding was justified for STEM subjects and 'strategically important language courses' that 'deliver significant social returns' (Browne 2010, 47). There should be no cap on the fees a university could charge. Students would finance these expenditures through a government loan, with means-tested grants for students from families earning below £60,000 per year. After graduation, students would repay loans at a rate of 9 % on any income above £21,000 per year and after 30 years any unpaid debt would be written off. Nine days later, the government's Comprehensive Spending Review announced the end of government funding for teaching in all non-STEM subjects, which would mean a cut in the higher education budget of £2.9 billion by 2014/2015 – a major contribution to the Department for Business, Innovation and Skills' overall 25 % budget cut (Morgan 2010). In December, the government won a Parliamentary vote to raise the cap on fees to

[1] 'Household debt rose from 69 % of GDP in 1997 to 100 % in 2006 – even before the recession hit – before peaking at 110 % in 2009 and falling back slightly to 99 % now [2013]' (Jones 2013).

[2] The panel chairman, John Browne, was a businessman close to Mandelson and the Labour government. As chief executive of BP he was lauded for the expansion of BP into the USA and Russia and his 'Sun King' autocratic style, but later criticised as responsible for instilling high risk strategies and a poor safety culture. He was forced to resign as chief executive of BP when found by a judge to have lied to the court but perjury did not disqualify him from chairing a national review of an institution whose role some would describe as fearless pursuit of truth. Other members of the panel were: two vice chancellors, one with engineering expertise and the other formerly chief executive of the Higher Education Funding Council for England; a former adviser to Blair and Obama on education reforms who was currently head of McKinsey's Global Education Practice; a former director McKinsey & Co, now chief executive of Standard Chartered bank; an economist specialising in competition analysis; and a former chairman of the British Youth Council now on the Lottery Fund board. The panel consisted of no representatives of students or academics.

£9,000 per annum (three times the existing fee and much more than the £7,000 that the Browne review anticipated).

The government's higher education policy was called an 'omnishambles' – an epithet also applied to many other areas of government policy including the 2012 budget. The Oxford English Dictionary voted it 'word of the year' in 2012 and defined it as 'a situation that has been comprehensively mismanaged, characterised by a string of blunders and miscalculations'. The omnishambles continued unabashed. In May 2011 the minister announced that universities could have unlimited places for students who could pay for themselves (Vasagar et al. 2011). This proposal to allocate places based on ability to pay rather than academic record caused uproar and was dropped a month later. The white paper 'Students at the Heart of the System,' published in June 2011, confirmed that the government was raising the cap on student fees to £9,000 and that it was following the Browne review's advice on student loans (BIS 2011). In addition it set up a 'core and margin system' in which universities could recruit unlimited numbers of students with top grades. To compensate universities at the bottom of the pecking order that would thereby lose students, and to try and prevent all universities charging £9,000, the white paper also announced an auction for 20,000 student places among universities that charged fees of less than £7,500. A Select Committee report on higher education in November 2011 described the policy as a mess (Select Committee on Business, Innovation and Skills 2011). The consequences and interconnections between the hotch-potch of policy changes meant universities could not plan or manage. The effect was especially hard on the 'squeezed middle' even though these universities were the ones doing what the government wanted from the sector. Their courses produced very employable students but they had lost 10 % of their student places to the auction. They had strong research links with industry, but the government had also decided to concentrate all its research funding on universities whose research ranking was 'international excellence' (predominantly the Russell group's 24 universities out of a total 140 UK universities), so the 'squeezed middle' lost research funding too.

In January 2012 the government decided not to convert their white paper into a new law and continued to tinker with existing regulations and their own newly proclaimed policies instead. In April 2012 pressure was put on the school exam boards to award fewer top grades as the government was worried about how to fund the increased number of loans from unlimited intake of top students. In August 2012 the funding council scrapped the auction of low cost places for 2013/2014. This focus on the government's omnishambles cloaked two profound changes in the financing and legal status of higher education, which were going on below the radar of public debate.

Accounting Tricks

The first of these profound changes was a consequence of accounting tricks. One reason for the government's shifting of university funding from block grants to student fees was to comply with its own austerity policy. But it only achieved this

through clever ways of working the ministry's and nation's accounts, and the result has serious and long term consequences for students and the country.

The Coalition government's policy was for each ministry to reduce its annual deficit – the UK's annual deficit was around £125 billion in 2011/2012 – in order to slow down the rise in the national debt. In March 2012 the national debt was £1 trillion, or 66 % of GDP. Cutting the block grant for university teaching saved the Department for Business, Innovation & Skills £3 billion in annual expenditure. Moreover, the student loan book is not entered as expenditure on the department's accounts because it generates annual income from graduate repayments; on the contrary, it is counted as an asset. Only the loans for maintenance grants and the estimated defaults on graduate repayments (the so-called RAB charge)[3] counted as expenditures (totalling £1.93 billion). Overall, the shift from block grants to student loans cut the department's annual deficit by £1.07 billion (McGettigan 2012a, 18–19). Paradoxically, this cut in the block grant increased the funding for higher education, because vice-chancellors could charge higher fees.

This only appears to be a win-win situation because the government's accounting system views each department separately without regard to the effects of one department's actions on other departments or on the overall national accounts. Students' fees are included in the basket of goods used to calculate the Consumer Price Index (CPI), which is used to determine increases in state benefits and pensions. McGettigan (2012a, 21) calculates that the effect of tripling student fees on the CPI will, by 2016, add £2.2 billion to the social security expenditure of the Department of Work and Pensions, at a time when the Treasury is demanding £10 billion cuts in that department's annual deficit. Even more seriously, government borrowing to pay the increasing number and size of student loans would add £50–100 billion to the national debt. The government's calculations were criticised for underestimating the level of fees (and therefore the size of the loans) and for being too optimistic about graduate repayments. Even so, the government did not expect repayments to match outlay until 2030 or 2040. If the loan book was 'off deficit' as far as the department is concerned, the borrowing to create it would not be off the national balance sheet for another 20–30 years.

There were two main ways the government could reduce the borrowing to pay for the students' loans. The first was to copy the way Britain has run Public Finance Initiatives (PFI) in other sectors, which often take the debt 'off balance sheet' by moving the cost of borrowing to the private sector. To entice a private company to take on a PFI debt, the government often has to promise to pay them an annual subsidy (paid from taxes) for 30–40 years. Experts deemed a proposal to sell the loan book 'economic illiteracy' because the annual subsidy that the government would have to promise to a private sector purchaser would be greater than the cost of the loan book – but it would take the debt 'off balance sheet' (McGettigan 2012a, 46).

The other alternative was to increase the students' repayments and make the loan book more attractive for a commercial sale. McGettigan points out that on page 8 of the 2012/2013 loan agreement signed by each student there is a clause stating that:

[3] RAB stands for Resource Accounting and Budgeting.

> You must agree to repay your loan in line with the regulations that apply at the time the repayments are due and as they are amended. The regulations may be replaced by later regulations.

All students effectively sign a blank cheque: government (or a future commercial owner) can increase repayment rates at will. Far from the ministers' claim that they are 'empowering' students and putting them at the centre of the system, students are in danger of being turned into 'an indentured class of graduates from whom higher repayments can be extracted' (McGettigan 2012a, 7). Students have little statutory protection. By not turning the white paper into an act of parliament, the government avoided democratic discussion and pressure to secure the loan repayment terms in statute. Although critics argued that paying for higher education by government borrowing to provide loans for students so that they could pay university fees would be more costly that the old block grant system, it initially appeared cheaper through a series of accounting tricks.

In November 2013, the Department of Business, Innovation and Skills sold the pre-1998 student loan book to a consortium of private companies. It had a face value of £890 million, but they sold it for £160 million (PAC 2014, 10). A month later, the Chancellor announced in his autumn budget statement that the rest of the loan book would be sold to fund student loans for 300,000 more places at universities in 2014–2015, and the following year the cap on student numbers would be abolished altogether. The Department of Business, Innovation and Skills had also been encouraging private for-profit companies to start offering higher education in England by allowing them unlimited numbers of students who could also claim publicly funded student loans. Three days later the National Audit Office criticised the government's running of the student loan system and the disastrous first sale. Bakhradnia, Director of the think tank HEPI (Higher Education Policy Institute) and former Director of Policy at the government's arms-length funding council, HEFCE, decried it as a 'Ponzi scheme' that relies on 'future diminishing income to make good increasing present deficits' (Morgan 2013b; Bakhradnia and Thompson 2013).

The House of Commons' Public Accounts Committee (PAC) collected evidence on the student loan system during December and published a critical report in February 2014 (PAC 2014) documenting £46 billion of outstanding student loans on the government's books, and estimating that these would rise to £200 billion by 2042 (at 2013 prices). They called the loan book 'a substantial public asset.' Yet the Department had no reliable model for forecasting future loan repayments and PAC considered their estimate of 35–40 % defaulters was 8 % too low. This meant £70–80 billion would be written off by 2042. PAC also characterized the Department as lacking a robust model for calculating the value of a sale or the long-run cost to the taxpayer, and reported that the Student Loans Committee did not have accurate lists or contact information of borrowers. A month later the Office for Fiscal Responsibility declared that because of declining graduate earnings its forecast for student loans repayments was now £2.5 billion lower than its last forecast in December, and the Minister told Parliament that the RAB was now estimated at 45 % (Morgan 2014a). The think tank London Economics calculated that this write-off meant it would have been cheaper for the government to keep the old £3,000 fee system (Malik 2014).

The omnishambles continued. The House of Commons' Business, Innovation and Skills Select Committee published another critical report on student loans in July where they referred to 'the Department's worrying record of miscalculation' of the RAB charge and the need to review the viability of the funding system (quoted in HEPI 2014). The Business Secretary, Vince Cable, decided that the student loan book would not be sold as the estimated price was so low that there was no public benefit in the sale (Morgan 2014d). This left in tatters the Chancellor's policy of using the sale of the loan book to fund new loans for the uncapped expansion of student numbers.

The Minister left office in mid-July but later wrote in the *Financial Times* and stated on BBC *Newsnight* that the student loan book should be sold to the universities to enhance their autonomy (Willetts 2014). Some of the Russell Group vice chancellors seized the idea as a *quid pro quo* for raising student fees above £9,000 – arguing that the cost of education per student was around £16,000 per year. One vice chancellor criticised the idea as universities should ensure that their financial assets are diversified, marketable and unrelated to unavoidable business risks, whereas the loan book was the opposite (Smith 2014). Only 'new' universities whose students had a poor employment record could possibly benefit if they bought the loan book cheaply and worked to improve their students' employment and hence increase their repayments. Bakhradnia from HEPI called the idea 'half baked,' noting that the cost was far beyond the resources of a university and that it was 'ludicrous and possibly damaging if it incentivises [universities] to pull out of subjects with poor employment records and to shun students (women, students from poorer backgrounds, disabled students) with less good employment prospects' (quoted in Morgan 2014e). The former minister demurred that the time was not yet ripe. If the idea is ever resurrected, in effect government would have to lend universities the money to buy their students' debt, so the university could repay the students' debt to the government, so the government could use it to lend to the next students so they could pay their fees to the university.

In the July 2014 government reshuffle, responsibility for 'universities and science' was given to the Minister of State in the Cabinet Office whose primary concerns were cities, regional development and political reform. He seemed disinterested in university policy. Although the OECD had started promoting the English funding model to other countries, it was now widely recognised among political advisers and think tanks in England that there was a black hole in this model and that the government had effectively left this problem for a future government. An austerity measure to end the public funding of most university teaching and transfer the cost to students by tripling their fees had resulted in a system that was more costly for the public purse.

Enter the Imaginators

A second issue cloaked by the austerity narrative and the omnishambles approach to policy making was the meaning of the 'genuine competition' the government said it was introducing into the sector. Public universities would compete both with each

other and, for the first time, with private (for-profit) providers. Previously, private providers had been ineligible for block grants for teaching. However, the minister wanted to 'level the playing field,' and now unlimited numbers of students could access publicly funded loans up to £6,000 to pay fees to the for-profit providers.

The Times Higher Education (2011) gained information that in May 2011, in the midst of preparing the white paper, the Secretary of State had meetings on higher education with a range of companies seeking to enter the sector:

- Exponent Private Equity
- Duke Street (private equity investments)
- Providence Equity Partners
- Silverfleet Capital (specialising in business buy-outs)
- Hawkpoint (specialising in mergers and acquisitions)
- Pearson ('Learning is our business')
- Kaplan Europe (owned by Washington Post Company, US for-profit provider poised to enter the UK market)
- Greenwich School of Management (majority owner is Sovereign Capital private equity firm, 'buy and build specialists' in education).

Meanwhile a range of consultancies and companies were researching legal and financial models for converting public universities into for-profit activities. Their discovery that for-profit privatisation could take place without the need for primary legislation was probably a major reason for the government not proceeding with the higher education act.

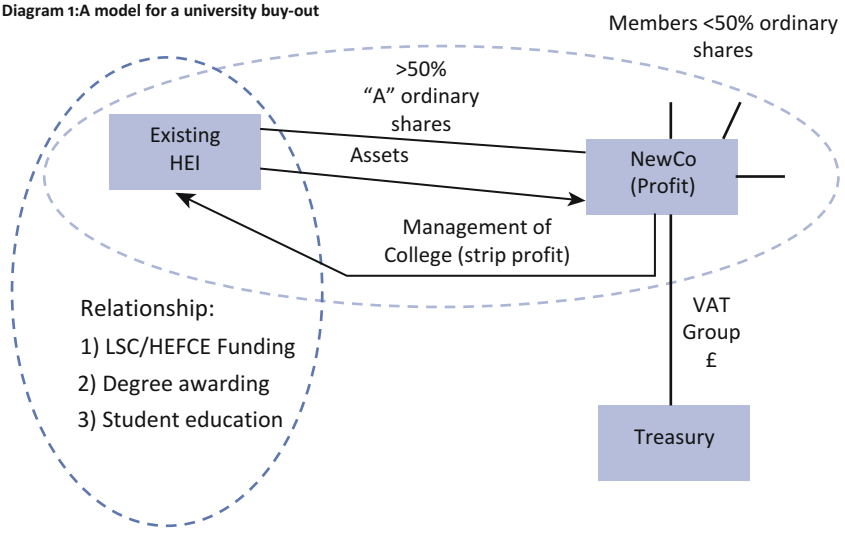
The work of imagining profit-taking from public universities had been initiated by the vice-chancellors' association, Universities UK, in 2009. Vice chancellors had been extracting rent from universities in the form of increasingly higher salaries,[4] and now they commissioned Eversheds, the UK's main law firm that specialised on universities, to research new funding and legal models for universities, including how an existing management team could purchase (technically, 'buy out') their 'own' university. Eversheds concluded that universities already had all the rights and powers needed to transfer ownership and engage in for-profit activities if there was the political will to let them do so.

Eversheds (2009) then provided a model for vice chancellors to 'buy out' their own publicly funded university, or for a consortium of university managers and/or

[4] Vice chancellors' average pay had increased from £92,000 in 1994/1995 to £254,000 in 2009/2010. The prime minister, on £142,000, was paid less than every vice chancellor. Pay differentials within the university had also widened from 1994/2005 when vice chancellors were paid 2.8 times as much as a top senior lecturer, to 4.6 times the pay of a top senior lecturer in 2009/2010. Vice chancellors model their argument for such pay on those of private executives. The High Pay Commission in 2010 was highly critical of such widening differentials. In a period what FTSE 100 executives' pay had risen by 49 %, their average employee's pay had risen by 2.7 %, and these were often executive rewards for failure. It was also critical of the argument that executives of complex organisations in international markets deserve high salaries; there was no evidence of international competition for talent because only 1 FTSE 100 CEO had been poached in 5 years. Universities clearly share with corporations a moral hazard when managers divert such a large share of resources to private purposes as de facto owners that they think themselves stewards of their own enterprise.

private companies to 'buy in' and takeover another university. The university would retain its degree-awarding powers, governing body, charitable status, and any funding council grant. The university's assets, undertakings and liabilities would be transferred to a new company, in which the senior management team and external financiers would have an interest. This company could float on the stock exchange and sell shares or raise bonds. The company and the university would form a VAT group so that there would be no tax on student fees. The new company would be a commercial operation but it could 'gift aid' (again avoiding tax) its profits to the charitable university – and in this way, as clearly stated in Eversheds' model (Fig. 7.1), the university management 'strips profit.'

A number of other consultancies explored other business models, using a range of metaphors for the structures they imagined. For example the charitable university could persist as an 'umbrella' (Fig. 7.2), and not only run its own activities but acquire further education colleges and schools, and gain contracts for its own service company to run the operations of other universities and institutions. In a more drastic version, the charitable university remained as a 'hollowed out' carapace whilst its activities were 'unbundled' and outsourced to separate profit-making companies. If universities did so, surely they could disband their permanent workforce, use fewer buildings and drastically reduce their costs? The UK's Foresight report (Thorne 1999) includes a vision of universities' turning student recruitment, curriculum design, preparation of course materials, course delivery, assessment, and student support services into separate activities, each run by commercial companies or by universities who replace their academics with narrowly specialised staff on short term or seasonal contracts.



Note: The use of A ordinary and ordinary shares is to delink the economic value of share from its voting rights so that A ordinary shares carry more than 50 per cent of the votes but not necessarily more than 50 per cent of the economic value.

Fig. 7.1 Eversheds' model for a university 'buy out' (Source: Eversheds 2009, p. 7)

Fig. 7.2 The Umbrella University (Source: adapted from PA Consulting 2009, p. 8)

In 2013, Pearsons, a British multinational that describes itself as the biggest publishing and education company in the world, provided the staff to write a report for the think tank IPPR, which put forward a radical model for unbundling all the components of a university – research, degrees, city prosperity, permanent faculty, student recruitment, the experience of a university education, governance and administration, the curriculum, teaching and learning curriculum, assessment. The report is also an example of the networking between imaginators. The report was collaboration between Pearson and the 'independent' and 'progressive' think tank IPPR, and it would circulate through the authors' own networks with other think tanks, companies, national governments, and international consultancies. For example the lead author, Barber, writing as chief education adviser to Pearson, worked formerly as head of global education practice for McKinsey, the American global management consulting firm that describes itself as 'trusted advisor and counsellor' to the world's most influential businesses, institutions and governments, and before that he was head of the Delivery Unit in the office of UK Prime Minister Blair. Barber's biography is a good example of the way the 'imaginators' move between organisations and sectors, nationally and internationally, creating networks for the 'imaginary' depicted in their reports to travel through.

Imaginators in Action

The interactions between government, private companies, consultancies and vice chancellors unleashed a sudden flurry of activity, enacting these new ways of imagining the university. There were two main reasons why English higher education was attractive to for-profit providers. First, as mentioned above, as of April 2011

unlimited numbers of students could take government loans up to £6,000 to pay fees to for-profit institutions. As one consultant put it, this meant 'England and Wales have just become Treasure Island to for-profit companies' (Hotson 2011). Several for-profit business models were tried.

One model was to establish a new institution and apply for university status and degree-awarding powers. BPP, already a for-profit provider of sub-degree courses in business and law, with 14 regional campuses and 36,500 students, applied for degree-awarding powers and was promptly bought for £368 million by Apollo group (owner of University of Phoenix, which has the same number of students as all the Russell Group put together). This indicated how keen US companies were to enter the UK market but it introduced delay, as Phoenix had been criticised by the US Department of Education for a 'high pressure sales culture' and was currently on probation by its US accreditation body because Apollo gave it insufficient autonomy. Nevertheless, the minister granted BPP the status of a university college with degree awarding powers in July 2010 and full university status in August 2013.

A second model was to set up a new institution but offer degrees from another British university. Pearson, a FTSE 100 company, one of the largest educational publishers in the world and owner of Penguin Books and the Financial Times, had been moving into other aspects of education for some time (Morgan 2013a). It owned the Edexcel exam board, responsible for the sub-degree BTEC brand of qualifications. First it tried to gain its own degree-awarding powers without actually running educational courses itself. It wanted to extend its role as an examining body and deliver degree programmes through the further education colleges that already provided BTEC courses. However, that would have required legislation. Then it tried to buy an existing college. Failing that, it set up Pearson College in the Pearson headquarters building on the Strand in central London and at the company's offices in Salford Quays in Manchester. In August 2012 it launched a BSc degree course in business and enterprise. The first 2 years of the degree consisted of existing BTEC courses and a third 'honours' year turned it into a BSc validated by Royal Holloway College, part of the University of London. It directly involved business and industry in course design, and guaranteed all students a 6-week internship with one of the college's corporate partners, which included Cisco, BT and the Peter Jones Foundation. The programme passed a special review process set up by the Quality Assurance Agency for private providers, which made UK students at Pearson eligible to receive publicly funded student loans and also enabled the College to apply to the Home Office for permission to recruit overseas students. Many smaller companies were already pursuing similar versions of this model.

A large number of private colleges have expanded and developed complex relationships with universities with degree-awarding powers who validate their courses, with 'pathway providers' who manage the recruitment and trade in international students, and with private investors. The business model rests largely on students' access to publicly funded loans. The number of private college courses designated by the Department of Business, Innovation and Skills as eligible for student loans rose from 157 in 2009–2010 to 403 in 2011–2012 and the cost of loans to students at private colleges grew from £30 million in 2010 to £1 billion in 2014. For example, the for-profit Greenwich School of Management, bought by Sovereign Capital

in 2011, had the second largest number of designated courses (38). It did not have degree awarding powers or university title, but its degrees were validated by Plymouth University in business, law and management or other subjects with 'clear employability.' It expanded from 496 students in 2010 to 3,366 students in 2012 with a fee income from public-backed loans totalling £11 million in 2012–2013 – more than any other private provider and more than the London School of Economics (Morgan 2014c).

Two researchers produced careful research for Universities UK and for the think tank HEPI, making recommendations about the immigration, tax and quality assurance regulation that was required by this model of private sector expansion into UK higher (Fielden et al. 2010; Middlehurst and Fielden 2011). Their advice went unheeded, as is seen by cases of fraudulent practices both among universities validating degree courses (most notoriously, the University of Wales)[5] and private colleges that were claiming fees for UK students and supporting international students' visas without the students turning up for class. For example, St Patrick's International College grew to receive £11 million in public-backed funding in 2012–2013 from its 4,000 students. Both it and the London School of Business and Finance, which had 1,354 students on public-backed loans, were owned by Global University Systems, a privately owned Dutch company whose majority shareholder is the Etingen family. To engage in the market for international students, the London School of Business and Finance entered into a financial arrangement with Glyndwr University. Based in Wales but with a branch campus in London, Glyndwr sponsored the students for immigration purposes, and the London School of Business and Finance provided the teaching and collected tuition fees (Matthews 2014a, b). Two hundred thirty students with invalid English test results had nevertheless been sponsored by Glyndwr for immigration visas, and tax records showed that 290 foreign students had been working instead of studying at the London School of Business and Finance. In 2014, the Home Office also found that 57 private colleges and several universities that had set up branch campuses in London were misusing their licences to sponsor international students. Meanwhile, the House of Commons Public Accounts Committee asked the National Audit Office to investigate whether there was misuse of public money in colleges that had grown so fast (THE 2014). In all, the investigations of fraud resulted in the Department rescinding the designation of 63 colleges. The Department asked Pearson to find new institutions for the students affected by the de-designation of their courses (Morgan 2014f, 2014g).

[5] BBC Wales reporters found that the University of Wales, founded 1893, had become a 'validation machine', selling its powers to validate degrees to bogus operators. In 2003–2004 the university validated 20 organisations in the UK and 55 overseas, generating £3 million (40 % of its income). By 2009–2010, the university earned £10.3 million from about 140 collaborative centres in 30 countries. The vice chancellor's salary and pension package also rose from £84,284 in 2007–2008 (the year he was appointed) to £139,000 in 2009–2010. The QAA's 2001 inspection said it had confidence in the university, but the university admitted it outsourced much of the validation work to academics in other universities by making a financial contribution to their department. The second BBC Wales undercover investigation not only found that the checks were inadequate but also an alleged visa scam at a University of Wales collaborative centre, Rayat London College. In autumn 2011, the University of Wales was dissolved (Matthews 2012).

A third model was to buy an English university which already had degree-awarding powers. Several U.S. firms – Kaplan, Career Education Corporation, Laureate,[6] ITT Educational Services,[7] Corinthian Colleges, DeVry and Strayer Education – were said to be looking for such an opportunity (Baker 2010). English public universities had experienced severe financial cuts and AP Consulting's annual survey of vice chancellors revealed that three quarters of the respondents expected some universities would fail or disappear in the next few years (PA Consulting 2010, 3). The first institution to come on the market was the College of Law in London. The College of Law resembled an old university in that it had a Royal Charter and was a registered charity but it did not receive public funding and it was the first private institution to be granted degree-awarding powers in 2006. The legal firm, Eversheds, helped develop the sale and the university was divided into a new for-profit company with all the university's education and training business, brand, contracts with law firms and degree awarding powers; and a Legal Education Foundation to maintain its activities as a charity and provide bursaries and scholarships for students. The sale depended on the college being given the status of a university, which was rushed through by the Department just in time to complete the sale. The renamed University of Law was purchased by Montagu Private Equity. To finance the £200 million purchase, the private equity firm, Montagu, borrowed £177 million and then put this debt on the balance sheet of the University of Law, so that the institution would pay down the debt and interest from its cash flow. This should have made the purchase attractive and tax-light, but in May 2014, Montagu announced it was selling its entire property portfolio, including the buildings of the University of Law. Nevertheless, both the government and Eversheds recommended this as a model for the UK's publicly funded universities to follow (Swain 2012; Morgan 2014b).

London Metropolitan University was the public university that came closest to realising the minister's so-called 'paradigm shift.' Like the University of Law, it planned to divide its operations into for-profit and not-for-profit entities, but using a different business model that others have since developed further. As a new university, and one of the few that was already a company limited by guarantee, it needed no legal change for a private takeover. The vice chancellor's business plan involved reducing the number of courses offered from 557 to 160, and marketing these as 'affordable education' with the lowest fee in England of £6,850 per year. The university then tendered for a partner who, with a contract worth £74 million over 5 years, would review the university's administrative processes; deliver all the university's services except teaching and the vice chancellor's functions at reduced cost; and use this experience to establish a 'special services vehicle' which would tender for con-

[6] Laureate is endowed by Harvard University and in England already offered online degrees in partnership with Liverpool University, but its main business plan was to take control of failing institutions with local degree awarding powers and run them as autonomous institutions (e.g. College of Santa Fe New Mexico where the city took over its assets and debts and leased it to Laureate).

[7] ITT Educational Services was owned by Career Education Corporation, which had a London campus offering degrees accredited by the Higher Learning Commission (recognised by US Department of Education) but which failed an audit by UK's Quality Assurance Agency.

tracts to run other universities. Investors cannot buy a direct share in a company limited by guarantee, and a publicly funded university with charitable status cannot distribute profits, but a subsidiary 'special services vehicle' circumvents these impediments. However, London Met's plans went awry when the funding council found that the university had over-reported its numbers of home and EU students between 2005/2006 and 2007/2008 and demanded a £35 million repayment of block grant. In 2011, the university recruited more than its limit of undergraduate students and was fined £6 million. In August 2012, the Home Office accused London Met of not being able to provide evidence to show its overseas students were actually studying and were not 'bogus,' and peremptorily withdrew London Met's right to recruit international students. (The Home Office was in danger of not meeting the Prime Minister's target to reduce immigration to 'tens of thousands,' and removing London Met's 2,700 international students would be substantial). Suddenly the students were given 6 weeks to move to another university or be deported. The effect on London Met was a loss of £22.5 million, or 15 % of its income. London Met, which the Secretary of State for Education (responsible for schools, not higher education) had called 'a Lada plant' because it had more black students than all the elite Russell Group universities together, and the greatest percent (52.7 %) of working class students in the UK, suddenly looked as if it, and its degree-awarding powers, would be sold cheaply to a private equity company in a fire sale. Although London Met has fought back, its plan to privatise its operations through a 'special services vehicle' were scuppered (Morgan 2012a; McQuillan 2012; Grove 2014).

Both public and private institutions have experimented further with this model for splitting an institution between a not-for-profit educational enterprise and a for-profit 'service company' which runs the institution and may bid for contracts to run other institutions too. The New College of the Humanities, a private college set up by A. C. Grayling, a philosophy professor, eventually settled on this model. The college did not seek degree-awarding powers, but entered a partnership with London University to offer their degrees and use their libraries and halls of residence. The college, which promises a combination of US liberal arts and Oxbridge tutorials for an annual fee of £18,000, is a not-for-profit enterprise. It is wholly owned by a for-profit service company, Tertiary Education Services Company, which is owned by 30 people, including Grayling (but not the other renowned professors involved in the project). When it has a track record, this for-profit 'service delivery vehicle' will be able to tender for contracts to run other universities and colleges. A separate Trust raises endowments for needy students to pay their fees. The college cannot distribute profit to shareholders, but it pays rent and a service fee to the controlling company for managing and running the college, and payments to the directors for their services (McGettigan 2012b).

Established universities have also experimented with group or 'umbrella' structures. University College London (UCL) already had a number of spin-offs and trading companies, including a highly lucrative one producing compression socks. UCL has become lead sponsor of Camden Academy (a charter school), which is part of the UCL group structure for legal purposes but not for financial or accounting purposes. This structure could be extended to take over other educational institutions, or, for example, set up its branch campus in Qatar, all of which keep

their own brand to attract students and have ring-fenced liabilities. The University of Central Lancashire (UCLAN), a new university, was advised by Eversheds to take a different route. Like many other UK universities, it was establishing branch campuses around the world – in Thailand (a venture that later collapsed at a loss of £3.2 million), Cyprus (in the UN buffer zone and criticised by Secretary General Ban Ki Moon as a security risk) and Sri Lanka. UCLAN asked the Secretary of State to disband it as a Higher Education Corporation so that it could re-form as a company limited by guarantee. As a non-profit-distributing entity, UCLAN remained a charity but was able to attract private investment (Morgan 2012b). It then set up a group structure with a group CEO, and the university itself and each of its branch campuses would be managed separately. Further commercial companies could be added to this group structure in future.

A different model for injecting private capital through the bond market is being followed by universities at the other end of the university rankings. Cambridge University gained an AAA credit rating from Moody's and Standard and Poor's (which assumed government would be backer of last resort, even though the white paper had clearly stated that it would not be). Cambridge raised a £350 million bond issue over 40 years at a fixed rate of 3.75 %, and the issue was four times oversubscribed. Work has started on building a new quarter of the town, called 'Northwest Cambridge,' consisting of 1,500 houses for staff, 1,500 houses for sale, 2,000 students' accommodation and 100,000 square metres of university and private research facilities. Proponents argue the university needs to expand in this way to protect its ranking and brand. Critics consider the enterprise too risky because of its scale – the biggest ever undertaken by a British university – and are concerned that the university's ability to repay the bonds depends on inflationary growth of rental income from housing. Barclays bank, which also managed a bond issue for De Montfort University, a very different kind of 'new' university at the other end of the world rankings, expects all universities to rely increasingly on the bond market for capital funding.

These examples show how, within a period of 4 years, vice chancellors implemented many different legal and financial models for using legislation from previous governments. A torrent of small, technical changes and sudden switches in policy meant few people could fathom what was happening. Hence few if any grasped that the omnishambles was a range of moves by the network of imaginators and activists in the ministry, specialist law firms, consultancies, think tanks, private sector firms, financiers and vice chancellors. These imaginators used the existing conditions of possibility to shape legal, financial and business models that opened the higher education sector up to a sudden and extensive range of for-profit activities.

Conclusion

This analysis has proceeded by first mapping the 'policy field' – the range of actors, interests and organisations that potentially have a role in the large-scale process of transformation experienced by English higher education – and then focusing on

specific sites and cases to explore in detail how the changes were coming about and what kind of future they were creating (Wright 2008, 2011). This revealed a network of what I called 'the imaginators' – those who imagine and try to engineer the emergence of new ways of financing, organising and extracting profit from higher education. They are located in the ministry, legal firms, think tanks, the 'Big 4' audit and consultancy firms, finance and venture capital, publishing, and a range of 'pathway providers' involved in the international trade in students. Importantly, among the imaginators are several university vice chancellors. These form a network of actors who often know each other, have worked together in the past, and move between these sectors and agencies. In Wedel's (2009) terms, they form a 'flexnet.' I call them an epistemic community in the sense that they sing from the same hymn book, even if they may not all sing exactly the same hymn (Haas 1992; Mahon and McBride 2008, 20). Activists amongst them use their local positions to put a roughly shared agenda into effect, each in their own way.

This chapter has built on a series of studies of university reform in the UK since the mid-1980s and a continual tracking of the output of the imaginators – political speeches and statements, government reports, reports commissioned from think tanks and consultancy firms – to assemble a corpus of texts and analyse their discourses and imagery. In addition, a 'news watch' since 2010 has sought to catch every available snippet of information about the negotiations between players in the epistemic community and over the developments in particular universities during the omnishambles. The aim is not to advance a conspiracy theory. Since 1979, both the Conservative and Labour governments have been moving towards a marketised state, but their policies have developed incrementally and in specific moments and contexts. From this point of view, similar developments can be traced over the last 30 years in most other public sectors. After an initial programme of selling state assets,[8] other sectors, which could not be sold outright, have been privatised in various ways that sustain a veneer of public service (Wright 2008). The method of transferring public assets to private interests depended on detailed legal rights in each sector. For example, previous legislation gave tenants a right to vote on whether to move their houses out of local authority ownership, and that afforded space for resistance. But parents and pupils had no such rights under previous legislation to vote on the future of their schools when the Labour government started transferring their ownership, management, curriculum and employment conditions to private interests under the Academies programme. English higher education was the last public sector to be opened to private capital – mainly because universities were private organisations with a public purpose and the government did not have legal powers to transfer their assets against their will. But the Coalition government found that it did not need legislation to open up universities to the for-profit sector, and the

[8] State-owned companies that have been sold include BP, National Enterprise Board, Regional Water Authorities, Property Services Agency, British Aerospace, Cable and Wireless (global communications), Amersham International (computers), National Freight Company, the land owned by the Forestry Commission, Railways. The list goes on and most recently includes the Post Office.

contractual and statutory arrangements for student loans meant interest rates can be increased at will and the loan book can be sold without the students' consent.

Academics were taken by surprise when the Coalition government found these ways to open up universities to private profit-making. It was as if academics had not noticed this process elsewhere in the public sector. In one sector after another the ring fences that the state had once maintained around the public domain have been pulled up. The British public sector was like a new Wild West, with people rushing their wagons into each new area that was opened up, to corral as much ground as possible for their for-profit activities. Whereas Prime Minister Thatcher originally claimed the aim was to bring the disciplines of the private sector to bear on public services, the result was, on the contrary, a new form of taxpayer subsidised, risk-free capitalism. The key strategy of Milton Friedman and the 'Chicago school,' who inspired this transformation of the public sector into a marketised state, was what Klein (2007) called 'the shock doctrine.' That is, to use a crisis, when people are reeling from a shock, to radically reform the economy by a free-market makeover that erases the public sphere and the forms of service and sociality with which it is associated. Whilst a number of actions over the last 35 years may have shared this intention, it is important to emphasise that the reform of universities in England has not been willed into being according to a master plan; changes have been incremental, opportunistic, sometimes contradictory, and often not fully thought through. Other political activists, vice chancellors, academics and students have been equally active in trying to take their universities in other directions (e.g. Wright 2005). The conditions of possibility could have been taken up differently. But as it happened, the Coalition used the financial crisis they inherited and an appearance of crisis they manufactured – the omnishambles – to use the existing 'conditions of possibility' and tip the last remaining sector, universities, into the market state.

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Chapter 8
University Trustees and the Entrepreneurial University: Inner Circles, Interlocks, and Exchanges

Sondra N. Barringer and Sheila Slaughter

In this chapter we explore how the trustees of the universities in the Association of American Universities (AAU) connect the universities to the knowledge economy, to what types of corporations they connect the universities, the density of these connections, and what is exchanged between universities and corporations via these trustees. We make the case that elite American research universities (AAU members) are closely connected to corporations central to the knowledge economy through their trustees. In so doing, we show that the density of these connections has been greatly underestimated. We argue that trustees are a mechanism for building university-industry relations, and that universities (faculty and administrators) partner (engage in exchanges) with many trustees' corporations to use research and education for entrepreneurial activity in a variety of fields. Although our data currently do not permit us to address directly the degree to which trustees and trustees' firm connections and their partnerships with higher education have shaped the twenty-first century "idea of the university" (Newman 1852, reissued 1982), we suggest that density of connections and the nature of exchanges indicate that the boundaries that separated the university from both the economic sector and the state are being redrawn.

Introduction

American universities had boards of trustees from their inception. Initially, colleges and universities were church based (e.g., Harvard 1636) and were dedicated to educating clergy and civic leaders. Given colonial conditions, there were few qualified

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faculty, so trustees provided oversight. Over time, businessmen replaced clergy as the majority of board members and by the turn of the twentieth century, many trustees were also presidents of corporations (Sinclair 1923; Veblen 1918). Indeed, classic accounts such as Veblen's (1918) *The Higher Learning in America* informed us that the "captains of industry" and "captains of erudition" were often the same individuals. Current scholarship indicates that university boards of trustees continue to be dominated by businessmen in key positions in corporate management at for-profit firms while simultaneously holding seats as directors on other corporate boards (Mathies and Slaughter 2013; Slaughter et al. 2014).

This is especially the case at private research universities where trustees are thought to be selected because they are loyal alumni likely to donate to the endowment (Lowry 2001; Pusser 2004). Private university boards are self-perpetuating: the current board has sole authority to appoint new members. In contrast, public research university trustees are usually appointed by the governors of the states where they are located. Although trustees are supposed to be above politics, managing universities in the public rather than the private interest, in practice trusteeships are bestowed on persons who contribute heavily to the governor's campaign funds and are members of the governor's political party. Therefore public university trustees are often selected for their contributions and loyalty to the governor and his/her political party rather than for their business acumen (Pusser et al. 2006).

Our focus in this chapter is on AAU universities. The AAU was founded in 1900 by the original 14 U.S. universities that offered the Ph. D. Degree (Association of American Universities 2014). It is a "principals only" organization. AAU membership is highly sought after but granted by invitation only. Currently, there are 60 US AAU universities, 26 private and 34 public. We focus on these universities because the AAU has become the de facto elite university club to which all aspiring research universities would like to belong. These universities consistently score among the highest on all indicators of research: they awarded over 50 % of research doctorates in engineering, physical sciences, social sciences, humanities, math and computer science, and arts and music, and 46.5 % of all U.S. doctorates, in 2011; they received/spent 57.7 % of all federal R&D expenditures in 2011; they employed 35 % of all Nobel Prize winners and 63 % of the American Academy of Arts and Sciences members; and have over 1700 university based startups since 1980 that are still operating (Association of American Universities 2013). We make the case that the trustees of AAU universities tie these institutions together and to other organizations in the larger economy, creating rich opportunities for university-industry partnerships.

Literature and Theory

The literature on university trustees is not extensive. Generally, scholars of higher education assume that university presidents are the key decision makers and therefore focus on presidents as institutional leaders rather than on boards of trustees.

When trustees are considered, their role is understood to serve as a "buffer" between the university and the state, preserving the autonomy of the university (Berdahl 1990; Berdahl and McConnell 1999). The bulk of the literature on boards of trustees is descriptive, presenting trustees' characteristics across a number of universities and offering prescriptive advice to educate trustees so they can better perform their duties (Chait et al. 1991; Gale 1993; Hill et al. 2001; Ingram 1995; Jones and Skolnik 1997; Kerr and Gade 1989; Madsen 1997).

However, there are several strands of literature that deploy theory to understand trustees. The most venerable is the "corporate control" strand, which focuses on elite universities. The corporate control strand developed along with research universities and theorized trusteeship as a vehicle for the control of universities by powerful businessmen (Beck 1947; Domhoff 1967; Sinclair 1923; Smith 1974; Veblen 1918). Elite theory and/or social class theory, which focused on the upper or business class, informed the corporate control approach (e.g., Mills 1956). Generally, these scholars demonstrated that the trustees of research universities were not representative of the general public; rather they were among the very wealthy or powerful within society (Beck 1947). While corporate control theorists, with the exception of Sinclair, usually do not explore in detail the interactions between the trustees' corporations and universities, they generally assume wealthy corporate leaders who are trustees stifle critique, constraining faculty's academic freedom while simultaneously promoting business-friendly ideology, and perhaps use university education and research to substitute for corporate education and research, thus socializing costs of production.

Another recent strand of theoretical scholarship concentrates on public universities, looking at issues such as affirmative action, trustee activism, and trustee effectiveness (Bastedo 2009a, b; Kezar 2006; Pusser 2004). However, with the exception of a few descriptive case studies (Bastedo 2009a, b; Pusser 2003) there is little empiricism. The theoretical approach is most often institutional or neoinstitutional, sometimes amended to allow for agency/leadership of presidents, governors, legislative staff and the head of the board of trustees to affirm the overall contours of higher education as an institution (Bastedo 2009a, b). An exception is Pusser (2003, 2004), who, in a case study of the University of California, argues that trustees are linked to powerful political and economic groups whose interests, to some degree, explain the choices they make.

Theoretically, our approach draws more heavily on the corporate control approach rather than the institutional or neo-institutional. Like the corporate control theorists, we think AAU university trustees are elites who act in their own material interests rather than following academic norms or the university community's expectations. Generally, we expect them to redefine university norms and expectations so that, paraphrasing "Engine" Charlie Wilson, CEO of General Motors in the 1950s, what's good for corporate America is good for research universities (Wilson 2004). In Useem's (1984) terms they are members of the business class, defined as leaders or managers of large corporations in America. However, we differ from the corporate control theorists on several points. First, we have a different methodological approach. Historically, corporate control theorists dealing with university

trustees looked at the corporate position held by trustees (i.e., CEO of Boeing), and not at their positions on boards of directors of other corporations. As a result, we think the density of connections between trustees' corporations and universities has been greatly underestimated. Corporate control theorists studying trustees also looked mainly at single universities (Smith 1974), not networks constituted by trustees in a field of research universities, such as the AAU. We reason that if heads of large corporations are also members of boards of directors of large corporations and are tightly linked in networks, as multiple studies of corporations indicate (e.g., Davis 2009; Mace 1971; Mizruchi 1996, 2013; Stearns and Mizruchi 1986; Useem 1984; Zajac and Westphal 1996), then, since these same executives and board members may also be university trustees, the universities will be tightly networked with other universities as well as multiple corporations through their trustees. To date there have only been a few studies of networks of trustees or organizations linked by trustees in the context of universities (e.g., Mathies and Slaughter 2013; Pusser et al. 2006; Slaughter et al. 2014). If trustees are as tightly networked as we suspect, they interact with each other multiple times over the course of a year on corporate and university boards and may share ideas about how universities should be run, and how corporations can interact profitably with universities.

Second, we differ from corporate control theorists who study university trustees in that we see senior university management and segments of the faculty as embracing the idea of university-industry partnerships with trustees' corporations and eagerly participating in them. In other words, it is not so much corporate control as shared re-engineering of the boundaries between academe and industry (see Chaps. 9 and 10 in this volume for a slightly different view of the relationship between trustees, senior management and faculty). To this end we want to analyze exchanges between trustees and their corporations with the universities of which they are stewards.

There is no current research that systematically investigates the substance and extent of the exchanges between universities and corporations. We define exchanges as any interaction (e.g., economic, political, social) between universities, trustees and firms, although in this chapter we concentrate primarily on economic exchanges. Such exchanges may create channels between industry and academe leading to discoveries that will result in new technologies central to promoting economic growth and general well-being of the citizenry. However, economic exchanges also have the potential for institutional conflict of interests (ICOI). ICOI refers to situations in which research, teaching, or service are compromised because external financial or business relationships held at the institutional level may bring financial gain to units or the institution in the form of increased revenues, whether payments or donations, or when external financial relationships have the potential to influence decision making regarding these activities (Slaughter et al. 2009). As the University of Kansas ICOI policy states:

> An institutional conflict may develop when the institution (such as a department, center or college, the applicable Research Foundation, or the University) stands to benefit financially from the outcome of research ongoing at the University to support a license or a research

> agreement. A Research Foundation, and/or units at the University, along with inventors, may receive future financial rewards by way of royalties or other fees if the product or service is commercially successful. Therefore, they have a financial interest in ensuring the success of the product. (University of Kansas, 2007)

Economic exchanges are triggers for ICOI. These include: university ownership of intellectual property or investment in areas in which the institution is running clinical trials or otherwise involving human subjects; universities taking equity positions in faculty/institutional companies; universities allowing financial or other interests to influence which technologies are selected for commercialization, who receives licenses, or the structure of licenses; universities accepting corporate sponsorship or gifts for research in areas in which the institution has made an investment or in which the institution partners with the corporation. In the long term, such exchanges may commit universities to research agendas tied to corporations' intellectual property portfolios, undermining research universities' historical position as the site where experts are able to render disinterested judgments with regard to knowledge (Merton 1973). Analysis of the exchanges between trustees, corporations represented by trustees, and universities can shed light on the degree to which ICOI is an issue for AAU universities.

We ask three questions about the trustees and the firms that they create interlocks with: (1) what interlocks do university trustees create for public and private AAU universities and what kinds of corporations are linked to universities through these interlocks?; (2) how densely are the universities networked or connected to corporations and other universities and which universities are most central to the network? (3) do trustees and trustees' corporations enter into exchanges with the universities of which they are stewards, and, if so, what occurs in these exchanges?

We rely on both quantitative and qualitative social networks data to develop the examples outlined below. These are illustrative examples from our ongoing research and are not meant to be in-depth analyses or definitive proof of our arguments. However, they demonstrate that many of the phenomena discussed are indeed occurring in the field of U.S. higher education and therefore deserve further scholarly attention.

The Trustee Interlocks of Public and Private Aau Universities

Universities can be connected to organizations in the larger economy in a variety of ways (Bekkers and Freitas 2008; Bruneel et al. 2010; Mueller 2006). For example university faculty sit on corporate advisory boards, company executives sit on university advisory boards, companies sponsor research, faculty consultancies, joint research and training venues, and tripartite chains are established between research universities, biotech firms, and established pharmaceutical firms (D'Este and Patel 2007; Stuart et al. 2007). We focus on university connections to firms and the larger economies in which they reside through their trustees.

Specifically we look at how universities are tied to firms by their trustees who also hold executive, partner, manager, owner, or trustee/director positions at for-profit firms. We focus on these interlocks between universities and firms, as opposed to ties to other organizations (e.g., non-profits, the administrative state), because the bulk of network analysis deals with firms (Mace 1971; Mizruchi 1996, 2013; Stearns and Mizruchi 1986; Useem 1984) and the procedures for collecting and analyzing firm data are well established (see below).

Data and Methods

The starting point for this analysis is the network of the AAU university members and the firms to which they are tied through their trustees. To create this network we began with the lists of trustees for each of the 54[1] private universities and public universities and university systems[2] in 2010.[3] We obtained these lists from either university websites, email communication with administrative personnel, or university archivists. We used Standard and Poor's *Register of Corporations, Directors, and Executives* (2010b) (SP) to determine the ties that these trustees had to corporations. This resulted in a two-mode network of organizations[4] by trustees where an organization was tied to a trustee if that trustee served in an executive capacity at that university (e.g. board of trustees) or firm (e.g. director, CEO, CFO, partner, trustee, etc.).

From this two-mode network matrix we created a one-mode network of ties between organizations using matrix algebra. In this network an organization is tied to another organization if they share a university trustee. For example, the University of California has two trustees that hold executive positions at Fluor Corp. and two more that hold executive positions at Walt Disney Co. Therefore the University of California has two ties to each of these organizations. This network is shown in Fig. 8.1 below.

The discussion of trustee interlocks below focuses on the universities in the network and their connectivity to firms and also other universities. To address the connectivity of the AAU universities we use a combination of social network analysis

[1] There are 26 private universities and 35 public universities in the AAU; however some of the public universities are part of the same university system and therefore share a governing board. For example the University of California system has a single board of governors but there are six UC institutions that are members of the AAU: Berkeley, Los Angeles, San Diego, Davis, Irvine, and Santa Barbara. These six schools are therefore represented by a single set of trustees in our analysis. This results in the inclusion of only 28 public universities/university systems in our data.

[2] Henceforth universities will refer to both universities and university systems.

[3] We also have this data for 1975 1985, 1995, and 2005 but we do not discuss it here due to space constraints.

[4] Organizations henceforth will be used to refer to both universities and firms.

methods and descriptive statistics. We use social networks graphs (SNGs) to illustrate the general nature of the connections between universities, firms, and other universities through their trustees. SNGs are well suited to providing a general understanding of the nature of the network and the relative prominence of universities within the network (Knoke and Yang 2008). To complement the SNGs we also utilize descriptive statistics about the type of firms to which universities are tied and the centrality of different groups of universities. This allows us to convey additional detail about the general structure of the ties between universities and firms as well as information about differences across groups of universities and/or firms.

We also utilized social networks analysis methods to measure the centrality, or relative prominence/importance, of the different universities within the network of organizational ties (Knoke and Yang 2008; Wasserman and Faust 2007). We relied on four different measures of centrality to characterize the universities based on different aspects of their prominence within the network: degree, closeness, betweenness, and eigenvector centrality.[5] These centrality scores allow us to understand the relative prominence of the nodes in the network, in this case the universities, based on their ties to the other nodes in the network (Wasserman and Faust 2007). For example, an organization is considered prominent if the number of ties it has exceeds the number of ties of the other organizations in the network (degree centrality) or if the organization's ties provide it with a shorter distance between itself and the other organizations in the network (closeness centrality) (Metcalfe 2006). Furthermore it also serves as the basis for the next stage of our analysis where we evaluate the qualitative and tangible exchanges between universities, firms, and trustees.

Results

Figure 8.1 below shows the SNG of the organization by organization network we described above. The light grey numbered squares are public universities, the dark grey numbered squares are private universities, the grey squares are the for-profit firms, and the lines connecting the squares are the trustee-based interlocks that link the organizations together. As the SNG indicates the network linking universities to firms in 2010 is fairly dense with the average weighted degree of 9.207. The 54 public and private universities in this network are tied by at least one trustee, and as many as six trustees, to a total of 1,288 for-profit firms.

[5]The differences between these four measures are discussed in the analysis below and further details on each of these measures can be found in Knoke and Yang (2008) and Wasserman and Faust (2007).

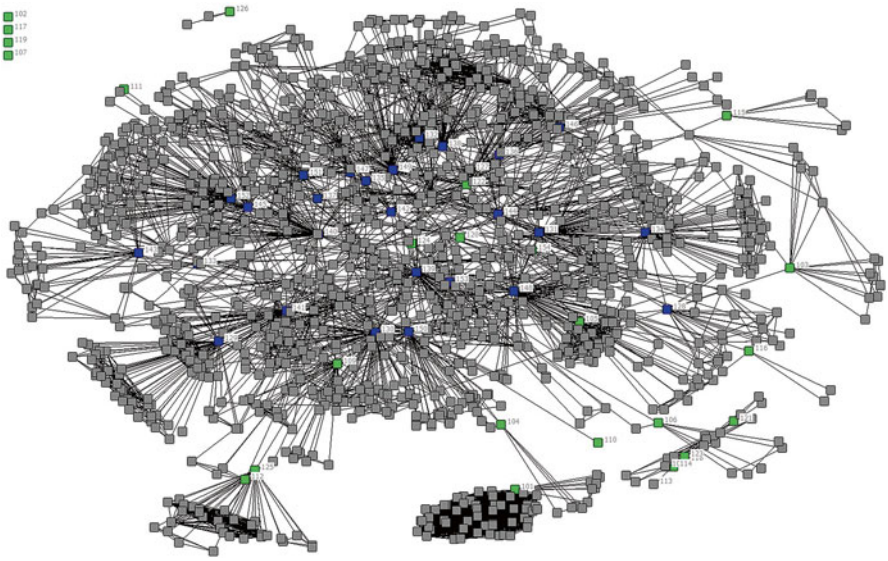

Fig. 8.1 University ties to firms through their trustees, public and private AAU Universities, 2010[6]

Figure 8.1 also highlights some notable differences between the public and private AAU universities. The majority of private universities reside in the denser central area of the network where the most interconnected universities and firms are located. The public universities, with few exceptions (e.g., The University of North Carolina at Chapel Hill and the University of Pittsburgh), are generally located along the edges of the SNG indicating that they have fewer connections (both directly and indirectly) to other organizations and are therefore less central or prominent in the network. Furthermore, there are no private university isolates in the network but there are four public university isolates in this network: Michigan State University, Texas A&M University, University of Minnesota-Twin Cities, and University of Nebraska. These universities have no ties to other nodes in the network because their trustees had no ties to other universities or firms.

These differences are confirmed when the centrality of the different schools within the network is examined. A centrality analysis was conducted using UCINet (Borgatti et al. 2002) that provided us with different centrality measures for each node in the network. We focus here on four measures of centrality that are commonly used in social networks analyses of organizations (Knoke and Yang 2008; Metcalfe 2006). Table 8.1 shows the average centrality scores and the associated standard deviations for the 54 universities by sector. Private universities have a higher average degree centrality than public universities (Table 8.1) indicating that private universities have more ties on average and are therefore more prominent within the network on average. The prominence of private universities is further

[6]The list of universities and their corresponding ID numbers are in Table 8.2 in the Appendix.

confirmed by the higher average closeness centrality which indicates that private universities are more able to communicate with the other organizations in the network as compared to public universities. The higher eigenvector centrality for private universities indicates that private universities not only have a greater number of ties but also that their ties are to organizations that are more central than the organizations to which public universities are tied. The final measure of centrality, betweenness, indicates that private universities, because they connect more organizations, have more control over the network on average.

The t-tests for differences in means, the last row of Table 8.1, indicate that the differences in the average centralities for public and private universities are significantly different in the case of degree, closeness, and betweenness centrality but not for eigenvector centrality. In light of these significant differences we also evaluate SNGs for public and private university ties to firms separately in Figs. 8.2 and 8.3 below.

Table 8.1 Average centralities across public and private universities, 2010

	Degree centrality	Closeness centrality	Eigenvector centrality	Betweenness centrality
Average-public universities	0.009	0.177	0.007	0.008
Standard deviation-public universities	0.012	0.061	0.035	0.016
Average-private universities	0.037	0.266	0.000	0.059
Standard deviation-private universities	0.020	0.022	0.000	0.040
T-test significance	0.0000	0.0000	0.3262	0.0000

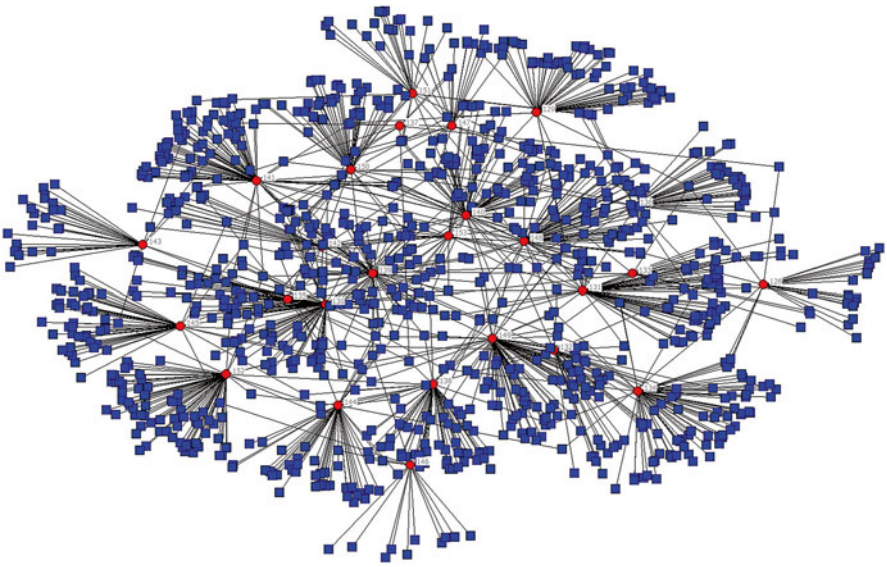

Fig. 8.2 University ties to firms through their trustees, private AAU Universities only, 2010[7]

[7]The list of universities and their corresponding ID numbers are in Table 8.2 in the Appendix.

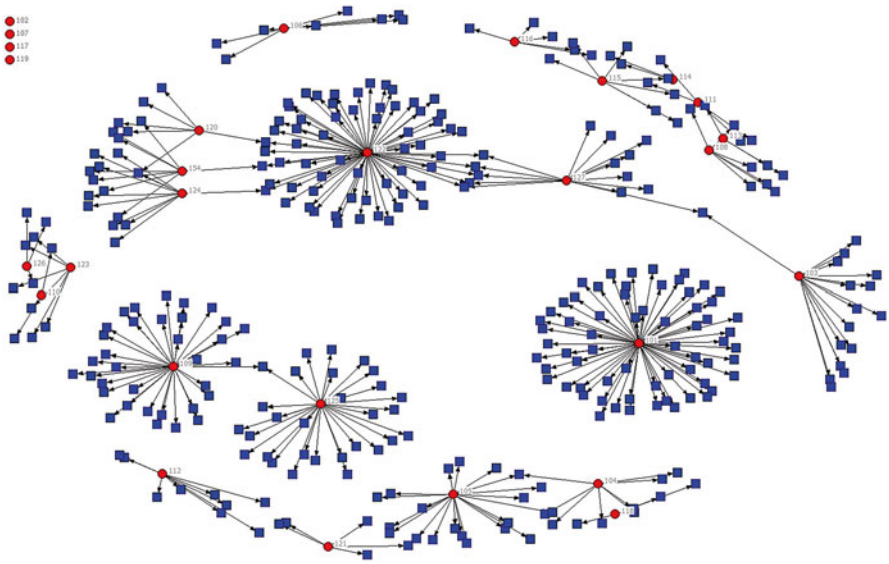

Fig. 8.3 University ties to firms through their trustees, public AAU Universities only, 2010[8]

The SNGs in Figs. 8.2 and 8.3 above represent the networks of private university ties to firms and public university ties to firms, respectively. The circles are the universities, the squares are the firms, and the black lines are the trustees that link the universities to the firms. There are dramatic differences in the densities of the two networks. Not only are there more firms in the private university network, there are also more connections between those firms and the universities. This is represented in the SNG by the longer lines that connect universities and firms across the sets of firms attached to each university. This difference corresponds to an average weighted degree of 106.73 for the private university network as compared to 27.607 for the public university network. There are substantially fewer links between the public universities, in terms of both overlapping trustees and also common ties to firms, than there are between private universities. In short, not only are private universities more central and more tied to for-profit firms, they are more connected to each other than are public universities.

In addition to understanding the density of the interlocks and the position of the universities within the network we also want to gain a better understanding of the types of firms to which universities are linked. To do this we evaluated the industry in which these firms operated by looking at the North American Industry Classification System (NAICS) codes for each of the firms that were interlocked with our universities. These codes were obtained from the firm listings in the SP Register of Corporations (2010a). When a firm was not listed in the SP Register we used what information was available (name, location, etc.) to see if we could classify

[8] The list of universities and their corresponding ID numbers are in Table 8.2 in the Appendix.

the firm into one of the 20 broad NAICS categories (U.S. Census Bureau 2012).[9] For example, Nationwide Life Insurance Co. would be in Finance and Insurance.

In 2010 universities were most frequently tied to firms (25.5 %) in the financial and insurance industries. The second and third most prominent "industries" were not actually industries, but rather diversified firms, which are firms that operate in more than one industry (i.e., list more than one NAICS code). Firms can be diversified across industries and diversified within industries. Those firms that are diversified across industries are engaged in activities that span two or more of the 20 broad industry NAICs classifications. For example, Conoco Philips, one of the firms in our data, is diversified across industries because this firm is engaged in activities in both the mining and manufacturing industries. Firms that are diversified within an industry are those that are engaged in more than one activity (i.e., have more than one NAICS code) but all of those activities are within a single broad industry. For example, Westlake Chemical Corporation is engaged in three different activities (plastics and material resin manufacturing, non-cellulosic organic fiber manufacturing, and all other basic organic chemical manufacturing) but they all fall under the broad category of manufacturing. Overall, 27.8 % of firms were in one of these two categories of diversified firms. The other key categories were manufacturing (4.3 %) and professional, scientific and technical (2.3 %).

Qualitative Exchanges Between Universities, Firms, Nonprofits, and Government

The analysis of university-firm interlocks above only assesses the links between these firms established by sharing a trustee in an executive capacity. It cannot speak to the depth or substance of these ties beyond the shared trustee. Therefore we look at a second way that universities are connected to external firms and corporations: through exchanges, direct or indirect, between the trustees or their firms and AAU universities. It is through exchanges that resources, ideas, and people flow between these organizations. The most common exchanges that we think of are monetary and take the form of donations. However, there are many other types of exchanges, ranging from a trustee's corporation funding research for biomedicine at the university he represents to trustees' corporations funding online education projects that brings segments of the universities' curriculum overseas, in edubusiness ventures.

[9] Overall we were able to determine the NAICS code (s) for 978 (or 75.93 %) of the firms linked to universities through their trustees in 2010.

Data and Methods

To assess the extent to which universities are connected to firms directly and indirectly through their exchanges we used the network, SNGs, and centrality scores discussed above to determine the most central private and public universities (Massachusetts Institute of Technology and the University of Pittsburgh, respectively). We then collected qualitative data for the direct and indirect ways (exchanges) that the universities were tied to their trustees and the firms their trustees represented to capture the extent and nature of exchanges. Data were collected using Internet searches of university and firm websites for mentions of specific firms, trustees, or universities. We employed a strict data collection protocol specifying the steps taken in the searches of the various sites, how the data were recorded, what types of exchanges were recorded, and how they were to be documented. To ensure reliability, data were cross-checked by additional project personnel.

While we collected data on any kind of exchange between these actors, we placed particular emphasis on tangible ties, both financial and non-financial. Examples of the exchanges we have found include: committee/advisory board memberships and administrative positions; partnerships between universities and firms (this includes joint research, training, and education); direct and indirect ties to government organizations; firm executives or employees holding professorships, research positions, or lectureships at the university; guest lectures and speeches by firm executives or employees; donations; alumni ties; awards; and co-developed research, patents, partnerships or publications.

Once the exchanges were collected we classified each individual exchange using a coding list that was developed by the key members of the research team.[10] Because qualitative research is an iterative process in which data collection and analysis occur simultaneously (Bryman 2012), we revised our coding schematic throughout the data collection process to maintain coverage and accuracy. Once all of the exchanges were collected and the list was finalized, we did an additional review of the data to ensure that all of our classifications were consistent with the final list of exchanges.

Both MIT and the University of Pittsburgh had trustees and firms that were extensively interconnected through their exchanges with the universities and a small number of trustees and firms that were only marginally connected to the university beyond the interlock established by the university trustee (i.e., the trustees had no other exchanges beyond being a trustee, providing donations, and/or being alumni). We provide representative examples for the types of exchanges present for both universities below.

[10] The coding list is available upon request from the authors.

Massachusetts Institute of Technology

MIT, through its 79 trustees, was tied to 92 for-profit firms and five other AAU universities. Although our analysis is still in process, thus far there are 7–47 exchanges for each university-trustee pair and 1–89 exchanges for each university-firm pair.

Almost all of the trustees representing organizations that exchanged with the university were donors, executives at corporations that were donors, or both. However the majority of donation exchanges were by individual alumni rather than corporate gifts. For example, an MIT trustee, John Krob Castle, who is also an alumnus, made frequent donations to MIT, and endowed graduate fellowships in physics and economics, a faculty chair in economics, and two additional fellowships at the university. However, his corporations – Adobeair Holdings Inc., Advanced Accessory Holdings Corp., Ames True Temper Inc., Brandford Castle Inc. (CEO/Chairman), Castle Harlan Inc. (CEO/Chairman), Morton's Restaurant Group Inc., and Perkins and Marie Callendar's Inc. – made no such gifts.

Many of the trustees were also alumni of MIT, receiving at least one of their degrees from the university. There was also evidence of alumni hiring networks. A number of the firms with which the university was interlocked had other executives, managers, or employees that were also alumni of MIT. For example, Flagship Ventures was interlocked to MIT through one of its partners who was a trustee and alumnus of MIT (David A. Berry). The CEO, as well as many of the other partners and employees, were also MIT alumni.

A number of trustees were, or had been, engaged in the research and teaching work of the university as faculty or salaried staff or through guest lectures. For example one of the trustees, Samuel W. Bodman, III, was a former professor in chemical engineering at the university, and he continues to give lectures at the university, serve on visiting committees, and remains involved in the Alumni Association and recruitment. There were also instances of employees and executives of interlocked firms giving lectures at the university. For example, a number of employees and executives at Xerox participated in lecture series, were commencement speakers, or gave talks at special events.

The trustees of MIT served in other administrative roles within the university as well. Many were on departmental visiting committees (e.g., economics, chemistry, engineering, etc.), were on advisory boards to the schools within the university, or were on various committees for the board, university, or schools and colleges within the university. This relationship also worked in reverse. There were a number of MIT faculty and researchers who were on the advisory boards of external firms or served on the board of trustees for other firms and sponsored startup ventures (e.g., Selecta Bioscience which was founded by an MIT professor, two Harvard professors and was sponsored by Flagship Ventures).

The exchanges also involved partnerships, collaborative research, sponsorship of departments, research initiatives, centers, and institutes, and the co-sponsorship of startup firms. For example Grupo Ferrovial SA was linked to MIT by Rafael Del Pino (also an MIT alum) who started a partnership involving MIT and other

universities in Europe and the US centered on innovation. There were also a number of instances whereby MIT and Flagship Ventures co-sponsored startup companies that were founded by MIT faculty, researchers, or alumni.

There were a couple of cases where trustees who also represented financial corporations acted on the investment committee of the university or as the director of the investment corporation (Samuel W. Bodman, III in both cases). There were a number of trustees that linked MIT to third-party nonprofits and government entities. For example Ursula Burns was a trustee of MIT, Columbia University and the University of Rochester. She was also appointed by President Obama to the President's Export Council. Similarly, Samuel Bodman was the Secretary of Energy under President Bush.

Generally, these trustees were deeply embedded in the university, and circulated their knowledge, expertise, resources and prestige in concrete exchanges with the university. The university provided infrastructure and resources of various kinds, including symbolic, human capital, research, expertise and prestige for knowledge economy corporations and the corporations and other entities represented by the trustees did the same for the university. The trustees do not seem to be "corporatizing" the university; rather, they seem an integral part of MIT, participating in the intellectual life of the university, as well as offering opportunities to the MIT community. The members of the MIT community who are participants in the exchanges seem to regard themselves as part of a business cycle that underwrites their research, provides opportunities for start-up companies and other high technology for-profit endeavors, which then returns funds to MIT in myriad ways, ranging from donations to departmental sponsorships. The elite status of MIT and the senior management and faculty who participate in exchanges with MIT's trustees and trustee corporations may frame enclaves within such universities in which these actors behave like colleagues engaged in shared knowledge/learning endeavors. However, faculty and managers who do not participate in exchanges may view them very differently. MIT critics of exchanges are unlikely to participate in them or to share in the benefits available to faculty and senior mangers in the privileged enclave or segment created by exchanges (e.g., Chomsky 1969, 1999; Chomsky and Vitchek 2013).

University of Pittsburgh

Based on the network above the University of Pittsburg had fewer trustees, only 54, but it was still tied to 71 firms and three other AAU universities. The exchanges for the University of Pittsburgh were also extensive, but were of a somewhat different nature than those seen at MIT. There were between 1 and 21 exchanges for each university-trustee pair, and between 1 and 17 exchanges for each university-firm pair.

As with MIT, many Pitt trustees were alumni and donors though the donations took on a different quality. There were more repeat donations than was the case with MIT, and also larger donations from both the trustees and the firms they controlled or managed. For example William Dietrich, a trustee, ran the Dietrich Foundation

which gave large donations to Pitt (Nicholas G. Beckwith, III, another trustee of Pitt, is also on the Dietrich Foundation board). Despite serving the university through a variety of connections the primary role of the trustees for Pitt appears to be as donors. This is in contrast to MIT where the key role of the trustees seemed to be the formation of links to industry and government.

Although many MIT trustees served a variety of functions, this was not the case at Pitt. There were a relatively small number of trustees that essentially functioned as "super trustees" who were trustees, key donors, served on chancellor search committees, advisory boards, and were generally very integrated into the administrative side of the university. For example, Eva Tansky Blum was a trustee, made a number of large donations, served as the campaign co-chair of Pitt's $2 billion campaign, was on a number of advisory boards for schools and colleges at the university, and was a member of the search committees for the law dean and the chancellor. Many of the trustees, like Tanksy, were involved to some degree in advisory boards, giving lectures, or advising students and faculty. This was especially the case within the business school.

Evidence of alumni hiring networks was also present, as it was at MIT. However, the firms that were hiring alumni or who had former alumni in their employ were not in science, technology, and engineering; rather they were generally related to the business school. For example, PNC Financial Services was linked to Pitt by a trustee and also had a number of alumni in executive positions. PPG Industries Inc., an exception to the financial services trend, is a diversified manufacturing firm that had executives who were alumni, gave generously to the university, and also donated large sums of money to establish new departments and laboratories at Pitt.

There were other partnerships between Pitt, firms, and nonprofits in addition to PPG Industries. For example, the University of Pittsburgh Medical Center is a standalone nonprofit which operates the hospital associated with the university. There are innumerable instances of exchanges between these two institutions. The faculty and researchers at both have been awarded grants, they have engaged in collaborative research, and have held joint appointments across departments at Pitt and UPMC. There is also overlap in the board of trustees; Nicholas G. Beckwith, III is a trustee of Pitt and is the Chairman of the Board at UPMC. There were a few startup companies in professional services, but this was by no means as common as startups at MIT.

Overall, these exchanges were less science and technology focused than those of MIT, and dealt more with university units concerned with FIRE (finance, insurance and real estate), such as the business school. Compared to MIT, the exchanges were more local and regional, centered on the Northern part of the eastern seaboard. However, like MIT, the university provided infrastructure, a variety of resources, human capital, research, expertise and prestige for knowledge economy corporations and other entities represented by the trustees. The organizations represented by the trustees did the same for the university, but on a much more limited scale and in different areas. The trustees seemed to be more involved in university management than with research endeavors. There is no indication that university management was other than happy with these arrangement. Of course, it is unlikely that

administrators—in contrast to faculty—would voice criticism of the trustees who are their employers and with whom they work closely.

Our initial work on exchanges suggests that trustees may be key points of connection between universities and their environments, particularly the corporate sector. While we cannot make any generalizations about exchanges across the AAU universities, our analysis of the central private (MIT) and public (Pitt) AAU universities suggest that there may be marked differences between public and private universities. Indeed, groups of universities—those with a technical emphasis, such as MIT, Cal Tech, and the University of Rochester, or those with exceptionally high endowments, such as Harvard, Yale, and Princeton—may have different exchange patterns.

Conclusions

Many of the trustees of private AAU universities are part of the "inner circle," (Useem 1984) or business class that manages and directs the corporate economy; 25.3 % of the firms that the trustees of AAU universities create interlocks with were Fortune 1000 firms (17.8 % were Fortune 500 firms). The idea of an inner circle or a business class raises the question of whether trustees representing their universities share a collective agenda for the universities of which they are stewards that is tied to their corporate agendas. This may not be an appropriate question to raise for trustees of public universities who are not concentrated as heavily in large corporations as private sector trustees. Indeed, public university trustees may not be part of the inner circle.

The social location of private university trustees indicates that they are part of the business class, which raises the possibility that they are individually and/or collectively in positions to influence strongly the universities of which they are stewards. This suggests, but does not prove, a corporate control theory, extended to embrace an executive science network composed of trustees and senior management (Mathies and Slaughter 2013). An important step toward understanding how and if trustees are able to come to common understandings about agendas for research universities is to comprehend the density of their networks and the ability of trustees to share information and communicate. The 54 public and private universities in this network are tied by at least 1 trustee, and as many as 6 trustees, to a total of 1,288 for-profit firms. The private firms are all interconnected, and had dense connections which put them in the center of the network along with the firms to which they are connected. Private universities also have the potential to communicate readily, sharing information with ease due to the density of their ties, which puts them in a position to dominate the network. Indeed, the ties among private universities and firms create a network that allows trustees/CEOs/directors to interact in face to face corporate board and/or university board meetings multiple times each year, perhaps sharing information and ideas about shared agendas for the corporate and university worlds. The public network is not nearly as dense as the private nor as tightly connected.

The analysis of the industry, or industries, in which these firms operate reveals that a substantial portion of the firms (27.8 %) are diversified either across industries or across activities within an industry. These diversified firms give the university access to information or communication potential in multiple industries through a single firm tie which could make ties to these firms more valuable for universities. There are also a large number of firms in finance and insurance (25.5 %) which increase the ability of universities to obtain information on, develop closer ties with, or communicate with banks who can assist with financial planning, endowment management, and fund raising campaigns as well as providing funds for endeavors such as startup companies. However, the NAICs categories are limiting both because they are broad and because so many firms are in diversified categories. Both of these factors obscure firms' reliance on knowledge produced or co-produced in universities. Combining industry classifications like NAICS codes with other information about the firms may allow us to better assess the types of corporations represented by trustees involved in exchanges. For example, we know that universities patent consistently in five patent classes in which trustees' corporations also patent and that these likely reflect a narrow band of activity on which advanced science and federal funding are concentrated (Slaughter et al. 2014). Exploration of the types of corporations engaged in such patenting may give us insight into which diversified corporations in our sample would repay further investigation.

Our initial work on exchanges between trustees, trustees' corporations, and universities allows us to approach the corporate control question. We conceptualize exchanges as the resources, ideas, and people that flow through and between these organizations. Many of the economic exchanges we detailed are aimed at generating profits for the participating trustee corporations and revenues for the universities. Many these exchanges are trigger points for ICOI: they involve intellectual property, technology transfer, university-industry partnerships, etc., aimed at financial gain for both trustees' corporations and universities. While win-win outcomes, in which both trustees' corporations and universities benefit, are possible, so are outcomes that are win-lose. For example, in the case of universities, startups call for various kinds of investment, ranging from money to faculty time, all of which can be lost and/or diverted to other than primary missions and goals. Trustees involved in exchanges may not "control" groups of executive managers and faculty so much as offer opportunities that are difficult to refuse.

Our analyses of MIT and Pitt suggests that the segments (faculty, senior management, trustees and trustees' corporations) of universities involved in exchanges share an entrepreneurial approach to the knowledge economy. While entrepreneurship in the academy is often seen as tied to research and STEM fields, as is the case with MIT, we see this as a narrow conception and argue that FIRE, as at Pitt, is part and parcel of the knowledge economy (see Chap. 3 in this volume). However, those segments of the university community not involved in entrepreneurial endeavor, such as the humanities, may experience increasing partnerships with the business world as corporate control (see Chap. 10 in this volume), particularly if university resources are shifted into areas suitable for expansion of academic capitalism.

Our ultimate goal is to assess whether research universities can still be conceptualized as distinct from the networked field created by their trustees and symbolized by exchanges. Historically, trustees have been understood as creating a formal barrier to these processes because they are charged with representing the organization's interests rather than those of its constituents or supporters (Herbst 1974). We think this has changed, and that trustees, senior management, some middle management and some faculty are reshaping universities through the strategic deployment of resources, actors, policies and practices across complementary organizations to maximize resources and prestige. This may result in deeply segmented research universities, where entrepreneurial graduate education and faculty research are expanded and those who participate in these endeavors move into a variety of markets while other areas contract and/or subsidize entrepreneurial activity.

Appendix

Table 8.2 List of universities and ID numbers for Figs. 8.1, 8.2, and 8.3

Public universities and university systems		Private universities	
ID	*University*	*ID*	*University*
154	Georgia Institute of Technology	128	Brandeis University
113	Indiana University	129	Brown University
101	Iowa Regents	130	California Institute of Technology
	Iowa State University	131	Carnegie Mellon University
	The University of Iowa	132	Case Western Reserve University
102	Michigan State University	133	Columbia University
103	The Ohio State University	134	Cornell University
127	The Pennsylvania State University	135	Duke University
104	Purdue University	136	Emory University
105	Rutgers University	137	Harvard University
106	State University of New York	138	The Johns Hopkins University
	Stony Brook University-SUNY	139	Massachusetts Institute of Technology
	University at Buffalo – SUNY	140	New York University
107	Texas A&M University	141	Northwestern University
108	The University of Arizona	142	Princeton University
109	University of California	143	Rice University
	University of California, Berkeley	144	University of Rochester
	University of California, Davis	145	Stanford University
	University of California, Irvine	146	Syracuse University
	University of California, Los Angeles	147	Tulane University
	University of California, San Diego	148	The University of Chicago
	University of California, Santa Barbara	149	University of Pennsylvania

(continued)

Table 8.2 (continued)

Public universities and university systems		Private universities	
110	University of Colorado Boulder	150	University of Southern California
111	University of Florida	151	Vanderbilt University
112	University of Illinois at Urbana-Champaign	152	Washington University in St. Louis
114	University of Kansas	153	Yale University
115	University of Maryland at College Park		
116	University of Michigan		
117	University of Minnesota, Twin Cities		
118	University of Missouri, Columbia		
119	University of Nebraska		
120	The University of North Carolina Chapel Hill		
121	University of Oregon		
122	University of Pittsburg		
123	The University of Texas at Austin		
124	University of Virginia		
125	University of Washington		
126	The University of Wisconsin-Madison		

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Chapter 9
The New Prudent Man: Financial-Academic Capitalism and Inequality in Higher Education

Brendan Cantwell

For over 100 years endowments had been managed according to the common law "prudent man" principle that imposed the relatively conservative fiduciary responsibility for capital preservation upon university trustees. Beginning in the 1970s the prudent man concept was re-imagined to call for the maximization of return on endowment holdings and increased attention to long-term capital accumulation. Prestigious universities, especially those that are privately controlled, have historically been well-heeled and have enjoyed generous gift support, in part because of U.S. tax code which makes gifts to non-profit organizations exempt from tax liabilities. But new interpretation of the "prudent man" principle has accentuated these historical advantages and has contributed, in part, to the evolution and growth of super-endowments. This chapter argues that inequality in endowment holdings contributes to overall inequality in higher education.

In this chapter I show how the transformation of the prudent man principle coincided with restructuring in the broader political economy and especially the globalization of finance. I argue that endowment management is now a form of financial-academic capitalism in which universities engage in market activities to generate profit in order to secure advantage over competitor institutions by amassing wealth, which is in turn associated with prestige and field status. The analog of the wealth and status advantages is institutional inequality, and I argue that endowment management is one contributor to the steep and persistent stratification that characterizes higher education in the U.S.

Endowment management is not a commonly discussed topic in the higher education literature. In fact, most of the literature on endowment management can be classified either as technical financial analysis (e.g. Lerner et al. 2008), reports for university administrators and trustees (e.g. Massy 1990), or "how-to" investment

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guides (e.g. Swensen 2009). Given the build-up of super-endowments and importance of endowment revenue in supporting higher education operations, the story of endowment management and university activity in capital markets is an important and under-examined topic worthy of attention. Further, endowment management provides occasion to examine one of the mechanisms that create and maintain inequity in higher education, which, I argue, is entangled with a wider set of social relations that mirror and contribute to the maintenance of social inequality.

I contend that higher education must be studied contextually, in the broad policy and resource environment, in order to fully understand the ways in which higher education contributes to social stratification. In addressing the question of the role of higher education in social stratification I have two aims. The first is to situate my argument contextually by heeding the broader set of circumstances that frame endowment management practices. Second, following research into academic capitalism (Slaughter and Leslie 1997; Slaughter and Rhoades 2004), I hope to contribute to an approach to the study of higher education that moves beyond the analysis of individual experience and outcomes to analyze organizations and social systems critically. A basic assumption underpinning my approach is that attending to individual analysis to the exclusion of organizational and structural analysis runs the risk of obscuring the power relations that structure social outcomes and opportunities (Pusser and Marginson 2013).

Higher Education and Social Stratification

Higher education is held in the public imagination, and often asserted explicitly by policymakers, as *the* prime vehicle for social mobility. Individual, family, and social aspirations for prosperity and a desire for improved social standing underpin the massive and ongoing worldwide expansion in higher education participation (Marginson 2011). The idea that academic achievement is the basis for upward social mobility is also central to the trope of the American dream.

Surely the knowledge and skills, contacts and social cache acquired at elite universities can be converted into social advantage (Zhang 2005). Moreover, research demonstrates that on average all college graduates enjoy a wage premium over those who have only competed high school (e.g. Carnevale et al. 2011). Beyond individual returns, the positive social spillovers that come from increased tertiary participation, such as lower crime, increased civic participation, and additional support for charity, provide further evidence that expanding access and attainment is good for individuals and for society (McMahon 2000).

The case for higher education as a vehicle for social mobility is strong, and one would be hard pressed to find a reasonable observer who would dispute the individual and social benefits associated with college attendance. But the story of higher education as a profound mechanism for equality is jarred when confronted

with the fact that increased participation has coincided with increased inequality. As participation ballooned in the U.S., real wages also became stagnant and inequality in income and wealth grew insidiously (UNESCO 2014; Piketty 2014). Between 1970 and 2010 the gross enrollment ratio—or the share of the 18–25 year old cohort that participates in higher education—increased from 47 % to 93 % in the U.S. (UNESCO 2014). Yet over that same period the top 10 % of income earners expanded their share of national wealth from 33 % to 48 % (Piketty 2014).

I do not mean to suggest that there is no relationship between higher education and economic and social outcomes. On average those who hold a college degree do better than those who do not. Further, sociological and economic inquiry into higher education and stratification theorizes that colleges and universities offer a differentiated set of positional goods, some of which yield opportunities that can be converted into social advantage and some of which have very little exchange value (Marginson 2006). And empirical research demonstrating the link between attending a selective college and higher graduates' wages lends support to the idea that some degrees are worth more than others (Zhang 2005). But the fact remains that diffusion of postsecondary degree qualifications throughout society has coincided with increased wage inequality.

The reality that where you go to college matters could remain consistent with the mobility narrative if college admission processes were meritocratic, or a fair and level playing field that offers equal opportunity to all. But this is simply not true. Low-income students and students from racial and ethnic minority groups have unequal access to selective colleges and universities (Bastedo and Jaquette 2011; Karen 2002; Posselt et al. 2012). Stratification in higher education occurs along two interrelated dimensions (Marginson 2006; Winston 1999): (1) institutions are arranged in a steep hierarchy with the most elite colleges and universities enjoying enormous advantages in resources and status; and (2) the student market is segmented in such a way that social elites have much better access to the top colleges and universities. The mechanisms that produce and reproduce stratification in higher education are many, and ultimately must be traced through empirical investigation, but the overall result is a system that is entangled in a wide set of social relations. The system therefore both reflects and helps to reproduce the structures of society (Marginson and Cantwell 2014).

Following Bourdieu (1988), I assume that social fields like education have a strong tendency towards stratification, but it is important to note that I do not argue social stratification occurs automatically or is inevitable. Rather, as Fligstein and McAdam theorize (2011), social structures are produced in nested and interlocking fields of activities in which incumbent participants, or those with the best resources and who occupy dominant positions, act strategically to produce and reproduce field conditions that lead to maintenance of their advantage. While fields tend to be stable, they are open to change as a result of either the effort of participants or by unexpected events.

Why Structural Analysis Matters

I assume that social structure and environmental conditions effect college and university organizations. While it would be unfair to stylize the literature as naively rejecting the salience of influences beyond university gates, organizational studies in the field of higher education have given considerable attention to culture since at least the 1990s (e.g. Tierney 1988; Kezar and Eckel 2002) and more recently scholars have called for increased attention to within organization processes and conditions (e.g. Bastedo 2012; Dee 2014). Such calls implicitly conceptualize colleges and universities as self-determining collectivities whose constituents hold mostly shared understandings about the basic mission, purposes, and functions of the institution (see Clark 1972 as a foundational study for this line of research).

The call for studies about variables over which colleges and universities have immediate influence is understandable. Structural analyses often have a functionalist bent, can unfairly emphasize deficits, and can be deterministic. Besides, one might ask, "why belabor what cannot easily be changed when there is an opportunity to reshape internal organizational workings in ways that benefit students?" All of these points merit consideration, yet the move to focus on what can be changed in the short-term may lead to a latent tendency to conceptualize colleges and universities as social islands. Understanding colleges and universities in this way runs the risk of overlooking important features of the resource and policy environments and can potentially lead to ahistorical and atheoretical analyses, and ultimately to wrong conclusions.

An Academic Capitalism Approach

Over the past 15 years the study of academic capitalism has proven to be a remarkably fruitful approach for understanding the relationship between higher education and the broader social environment, including the state and economy. Slaughter and Leslie (1997) introduced academic capitalism to explain the phenomenon of universities aggressively competing for revenue in the face of declining direct public support. The preconditions for academic capitalism included a neoliberal ideology and associated policies that disfavored public-welfare entitlements like block grants to colleges and universities, and that preferred the privatization of public utilities and the establishment of public resource allocation through competitive processes. Resource dependent higher education institutions responded by engaging in market-like behavior such as competition for students who could pay higher rates of tuition and efforts to generate income through technology transfer. Slaughter and Rhoades (2004) later developed a theory of academic capitalism that provides a framework for explaining the ways in which higher education is entangled with the state, economy, and social actors. According to the theory of academic capitalism, individuals

and organizations exert agency and partly shape the ways in which higher education institutions engage with social structures.

A complete treatment of academic capitalism is beyond the scope of this chapter, but it is worth noting that academic capitalism considers material and discursive mechanisms that entangle colleges and universities with state, economic, and social structures, often facilitating entrepreneurial activity. That is, academic capitalism provides a framework to conduct structural and contextual analysis of higher education organizations, their management, and governance. Given the theory of academic capitalism's attention to the ways in which higher education is entangled in social structure, it is a useful frame for examining the role of endowment management in the stratification of higher education.

Financial-Academic Capitalism

I argue that endowment management is a form of financial-academic capitalism in which universities engage in market activities to generate profit in order to secure advantage over competitor institutions by amassing wealth. While academic capitalism has been used to study various manifestations of entrepreneurial activity in higher education, actual financial dealings have largely been outside the scope of research into academic capitalism. Deploying capital to generate surplus is the foundation of capitalist economic systems. As stated in the introduction, the underling philosophy, the "new prudent man," claims that maximization of capital return is the endowment manager's top priority. Through aggressive endowment management that seeks to earn high profits, at least some colleges and universities participate in direct capitalist activities similar to those of Wall Street investment houses. A few universities with the wealth and expertise to engage most successfully in this endeavor are able to return massive accumulations of wealth.

These universities, which could operate using endowment holdings at present expenditure levels for almost a decade without collecting a single dollar in revenue, seem to break Bowen's (1980) revenue theory of cost which asserts that universities raise all they can and spend all they raise. In examining patterns of gift and endowment expenditures Ehrenberg and Smith (2003) found "higher levels of endowment wealth per student are associated with a greater share of annual giving being directed towards building the endowment" (p. 232). In other words, places like Harvard with super endowments spend only a fraction of their annual endowment returns, and re-invest the rest as profit to secure additional capital gains. While no non-profit university pays out returns as cash dividends to owners—a clear boundary between non-profit higher education and for-profit firms—I argue that this wealth is instead distributed to (present and future) faculty and students for whom massive resource advantages are used, along with other assets, to maintain enormous status asymmetries that help to ensure optimal access to the most desirable social positions (see Bourdieu 1988; Fligstein and McAdam 2011; Marginson 2006; Marginson and

Cantwell 2014; Slaughter and Rhoades 2004; Winston 1999; Weisbrod 2009 for theory and empirical evidence in broad support of these claims).

Financial Academic Capitalism and Endowment Management

As has been stressed thus far, a fundamental assumption underpinning this chapter is that the mechanisms that contribute to both institutional stratification and the role of higher education in reproducing social stratification are complex and entangled in a broad set of social relations. Endowment management links colleges and universities directly with global financial actors. These links constitute financial circuits that facilitate entrepreneurial activity and generate new streams of revenue. In tracing the development of the new prudent man and financial academic capitalism it is necessary to understand how this development related to shifts in the broader political economy.

The Rise of Global Financial Capitalism and Birth of the New Prudent Man

In the 1930s and 1940s the global financial system was in disarray. Recognizing that global economic coordination would be needed, finance ministers from the capitalist Western countries met in Bretton Woods, New Hampshire during the waning days of WWII in 1944 with the aim of developing a global financial architecture that would govern the post-war financial system (Eichengreen 1996). Among many other things, the Bretton Woods agreement established a system of strict capital controls, with the U.S. dollar (pegged to gold) used to set the value of other currencies. Currency would not be traded as a financial instrument across national borders, and currency speculation was discouraged. The system was intended to reduce financial volatility and resulted in a regime of "embedded liberalism" that acknowledged the primacy of the state to manage monetary policy and regulate capital (Ruggie 1982).

This embedded liberal regime functioned more or less as envisioned until the late 1960s when it began to unravel and give way to a neo-classical macroeconomic orthodoxy (Helliner 1994). During the 1980s and 1990s the global financial system entered what we now consider to be the neoliberal period, which probably is still a dominant philosophy underpinning economic policymaking. The neoliberal financial system is underpinned by neo-classical ideology and characterized by active deregulation and state-support for liberalized financial markets, and massive expansion in global financial exchange in the capitalist West (especially the US and UK) and in communist China. Although the state is disfavored in neoliberal philosophy because it is seen as encumbering the free and efficient operation of markets, neoliberalism is, at least in

part, a state-led project as the state dismantled its regulatory capacity while providing protection to financial risk-takers (Harvey 2007).

During this period nearly everything could be, and was, converted into a security—most notably securitized mortgages, futures, and insurance policies against assets that investors did not themselves own (credit default swaps) (Davis 2009). Banks and investment firms became heavily leveraged, meaning that the liability of their assets accounted for several times the amount of cash and other liquid assets they held. Leveraged investments could yield very high rates of return but were also very risky.

Transforming Endowment Management and the New "Prudent Man"

The tradition of non-profit organizations holding endowments dates to fifteenth century England. University endowments have a long history in the United States. In the 1640s alumni of Harvard College gave their alma mater a plot of land in Cambridge, MA, which is still part of the Harvard campus. Today there are more than 11,000 endowment funds under the management of colleges and universities in the United States (Kochard and Ritteriser 2008, p. 4). According to the National Association of College and University Business Officer (NACUBO), the 849 U.S. and Canadian institutions that participated in their 2013 endowment study held over $456 billion in combined endowment assets (NACUBO 2013). Individuals, corporations, and philanthropic organizations give colleges and universities assets including cash, real estate, and securities. Colleges and universities (and subunits within them) have established "development" and "advancement" offices staffed by professional fund-raisers in order to encourage and manage these gifts.

In addition to hosting elaborate fundraising operations, colleges and universities in the United States have developed sophisticated organizational capacity for managing endowment assets. For over 100 years endowment management operated under the "prudent man" common law principle, which was established by an 1830 Supreme Court of Massachusetts decision (*Harvard College v. Amory*). This principle stipulated that trustees' fiduciary responsibility is to manage charitable trusts (including educational endowments) as a "prudent man" would his/her own assets (Humphreys 2010). This standard gave rise to the concept of "inter-generational equity" in which the guiding objective of endowment managers was to preserve principal capital so that the endowment could serve the institution in perpetuity.

The "prudent man" principle did not separate colleges and universities from financial capitalism, but instead outlined the conditions in which institutions participate in financial capitalism through the management of endowment assets. In short, from the 1830s through the 1960s endowments were managed to avoid risk and to enjoy predictable returns, at the expense of potential earnings that could be derived by pursuing investments with greater uncertainty. This meant that many institutions

kept their assets in interest-yielding bank savings accounts and invested in conservative instruments like government and corporate bonds and the common stock of well-established companies. As a result, university endowments fared a bit better during the crash of 1928 and the Great Depression than did the holdings of other organizations whose asset management was not governed by cautious fiduciary standards (Humphreys 2010).

During the 1960s some university trustees and endowment mangers began to question the limits placed on their investment strategies by the "prudent man" principle. They saw conservative investment strategies as drags on institutional growth, especially at a time when government funding was uncertain and there was increased competition for private donations (Kochard and Ritteriser 2008). This led to an initiative to revisit the moral and fiduciary underpinnings of the "prudent man." As Humphreys (2010) explains:

> It was precisely at this time—at the height of postwar prosperity—that a small, but influential group of financiers, lawyers, academics, endowment trustees, and philanthropic foundation officials began to push for a much more aggressive approach to the management of endowment funds. With support from the Ford Foundation, J. Peter Williamson, a professor of finance at Dartmouth College, and John F. Meck, the vice president and chairman of Dartmouth's Investment Committee, traveled around the country to pay visits to the finance officers at more than 30 college campuses in order to conduct research for one of the most comprehensive studies to date on the management of endowment funds. The data they gathered provided the basis for the so-called "Barker Report," one in a series of decisive publications on educational endowment management sponsored by the Ford Foundation in the late 1960s and early 1970s. (p. 18)

The Barker Report, officially entitled *Managing Educational Endowments* (Ford Foundation 1969), concluded that the "Prudent Man" principle imposed no legal imperative on colleges and universities to follow a conservative investment strategy for managing endowments. At that time colleges and universities typically spent their annual returns on educational activities, rather than re-investing capital gains, but the Barker Report questioned this practice because it constrained the potential for increased capital growth. In fact, the Barker Report saw the long-held interpretation of the "Prudent Man" principle as overly constraining. A "prudent man," the report implied, might well tolerate more risk with the likelihood of greater return. A "prudent man" also might not spend all capital gains, but might invest a portion to maximize total returns.

It should be noted this report was developed during the beginning of the period in which the financial system was being progressively deregulated, which led to what is described above as the neoliberal financial system. Authors of the Barker Report seized upon shifting ideologies governing the financial system to craft a new approach for managing endowments. These techniques would draw colleges and universities into emerging developments in entrepreneurial finance. The legacy of the Barker Report is evident in the Common Fund Institute's (2001) *Principles of Endowment Management* report, which relies heavily on the Barker and subsequent associated reports for establishing the "best practices" for endowment management. Of note, The Common Fund points to the Barker Report as especially important in

setting payout guidelines that prioritize capital accumulation over capital preservation.

The Barker Report proved to be significant in at least two regards. First, it brought together academic economists, financial industry representatives, university trustees, and executives from not-for-profit organizations to reimagine how trustees and university administrators could manage endowments. Like the Business-Higher Education Forum (see Slaughter 1990), the group that produced the Barker report was a sector-spanning association that articulated a business-oriented agenda for higher education policy and organization. Second, the report was influential in persuading trustees and endowment managers that the "prudent man" standard did not bind them through fiduciary obligation to pursue conservative investment strategies. Following the guidance of the Barker Report, path-braking governance boards and campus investment managers set new normative standards for university endowment management, with a focus on total return rather than capital preservation (Kochard and Ritteriser 2008).

In 1972, the Uniform Management of Institutional Funds Act made many of the Barker Report recommendations law and lowered the fiduciary responsibility of trustees and endowment mangers who oversaw institutional assets. During the 1970s and 1980s endowment management practices were revisited. University endowments began to pursue more aggressive strategies for returns. Universities contracted with financial firms to mange their assets, some established investment offices headed by Chief Investment Officers (CIO), and some even established or expanded arms-length not-for-profit investment corporations. While most universities employed investment firms to manage their money and only the wealthiest universities like Harvard, Yale, and MIT established the own investment corporations, these examples are useful because they set the normative standards for the way endowment assesses are managed. These funds lead the way from the traditional prudent man mix of relatively stable assets of stocks, bonds and other fixed income savings instruments, to a diverse array of sometimes risky assets (Humphreys 2010; Kochard and Ritteriser 2008).

Accounts of super endowment success are often attributed to the efforts of skilled investment managers. For example David Swensen, Yale's longtime investment manager, is lauded as an affable financial genius whose portfolio management approach was at the cutting edge of financial innovation. According to these accounts, Swensen was a leader in moving university endowments out of a "plain vanilla mix of stocks and bonds" into a more adventurous and profitable "portfolio with stakes in venture capital funds, real-estate partnerships, emerging market stocks and scores of small, specialized investment outfits" (Arnold 2006, paragraph 3). Today, many endowment managers allocate a substantial share of their assets in risky investments with the potential for high return but also major losses. A review of Table 9.1 shows that large endowments are heavily invested (59 %) in "alternative strategies" which include private equity, venture capital, hedge fund, natural resource, and derivative investments. But it is not only large endowments that invest in these types of risky assets. Middle-sized endowments tend to invest between one-

Table 9.1 Average share of endowment holdings in each asset class by endowment size, 2013

Size of endowment	Domestic equities	Fixed income	International equities	Alternative strategies	Short-term securities/cash
Over $1 Billion	13	8	17	59	3
$501 million to $1 Billion	20	11	19	45	5
$101–$500 million	27	15	19	34	5
$51–$100 million	33	20	23	23	4
$25–$50 million	36	22	17	20	5
Under $25 million	43	26	14	11	6

Source: NACUBO 2013

quarter and one-third of endowment funds in alterative assets and even the smallest endowments invest, on average, more than 10 % of their holdings in these risky assets. The new prudent man is comfortable with high exposure to risk on the promise of handsome capital return.

Another way super endowments enjoy substantial returns is through the application of new financial theory and through partnership with for-profit financial ventures. In his report *Educational Endowments and the Financial Crisis*, Humphreys (2010) traces many links between the Harvard Corporation, which manages Harvard's massive educational endowment, Wall Street, and the academic study of finance and economics. Harvard Corporation traders tested theory developed by finance processors. Their large endowment and long-term investment horizon made short-term risk tolerable, and their nonprofit status meant that massive short-term gains could be enjoyed without tax liabilities. Several Harvard Corporation traders used the investment techniques they developed at Harvard, along with tax-exempt seed money from the Harvard endowment, to start for-profit hedge funds. Sometimes these funds performed well, other times they lost big.

> One of the most notorious cases was the collapse in summer 2007 of Sowood Capital, the hedge-fund firm launched in 2004 by former Harvard star trader Jeffrey P. Larson, whose bets with derivative contracts, reportedly leveraged at a ratio of 12 to 1, suddenly turned sour, destroying more than half the value of what had been a portfolio worth more than $3 billion in assets, managed largely for foundations, endowments and pension funds. (Humphreys 2010, p. 24)

In other words, the Harvard Corporation used not-for-profit and tax-exempt endowment money to seed a for-profit hedge fund that attracted additional capital from both not-for-profit and for-profit sources. When the deal went south it was the hedge fund, Sowood Capital, not the Harvard Corporation that took the fall (Humphreys 2010).

Skilled investors, the application of new financial theory, and partnerships with for-profit ventures likely all contribute to the success of super endowments. But attending just to these factors overlooks the structural advantages enjoyed by the very wealthiest universities. As previously noted, history is one source of advantage. Simply put, super endowment universities were founded long ago and hold privileged places in U.S. society, yielding inter-generational advantage in securing

donations and endurance of wealth accumulation. Inferences drawn from recent empirical work on academic capitalism also help to explain how super endowments realize strong returns. Elite private research universities, the model super endowment institutions, are enmeshed in a thick network of interlocking ties that link university governing boards to the boards of major corporations (Pusser et al. 2006). These links presumably provide a pathway through which important knowledge, resources, and business opportunities flow. Subsequent studies show how the configuration of governance ties shapes universities' research funding and patenting activities (Mathies and Slaughter 2013; Slaughter et al. 2014). Given that financial corporations are among the best represented on university governing boards (Mathies and Slaughter 2013), it is plausible that these ties to the financial industry constitute a structural advantage to super endowment institutions by providing privileged knowledge and opportunities that can be converted into market success.

Endowment Stratification

The rise of total return-focused endowment management parallels the rise of global finance and includes many links to the financial industry. Although the examples of elite private universities with large endowments are not typical of most universities, they are of conceptual interest. They demonstrate most clearly the links between global finance and university endowment management. Moreover, other colleges and universities *want* to be like Harvard, Yale, Stanford, and MIT, and students and faculty *want* to be at Harvard and the like (Marginson and Cantwell 2014). Aspirations to be like or to be at universities that hold massive endowments are underpinned by two interlocking dynamics that link higher education to patterns of social stratification. First, the resource reserves enjoyed by the holders of super endowments ensure that they are fully involved in all of the activities they wish to be and have the flexibility to add whatever programs they see fit. Substantial wealth reserves also ensure the ability to (more or less) attract whichever faculty and students super endowment universities want, having to compete only with other super endowment schools and not with the rest of the field. Winston (1999), for example, has demonstrated that universities use resources to attract top students by showing elite universities' expenditures per student can be nearly 10 times lower tier universities while the price of tuition is virtually identical. All other institutions lag behind the super endowment schools in ability to engage in highly desirable activities and to attract the best students and staff. The result is a sort of treadmill effect in which, no matter how furiously you run, it seems impossible to make headway.

Second, because the success of higher education institutions is based on social status and legitimacy, and because universities with the most resources also tend to have the highest status (Bourdieu 1988), university administrators have a powerful incentive to attempt to replicate the market success of endowment managers and pursue high risk strategies for endowment returns. Of course, lower status institutions mimic field leaders in a variety of ways (Morphew and Huisman 2002), but

there may be special incentive to mimic the investment strategies of super endowment holders. Endowment earnings tend to be a more fungible stream of revenue than specific gifts, which are often earmarked, and public appropriations, to which some accountability standards may be attached. And while it is possible to increase tuition revenue, solicit gifts, and lobby for additional appropriations, in the short and medium terms there are real constraints on the extent to which these sources of revenue can be expanded. On the other hand, it is conceivable that a university with any endowment capital could see substantial returns through smart investment. All of which helps to explain why colleges and universities with even modest endowment assets, and presumably an otherwise low tolerance for financial risk, invest in risky assets on the promise of high returns.

In reality, however, smaller endowments appear unable to realize the same type of return. According to NACUBO (2013) data, endowments of $1 billion or more enjoyed average annual net returns on endowment assets of 8.3 % over the 2003–2012 fiscal years. Each endowment size category down the list sees a somewhat smaller rate of annual return over the period, with a low of 6.3 % for endowments of $25 million or less. The differences in average returns are probably attributable to different tolerances for risk and differences in access to expert investors and finical networks. While a two-percentage point differential may seem small, in real terms this nets enormous differences. Consider a hypothetical example of a university that held exactly $1 billion in 2003 and one that held exactly $25 million. Assume both saw the average rate of return (8.3 % and 6.3 % respectively) each year that was compounded annually for each of the subsequent 10 years. Further assume that all returns are reinvested. As shown in Fig. 9.1, the $1 billon endowment would grow by 105 % and reach a total of $2.22 billion, whereas the $25 million endowment would grow by 73 % and reach a total of $46.1 million. While both

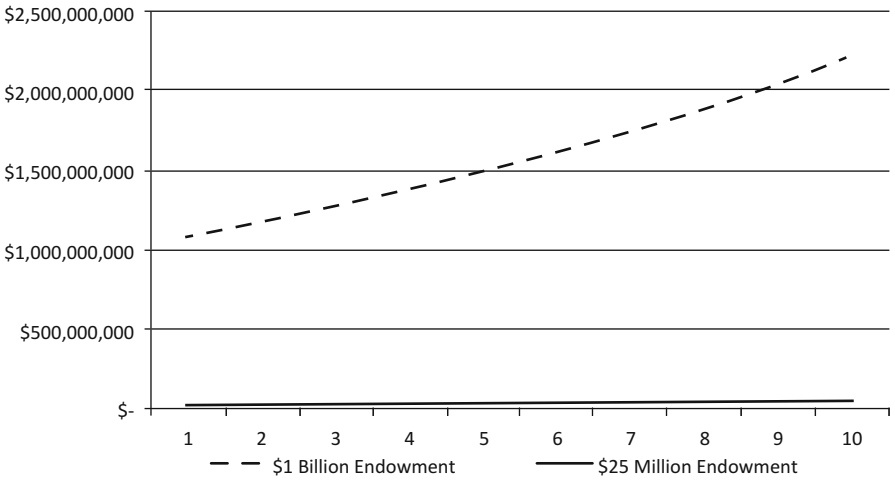

Fig. 9.1 Hypothetical endowment returns based on NACUBO reported average rates of return

endowments grew, over the 10-year period the already large wealth gap between the two became even wider.

The above example is hypothetical but helps to demonstrate the point that even when managers of all types of endowments engage in aggressive investment practices, the already advantaged endowments have continued relative and absolute advantages. The advantages enjoyed by the universities with the largest endowment holdings becomes even clearer when considering the vast differences in wealth and market return between private research universities and public research universities. Figure 9.2 shows average endowment holdings for "Ivy League" and "Big 10" universities from 2002 to 2012. The Ivy League includes eight of the most prestigious private research universities and the Big 10 includes 12 large research universities (11 public and 1 private). Both groups consist of what many consider to be "top" research universities, yet, on average, Ivy League universities hold much larger endowments. What is more, over time the gap between the two groups grew wider. Despite the fact that endowment growth was more volatile among the Ivy League, over the period the gap between the average endowment holding among the two groups grew. In 2002 the average Ivy League endowment was $4.9 billion more than the average Big 10 endowment, but by 2012 the average Ivy League endowment was $8.8 billion more than the average endowment among Big 10 universities. And these basic averages do not take into account per student wealth, which would show an even greater Ivy League advantage. Simply put, even relatively wealthy public universities cannot compete with the ultra wealthy and ultra prestigious elite private sector.

Considering a wider set of endowments further helps to demonstrate how steeply intuitions are stratified by wealth. Table 9.2 presents NACUBO data for 2013

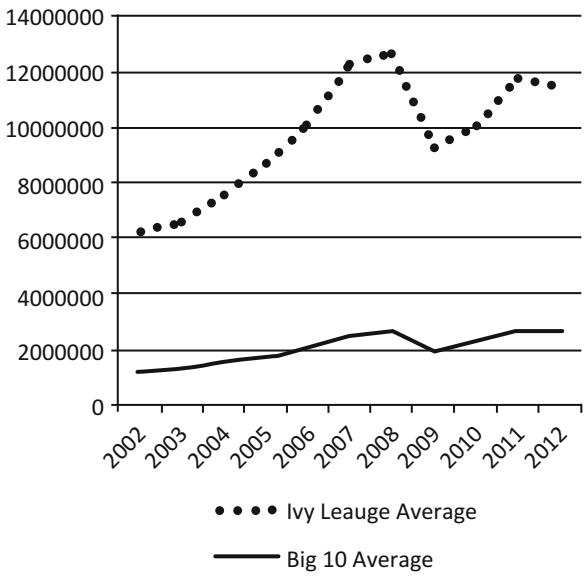

Fig. 9.2 Average endowment value among Ivy League and Big 10 universities, 2002–2012

Table 9.2 Inequality in endowment asset holdings, 2013

	Number of institutions	Endowment value	Share of total (%)
Top 1 %	8	$125,473,040	29
"Middle" 2–10 %	82	$178,357,132	42
Bottom 90 %	754	$123,010,317	29

Source: NACUBO 2013, author's calculations

categorized by share of total assents under management.[1] The top 1 %, or just 8 institutions (7 private universities and 1 public university) hold 29 % of all endowment assets. By contrast, the next 2–10 % of NACUBO member institutions hold 42 % of all reported assets, and the bottom 90 %, or 754 institutions, hold just 29 % of all reported endowment assets.

Even though these figures are not adjusted for institutional size they present a stark truth about the distribution of resources available to different institutions of higher education. Status and prestige are wrapped up in a reputation-resources complex so that those with the largest endowments also tend to enjoy the highest status and best social positions. The top 8 endowments reported in the NUCABO data include seven private universities (Harvard, Yale, Stanford, Princeton, MIT, Columbia, and Northwestern) and just one public university (The University of Michigan). The private universities in this group are all super-incumbent global research universities ranking among the very top in the world. The University of Michigan is the wealthiest and among the most prestigious public universities in the world. Places at the University of Michigan are coveted so highly that the admissions practices of this state university have been a source of political conflict for decades, which has prompted several legal challenges rising all the way to the Supreme Court of the United States.

Implications for Stratification and the Role of Higher Education in Society

Financial academic capitalism and the new prudent man standard for endowment management are by no means *the* causes of stratification in higher education. Historical advantages and numerous other mechanisms establish and reproduce the hierarchical ordering in the field of American higher education. But financial academic capitalism via new prudent man management of endowments is important for understanding how higher education is broadly entangled in social relations as well as the ways in which higher education interacts with the political economy.

[1] Two multi-campus public university systems – University of Texas and Texas A&M University – have been excluded from this analysis because they claim a large share of the state's "Permanent Fund" a sovereign wealth fund derived from Texas' mineral resources. As a result these university endowments are not comparable to other university endowments.

Specifically, analysis of endowment management highlights two ways in which university–environment interactions contribute to stratification. First, development of the new prudent man standard demonstrates how some actors in higher education are able to take advantage of shifting social dynamics to extend the advantage and status of their institutions. Second, new prudent man endowment management has contributed to the widening of the wealth gulf that stratifies institutions, making it simply impossible for most colleges and universities to approach an elite few in the sort of activities that produce status, which in turn can be converted by students and faculty into social advantage.

Transformation of the prudent man fiduciary standard has been little noticed by higher education researchers. In part this is because higher education studies have focused on topics like student development and outcomes, faculty work, campus culture, and the presidency, but have not attended closely to the technical aspects of college and university management. But it is also likely that the prudent man transformation went overlooked because it is best appreciated when considered in the context of shifting ideologies and deregulation related to national and global financial affairs. Without attending to the ways in which higher education is enmeshed in a wide array of social relations it is difficult to identify shifts in management practices that have potentially important implications.

The transformation of the prudent man standard demonstrates how deliberate action can be taken by well-positioned actors to extend and solidify privileged positions in social fields. In re-imagining the prudent man standard, a small cadre of actors from elite colleges and universities, philanthropic organizations, and finance drew university financial dealings into a set of investment practices at the vanguard of the burgeoning system of deregulated global finance. This did not happen by accident, but rather is the consequence of conscious and deliberate effort to exploit new opportunities in an evolving ideological and regulatory environment. A group of university and business leaders was sponsored by the Ford Foundation to reimagine the prudent man standard and subsequently lobbied congress to permit under law an aggressive and risky approach to endowment management that attended to long-term capital accumulation over furthering institutional mission. Moreover, endowment mangers at the wealthiest and most prestigious universities have used their structural advantages to engage in innovative high risk/high reward investment strategies that have extended wealth advantages over competitor institutions (Humphreys 2010).

Although the new prudent man standard is primarily a management technique developed in response to environmental change, it is at least possible that university endowment practices contributed in some small way to legitimizing the liberalization of capital markets. As Gerald Davis explains, “Being seen in the company of … Goldman Sachs, or Stanford University can boost your stock, and these ties are particularly important for a new companies seeking to go public” (Davis 2009, p. 95). This is to say, the social status enjoyed by universities like Stanford can lend legitimacy to the securitization of a firm or asset. Higher education systems, after all, are part and product of the societies in which they exist.

Another important implication of the re-imagined prudent man rule is what is described above as the status treadmill effect. All college and university endowment managers can engage in aggressive investment practices. But relatively few can afford to re-invest the lion's share of their capital gains back into the market rather than spending on current activities. Larger endowments also realize higher returns over time (NACUBO 2013). The result is the compounding of advantage so that there is steep inequality in endowment values. Super endowment institutions have the resources to engage in whatever activities they please, but also the luxury to save and amass more and more wealth. Competitors are stuck on a treadmill, never able to catch up. Assuming that elite universities offer unrivaled social advantage in terms of access to the best social positions (Marginson 2006), and in light of the fact that access to top colleges and universities is highly stratified, students from disadvantaged social backgrounds find themselves also on a treadmill, "running in place" (Bastedo and Jaquette 2011) and often unable to access the institutions that provide the best chance for upward social mobility.

Policy Implications and Concluding Thoughts

In exchange for serving the public good, not-for-profit organizations like many colleges and universities enjoy tax advantages. Colleges and universities benefit from a double tax break. First, the tax code incentivizes individuals with means to give to tax-exempt organizations by allowing donations to be "written off" against tax liabilities. Second, universities and other not-for-profit organizations can engage in a substantial amount of for-profit activity that is unrelated to their core mission so long as the proceeds of these activities go to support the not-for-profit mission (Weisbrod 2009). New prudent man endowment management is a clear example of such profit-seeking activities.

However, it is reasonable to question whether, at least in some cases, these tax advantages serve the public good. Colleges and universities do generate public goods, including what might be considered pure public goods, and spillover public goods. Pure public goods include the generation of basic knowledge that cannot be monopolized and can be used by anyone to improve the human condition. Spillover public goods include the benefits enjoyed by society from participating in higher education such as suppressed crime and increased civic participation. However, it is not clear the extent to which new prudent man endowment practices support the public good mission of colleges and universities versus simply supporting the status and corporate interests of individual colleges and universities. Recall that one aspect of the prudent man transformation is that endowment earnings can be reinvested for additional return rather than spent on educational activities. Super endowment universities tend to pay out only a modest portion of the returns on their endowment, and, the larger the endowment on a per-student basis, the more is saved and reinvested for capital gains (Ehrenberg and Smith 2003).

The economist Richard Vedder (2014) recently questioned why the wealthiest universities, which enroll realtivly few low-income students, continue to enjoy direct federal funds and even greater benefits through favorable tax treatment. Vedder argues that ending state subsidies to the wealthiest institutions would be in the public interest. Super endowments have also captured interest in Congress, especially from Senator Charles Grassley (R—Iowa), who has held hearings on endowment "hoarding" and has questioned how tax-exempt super endowments serve the pubic interest (Nelson 2011).

One proposal to prevent endowment "hoarding" by super endowments is to tax earnings of endowments that exceed some threshold at the corporate income tax rate of 35 %. If endowment holdings exceeded a legislatively determined threshold, say $1 million per student enrolled or 5 times total operating expenditures, endowment earnings would be subject to taxation (Waldeck 2009). Such a tax would both discourage the hoarding of assets in a way that is inconsistent with a public good mission, and impose the normal rate of taxation when it seems assets are not being used to support the public good.

A tax on super endowments is indeed an appealing idea for those interested in seeing university endowments being used to support more educational activities and those interested in reducing stratification in higher education. The threat of a tax could encourage elite universities to spend their endowment earnings on activities in the public interest like broadening access to the most desirable places in the higher education system, and any tax revenue generated could be used to fund public higher education and lower the price of tuition for a great many students. Still, such a policy seems unlikely to be implemented. There is very little appetite in congress for major reform, especially for anything that might resemble a tax increase. Even if some members of congress were to champion legislation that would impose a tax on super endowments, such efforts would surely face stiff resistance from university and financial lobbies. This is not to suggest laws challenging the tax-exempt status of super endowments are impossible, only that they are unlikely and would require substantial public attention to motivate action. While there is broad concern over tuition prices, ire over the tuition bill has been primarily focused on pubic universities, many of whom have only modest endowments and few sources of additional revenue other than tuition as state appropriations are cut. Meanwhile many private universities amass endowment assets in excess of $1 million per student, in part due to the benefits afforded to them by the tax code.

As in the economy overall, deregulation and favorable statutory conditions for risk-takers has contributed to stratification among higher education institutions. The stratification of higher education both mirrors broad social structures and contributes to their maintenance. Social inequality is structural, and, as Piketty (2014) argues, probably requires structural remedy. Small-scale policy interventions in higher education seem unlikely to disrupt existing patterns of stratification and inequality. But I do not wish to end on an overly pessimistic note. Social relations are neither inevitable nor fixed for all time. Contingency in the social world means

there are always opportunities for agency-enacted alternatives. Legislation exposing super endowments to tax liability could contribute to a set of social reforms that reduce inequality and unlock pathways for social mobility. Individual colleges and universities could choose—admittedly at their own peril—to exit competition and spend endowment assets in ways that promote social equity. Of course, much of the status Harvard enjoys results from its exclusivity; doubling enrollment with no-fee low-income students could compromise its ability to offer social advantage to any student. In other words, it will take creativity, imagination, determination, and favorable circumstances to dislodge the dual set of institutional and student stratification that contributes to social reproduction.

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Chapter 10
Accountability Regimes in Flagship Universities: How Strategic Planning Encourages Academic Capitalism

Gaye Tuchman

Today's universities are complex overlapping bureaucratic hierarchies[1] led by accomplished administrators with very difficult jobs. The retired president of a Midwestern public university explained just one of its many complications: to paraphrase, "The stuff that winds up on my desk is the stuff that no one else could figure out what to do with." Given the demands of their work, including the need to get along with radically different kinds of people, top administrators tend to be bright and charming, well-published and graced with a good sense of humor. Their academic degrees are often from departments that have a very good reputation in their specialty and are part of first-rate universities. Presidents and provosts of flagship universities also tend to be more liberal than the general population. After all, they have emerged from the professoriate, which is more likely to attract people who are politically liberal than are other professions (Gross 2013).

Many presidents and provosts seem to woo "their" faculty. If their publications have been well-respected, especially if they have been eminent in their field, they like to tell their faculty, "I've been a professor, I understand how you feel about…" If they haven't published much, they may say, "When I was doing the research for my dissertation…" as if, according to one of my informants, they want to remind their faculty that they have done research, too. Why, then, has this century become what *Inside Higher Education* identifies as "an era when many professors are oblivious of or hostile toward [college and university] presidents" (Rivard, July 10, 2014)?

I appreciate the constructive suggestions of Tressie McMillan Cottom, Barrett J. Taylor and Sheila Slaughter.

[1] Technically, they are overlapping bureaucratic hierarchies and matrix systems. See Morrill 1995.

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To answer this question, I explore how so many top administrators have come to participate in the corporatization of higher education. I present a case study of Wannabe University, a flagship university in the northern United States (see Tuchman 2009). Since the end of World War II, American colleges and universities have become central social institutions and since the 1980s, they have come to resemble corporations, a quintessential form of contemporary social organization. Factors intended to minimize financial risk (see Power 2007) have promoted this tendency. To name some current academic practices: top administrators have instituted an ever stricter accountability regime, they have expanded the managerial staff, and they have balanced budgets by hiring more non-tenured personnel to teach courses. They have also encouraged other corporate methods, such as the use of strategic plans, to increase income. Supported (sometimes urged) by administrators and attracted by the financial possibilities inherent in neoliberalism, the current variation of capitalism, many members of the professoriate in general and science faculty in particular have adapted a market logic (Slaughter 2001; Popp Berman 2012).

Neither the administrators nor the professors intended to "corporatize" higher education. Rather, as C. Wright Mills put it, "Caught in the everyday milieux of their ordinary lives, ordinary men [and women] often cannot reason about the great social structures—rational and irrational—of which their milieux are subordinate parts. Accordingly, they often carry out series of apparently rational actions without any idea of the ends they serve…" (Mills quoted in Morrill 1995: 217). This generalization applies to the top administrators of Wannabe U, who have simply been trying to minimize financial and organizational risks in order to assure that the university will survive and preferably flourish. As they talk about the university, it almost seems as though they are tending an organic and threatened entity that is their responsibility.

Other factors have also fed the impetus to corporatization. However, rather than addressing the variations in the macro-links among states, corporations and higher education, I concentrate on the interactions among trustees (including politicians), top administrators, and faculty. I begin by defining my terms.

Corporatization

The changes that are transforming contemporary colleges and universities are sometimes "referred to as the commercialization of higher education…; entrepreneurial universities…; as a triple helix that weaves together higher education, state and market…; and as corporatization of higher education" (Slaughter and Rhoades 2004: 305). Other scholars (e.g. Furedi (2010)), use the term "marketization." Mostly, these terms connote that the corporatized university is increasingly becoming "an institution that is characterized by processes, decisional criteria, expectations, organizational culture, and operating practices that are taken from, and have their origins in, the modern business corporation" (Steck 2003; cf. Aronowitz 2001).

To provide more precision by recognizing that not-for-profit universities are *not* corporations, Slaughter and Rhoades (2004) introduce the concept "academic capitalism." They imply that hybridization is inherent is the current reorganization of not-for-profit higher education, for this sector is supposedly quite different from profit-seeking enterprises. Like other scholars, they are referring to a basketful of increasingly common practices. These include such procedures as: marketing one's college or university to students as a brand even as that institution transforms students into a commodity, boosting managerial capacity, decreasing faculty authority (c.f. Ginsburg 2012), and enhancing new kinds of learning/knowledge that typically emphasize the practical, job-oriented and frequently scientific studies intended to complement anticipated corporate and state needs. The term "academic capitalism" thus implies that not-for-profit universities are coming to share some characteristics of for-profit higher education, including branding, treating students as marketable commodities, centralizing academic planning and instituting academic plans as business plans intended to make *both* managers and professors accountable for specific levels of performing their jobs (see McMillan Cottom and Tuchman 2015; c.f. McMillan Cottom 2014a). Doing so, they are transforming higher education into a private good (as summarized in Tuchman Forthcoming.)

Accountability Regime

An accountability regime is meant to control risks in an environment marked by uncertainty (Power 2007). Business plans exemplify an accountability regime– *a politics of surveillance, control, and market management disguising itself as the value-neutral and scientific administration of individuals and organizations*. The essence of an accountability regime is a systematic audit that expresses the values of the administration, conveys the business logic associated with contemporary boards of trustees, and carries (frequently predefined) consequences.

An accountability regime differs from an audit. An audit is a procedure used for assessment; it does not necessarily have consequences. For instance, a surprise quiz is an audit usually intended to learn whether students have read assigned material. The quiz only becomes part of an accountability regime, when for instance students are held accountable for their grades on the surprise quiz.

Examples involving (academic) business plans are more complex. Usually they involve benchmarking or checking performance against external criteria. For instance, top administrators may audit how many courses and students a professor teaches, how many publications of specified types the professor has published, how many grants the professor has received. When it has consequences for the professor and her department, that audit becomes part of an accountability regime. For example, an audit of an assistant professor's accomplishments becomes part of an accountability regime when it results in that person's becoming tenured or fired. A business plan summarizes the cumulative expectations of all professors, managers, and often students.

At Wannabe U, the delineation and measurement of the goals in its 2008 business plan represented a speed-up of the academic assembly-line. Consider the operationalization of the goal which sought "to enhance the benefits to the state, nation and world from faculty, staff, and student research, scholarship, and creative activity by increasing productivity, building on our existing strengths and focused areas of excellence, developing a stronger extramural funding portfolio, and expanding the infrastructure that supports research and strengthens our ability to translate new discoveries into practical applications, including our capacity in the area of technology transfer." It measured current performance in these areas and established expected accomplishments, each 2014 metric being significantly higher than that of 2008. When the demands of such speedups are consequential for either individuals or departments, as a Wannabe U, these measurements contribute to an accountability regime. Generally "corporate administrators" introduce these business plans to the academic enterprise, as was the case at Wannabe U.

Wannabe University

Wannabe University is a very good public university, having clambered its way up more than 15 rungs in the rankings of the *US News & World Report* over the past 20 years (Administrators pretend not to know that variation of one or two places is mere statistical noise, but rather celebrate every hop from step to step). Although it is not a member of the Association of American Universities, an elite group of 62 research universities in the United States and Canada, its research profile has improved as have the educational backgrounds of its entering students. As its news releases have boasted at the start of each academic year, the first-year students' scores on the Scholastic Aptitude Test are higher than those of the students who arrived the previous year. Through a variety of programs, the student body is also more diverse, though the proportion from specific racial and ethnic groups does not match the proportions in the state. For instance, as is typical, black Americans are under-represented and Asian-Americans are over-represented. As described in *Wannabe U: Inside the Corporate University* (Tuchman 2009), I conducted participant observation at this university for several years. I continue to maintain contact with friends at the school—phone calls, emails, face-to-face chats, and the occasional lunch or dinner.

According to Catherine Paradeise and Jean-Claude Thoenig (2013; cf. Tuchman 2009), wannabes are a specific type of university. They are one of four ideal types inhabiting cells in a matrix created by two assessments of quality—excellence and reputation, each of which varies from high to low. Judgments of excellence are customarily based on performance in such categories as: the monetary value of grants received from federal research funding, and the numbers of doctorates granted, post-docs employed, and professors who are members of the National Academy of Sciences. Once a university's degree of excellence and its reputation were conflated. As the following string of redundancies implies, a school had a great reputation

because it was excellent as exemplified by its excellent students who, in turn, reinforced the institution's excellent reputation. Or, from a professor's point of view, a university may have been called excellent if the professors in its many disciplines were excellent and therefore their academic departments were also excellent.

However, the current competitive practice of rating institutions and ranking them in relationship to one another has rendered excellence and reputation more independent from one another. For instance, a college may have excellent programs but a weak reputation if no one knows how good those programs are. Conversely, the reputation of a college may exceed its degree of excellence. Thus, when national rankings of departments are published, professors in a discipline may dismiss a top result received by an Ivy League department in their discipline by arguing that the reputation of the university has produced a "halo effect" that enhances the reputation of the department.

Institutional rankings and the expansion of higher education have created some room for institutions like Wannabe U to claim excellence; they can improve their performance in the categories on which assessments of excellence are based, such as monetary value of grants received and the numbers of doctorates granted, postdocs employed, and publications. Paradeise and Thoenig (2013) suggest that a wannabe university will pay high attention to measures of excellence and less attention to indicators of reputation in order to enter the ranks of universities at "the top of the pile." In essence, the wannabe's administrators want to increase the institution's "excellence" so much that such "keepers of reputation" will upgrade their assessment of it and it might even be invited to join the heady company of the Association of American Universities.

Though many universities present themselves as striving wannabes, it is nonetheless very difficult to challenge reputations by improving measured performance, as indicated by contradictions between ranking systems. For instance, most international rankings identify the University of California, Berkeley as one of the top ten universities in the world. However, according to *US News and World Report,* the top 19 American institutions, are all private not-for-profit universities. Discrepancies exist because the different ranking systems use different measures. For instance, in the case of the *US News*, the best U.S. public universities cannot catch up to the best private ones, because the magazine's indicators include acceptance rates, which are almost invariably higher at the public universities. International rankings are more likely to ignore acceptance rates. In other words, the accumulation of excellence is enshrined in the truly elite institutions and their near unassailable (and tautological) reputation. With limited success, metrics and rankings are trying to disentangle quality and reputation.

At the turn of this century, the university that I observed was a wannabe. Then and now, the top administrators at this university hated being classified that way; the term "wannabe," they announced, is pejorative. Perhaps they were once a wannabe, a few of them currently concede, but not now. In the mid-1990s, the university website may have bragged that Wan U was the top public research university in the region, but today it identifies the institution as an international university (Early in her term, the current president remarked, "I finally got 'top regional university' off

our website"). Top administrators are particularly proud of the institution's membership in a rather elite international group that exchanges students and faculty and of the increasing numbers of international students on campus as well as undergraduate students who attend universities abroad. They also point with pride to increased revenue from federal grants and the recruitment of outstanding researchers from (other) leading universities. Nonetheless, Wannabe U remains a university on the make replete with an accountability regime and a corporate administrator, because other universities are also increasing their accomplishments. It is difficult to improve one's place on a ladder, when the whole ladder is being lifted higher and higher.

Corporate Administrators

Tautologically, corporate administrators are managers who apply contemporary business practices to operate, govern, or supervise a college or university or the departments in that organization (Tuchman 2009: 69ff). Currently, most of these men and women

- believe in both branding and corporate planning, including vision statements, mission statements, and academic plans (also known as strategic or business plans) and logos that follow the artistic preferences of the decade;
- think in terms of peer groups and aspirational groups;
- advance vertically from position to position and concurrently from university to university, often in 5 years stints;
- tend to plan for the short term, much as many corporations favor short-term over long-term profits; and
- identify as having national or cosmopolitan status (in that sense the administrators are outside of the complex ties of loyalties and dislikes, of colleagues, families, and personal histories that constitute a university town).

For such an administrator, doing a good job for the university means advancing one's own career.

The current president of Wannabe U, Frances Sommers, is typical of the corporate administrators who manage leading and aspiring educational institutions. She received her degrees from elite schools with very strong departments in her areas of specialization. She then spent 14 years at a leading private university, while rising from assistant professor to dean. Moving rapidly from one institution to the next, she progressed to dean of liberal arts, provost, and then acting president, culminating in a job as chief academic officer of an important and complex public university system. When President Sommers came to Wannabe U, she was academically accomplished, in her late forties, in her first job as president, but decidedly confident of her abilities. She was also very bright and witty; she took herself (and her power) seriously.

On first meeting, Fran Sommers impressed me so much that I thought she would someday be Chancellor of the University of California, one of the largest public higher-education systems in the United States and home to two of the top 12 public universities in the world (depending, of course, on which rating system one invokes). I saw also President Sommers as the spiritual kin of a vice-provost who had once told me, "I hear this is a good university to move from. People have left here for really good places." When someone assesses past academic positions and guestimates future jobs, this person seems to understand that even the presidency of a university is just a potentially temporary job.

Like some heads of major corporations, President Sommers seems to know both that she has a powerful job and that it is just a job. She refers to her position as a job. She understands that, as do all jobholders, she reports to people whose support is essential to her ability to "grow" both the university and her career—to use the language of business-speak that has elbowed its way into contemporary English. President Sommers can be fired. Indeed, both she and key personnel of the local American Association of University Professors seem to agree about this aspect of the president's work. A member of that group's executive committee told me, "The only people Sommers seems to care about is the head of the board of trustees and the governor." A year before, when President Sommers had spoken to me about the long-term president of a private engineering school, she had also emphasized hierarchical accountability. I paraphrase her succinct comment: "The president of [a well-regarded engineering school] is hated by his faculty. They would love to get rid of him. But the trustees love him…and that's what counts [at a private university]. Here, politicians count, too."

With the backing of that governor who saw higher education as an economic engine to increase the prosperity of the state, President Sommers has been expanding Wannabe U's relationship with key industries and increasing its student body even as she hires enough faculty to decrease the student: faculty ratio. As her website declares, "We are experiencing tremendous growth thanks to our faculty, industry support, the State … and most importantly, our students. It is an exciting time to be at [Wannabe U]!"

Analyzing the Corporatization of Higher Education

It is always tempting to blame the leadership for the flaws of an institution and so to write that the interdependence of universities, their presidents and their other administrators on powerful politicians and moneyed men and women accounts for the recent corporatization of higher education. After all, people adapt to those with whom they spend time and especially to those associated with the demands of their jobs. The board of trustees of important universities are dominated by women and men "who are among the premier entrepreneurs, strategists, and educators in their respective fields," as the website of Wannabe U puts it. Permeated by the neo-liberal ideas and ideals of the contemporary United States, these men and women are

sometimes prodding and sometimes shoving American higher education into a corporate mold. But, as William Vesterman (2013) notes, the gradual rationalization and corporatization of higher education predates the current formation of capitalism, neoliberalism. It existed before Thorstein Veblen decried the close association of the captains of industry and the captains of erudition (2005 edition; 1907 revised and published 1918).

As structural phenomena, academic rationalization and industrial capitalism are probably homologous in the United States and Britain. When anthropologist Marilyn Strathern (1997) suggested a possible date for the beginning of rationalization in higher education, she seemed to introduce an association between rationalization and industrial capitalism. In 1792, a member of Cambridge University proposed introducing a written (and graded) examination for the classical tripos to determine whether undergraduates were worthy of receiving a degree. Doing so, the university may have exported notions of accountability to other British institutions. Strathern suggests: "With measurement came a new morality of attainment. If human performance could be measured, then targets could be set and aimed for. What is became explicitly joined with what ought to be. This new morality was epitomized in the concept of improvement. 'Improvement' is wonderfully open-ended for it at once described effort and results. And it invites one to make both ever more effective—a process from which the tests themselves are not immune: measuring the improvement leads to improving the measures" (quoted in Evans 2005: 21). Strathern argued that Cambridge University sent audit and accountability out into the world only to have them return and haunt late twentieth-century higher education. That loop is explicit in the practices administrators now use to judge the professors whom their institutions employ.

Ultimately, the neoliberal corporatization of both administrators and the institutions they govern results from the increasing rationalization of higher education (McMillan Cottom and Tuchman 2015). It is possible to analyze that reorganization in several ways. One may study how, internationally, neo-liberalisms are transforming the socio-economic relationship of higher education to capitalism, as done elsewhere in this volume. One may examine characteristics of the top echelon of universities: the trustees, president's cabinet (the provosts, vice-presidents and such key personnel as the athletic director) and the deans. Permeated by the ideas and ideals of corporate America, these men and women are sometimes prodding and sometimes shoving American higher education and its administrators into a corporate mold (In the next chapter Slaughter and Barringer examine the network ties among trustees of elite North American universities). Also, one may also scrutinize the "fall of the faculty" (Ginsburg 2012) by examining the accountability regime that the new corporate administrators apply to faculties, as they entangle them in an ever tighter mesh of regulations and demands for productivity that are reminiscent of, but clearly different from the religious bonds that initially controlled both colleges and universities in the United States.

Just as increased productivity is the theme of the business plan goal for the faculty's research, scholarship, and creative activity, so too almost all of the measures

contained in the (academic) business plan represent a speedup, for the metrics of the plan's many goals demand more of faculty; and they imply consequences if goals are not met. They also demand more of the administration, for the board of trustees assigns the president goals that must be met if she is to keep her job and the president assigns such goals to members of her cabinet and to deans.

Here are some examples. A previous head of the Wannabe Board of Trustees announced that the then-president would receive a large raise, because he had met all of the goals that the pertinent committee of trustees had assigned to him. That president tailored goals to the appropriate tasks associated with the jobs of members of his cabinet. When the vice-president of enrollment recommended a promotion for the director of admissions, he explained that the director had met assigned goals by increasing out-of-state and out-of-country applications. Some deans receive targets for attracting philanthropic donations that would increase the endowment of their college and so of the university. Sounding like a recapitulation of the once-popular television show, *The West Wing*, one vice-president told me, "We all serve at the pleasure of the president." In sum, goals are tailored to administrators' jobs. Goals do not seem to be tailored to academic departments or individual professors, though both academic departments and professors must submit annual reports and discuss them with their supervisor (According to this reasoning, department-chairs are supervisors rather than colleagues who seek to enact the collective will of department-members).

This goal-oriented system requires that both the faculty and administrators accept these formal methods of evaluating everyone's performance, including theirs. Just as they grade students, others will grade them. To keep their jobs, they must internalize corporate notions of accountability. To be sure, an administrator can choose to ignore trustee-given goals and neglect to assign goals to his subordinates; doing so, he is exercising the option to leave higher-education administration or even academe.

The Outsiders and the Business Plan

The Utility of Outsiders

The task of transforming a university by dismissing people and eliminating departments or schools is odious. It is easier for administrators who are also outsiders. Outsiders bring a great virtue to both corporations and businesses. Despite the complexity of their jobs and the multiplicity of roles they must play, they are initially free to shake things up. The trustees may even give them a mandate to do so.

When the Wannabe Board of Trustees hires presidents and provosts, it charges the search committee to find a new president who can get on with donors, politicians, alumni, trustees, faculty, staff, and students. He or she has to be able to guide

the athletics department and other potential money-making auxiliary enterprises. In addition to raising money a new president is supposed to guide the economic well-being of the university, even as the state has been reducing its proportional contribution to the general budget. In 1995, the state supplied 43 % of Wannabe University's general revenues; in 2014, 21.7 %. Although the university had some profitable revenue streams, it had come late to raising an endowment. Its scientists received grants and contracts, but it could not pretend to receive as much outside research funding as the institutions in the Association of American Universities. The university had to find a way both to increase incoming funds by raising more (philanthropy) and earning more (tuition, research grants and contracts, and auxiliary activities, including sports) and to cut away the dead wood. It had to eliminate departments and prune jobs. Today, trustees and administrators interpret these basic necessities to mean that the university must devise a business plan.

Since the 1980s, scholars (e.g. Keller 1983) have been recommending that universities write such plans. For instance, then and still today, the demographics of the country were shifting; there were fewer traditional students (white, male high school graduates) to be wooed to residential colleges. The sorts of skills that employers were requiring had also changed. Accordingly, this line of reasoning went, if traditional non-profit colleges do not change, they might face financial exigencies. Planning—anticipating future needs and resources—supposedly prevents dire outcomes when such surprises as the Great Recession of 2007–2009 occur, when financial disaster increased the rate at which state and federal governments reduced their funding to public universities and the declining stock market decreased the endowments of leading private universities. In other words, the organizational logic associated with planning views colleges and universities as complex organic corporate systems which may flourish by participating in a continuous feedback loop: assess resources and needs, set realistic goals, change to meet them, assess outcomes, set higher realistic goals, plan … ad infinitum.

For the past 20 years or so, universities have been instituting a cycle of strategic plans. This cycle is akin to Zeno's paradoxes of motion. In one version of Zeno's paradox, one shoots an arrow. In a nano-instant, it covers one half the distance to the target, and in the next nano-instant, it covers one-half of that half. Logically, the arrow can never reach its target, because it will always have to fly through one half of an infinitely smaller distance. Similarly, a university's series of strategic plans can never achieve perfection. No matter the number of iterations of goals it sets and meets, it can never reach its ultimate target. In part, that failure occurs because it is always changing its target. In part, it happens, because there are only so many places at the top of the academic heap. One hundred universities cannot occupy the top 20 rungs of a ladder. Business plans embody *the paradox of incremental perfection.*

Business plans designed to promote a university's well-being also share some unfortunate characteristics with both corporate plans and military plans (In these analogies, all three organizations seem to constitute an organic body). The military estimates acceptable rates of death and injury as it plans a battle; to the planners, those who will die are nameless and faceless ciphers. Similarly, calculating who is worth saving, an insurance company must decide whether it wishes to pay for expensive treatments to restore the health of, say, a white, 60 year-old, male bus

driver with a rare disease. In the same way, a university that wants to serve working-class students may raise its tuition to make ends meet, but by doing so, it may drive those very students to attend community college.[2] In each of these cases, the institutional strategy for thinking and behaving—the organizational logic—is paradoxical: to survive in the long term a university plans for the short term. It expands some programs or eliminates others by trying to calculate its needs and resources and those of its state or nation, all the while knowing that many relevant factors cannot be measured. By default, it adopts the motto, *when one cannot measure what one needs to know, one learns to need what one can measure*.

The process of strategic planning transforms the institution. Rather than embracing people who develop, transmit, and learn (receive or master) knowledge, the university becomes an organizational structure in which people just happen to participate. Decisions to expand or contract units appear to involve designing an organization chart rather than determining a verdict which affects people's jobs and so well-being.

Some of the jobs that are associated with designing and carrying out a strategic plan are difficult to do. It is hard to place people in harm's way, when one knows them and especially when one cares about them. It can be painful to face the people one is declaring "redundant"—to invoke a commonly used term that takes the breath out of a life. Planners may find comfort in that transformation of workers into ciphers on an organization chart, if it means they do not need to encounter the people they are firing. A retired associate provost still recalls the unpleasantness of these personal conversations.

> One year [circa 1990] when the university experienced a particularly deep rescission of state funds, the president decided that we would fire support personnel rather than professors. We were going to fire the people who worked in the dining room so that we could keep the academic enterprise as intact as possible. And the president said that we were not going to just insert a pink slip in their pay envelope. We were going to tell them. And then, the ex-administrator recalled, he pointed at me and said "You do it." Every time I headed out of the office toward the dormitories and dining halls, people called me "Dr. Death."

It is especially hard to sack someone who is a friend of a friend or the parent of one's children's friend.

When top administrators find it difficult to fire people, they may comfort themselves by blaming decisions on consultants, for colleges and universities customarily hire higher-education consulting firms to search for financial redundancies or find other methods to adjust the budget. With the help of these firms, carefully screened university and college committees launch national searches to select candidates for the top administrative posts, such as presidents, provosts, vice-presidents, associate vice-provosts, deans, and many directors, especially athletic directors. These people are outsiders. They are not faced with the dilemma of firing an old friend.

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[2] At issue is the distinction between the "sticker price" and the "net price" (cost after receipt of a scholarship). When universities raise the sticker price, they try to control the net price for scholarship students. However, many students are not aware of this distinction and so avoid applying to what they believe are costly institutions.

Finally, the outsider corporate-administrators have one more relevant characteristic: *their numbers are increasing*. The assessment of a strategic plan's processes and outcomes, such as locating problems and finding solutions, requires both workers and record-keeping. Administrators explain that both state and national governments are exercising more supervision, requiring more forms to be filled out and submitted by real deadlines; they are adding more requirements about how administrators must do their jobs. Often, they are also seeking to make faculty and administrators accountable both for what a student has not learned and how professors carry out research. Administrators tell trustees, politicians, faculty and each other, "We are a data-driven institution."

Faculty complain that sometimes the additional regulations feel like make-work. Instead of merely setting a limit on how much a person may be reimbursed for a hotel room, an office at Wannabe U has set a limit on how expensive a hotel room can be when a host university is paying (There should be no appearance of graft). Instead of submitting the accomplishments of its faculty once a year, Wannabe department chairs in one college are now required to submit that information monthly so that the dean can maneuver for perks for his college. Both top- and mid-level administrators feel that every new problem spawns a new regulation, which in turn hatches a new office, which includes an administrator, a secretary, and an administrative assistant. They view these workers as (albeit expensive) necessities: too bad that in 2014 there are ten vice-provosts when in 1995 there were four. The work must get done.

Many professors view the added administrators and their staffs as luxuries, whose mere presence decreases the monies available for the academic budget. They hate how the distribution of the budget has shifted. Once faculty salaries constituted the bulk of spending on personnel. By academic year 2011–2012, most personnel money was spent on administrators and staff. In February 2014, the New England Center for Investigative Reporting (Marcus 2014) announced, "The number of non-academic administrative and professional employees at U.S. colleges and universities has more than doubled in the last 25 years, vastly outpacing the growth in the number of students or faculty, according to an analysis of federal figures." Their salaries, especially those at the top of the administrative heap, also rose faster than faculty salaries (*Chronicle of Higher Education* 2014a, b). This generalization also applies to Wan U.

Compensating for the Influx of Administrators

The past 25 years have seen a significant swing in the proportion of higher-education budgets devoted to academics. Colleges and universities have been hiring fewer and fewer full-time tenure track faculty and an increasing number of adjunct and full-time non-tenure track instructors. They are not only cheaper to hire, they are also easier to fire. The method used to calculate the percentage of instructors who constitute casualized labor varies (Some count each individual section of a lecture

course as a separate entity, others do not). However, most estimates suggest that in the United States, adjuncts and teaching assistants teach as much as 70 % of all university courses. The adjuncts' increased presence in undergraduate education helps presidents, provosts, and deans to administer strategic plans that require agile organizations. Even when they are represented by unions, as is the case at Wannabe U, adjuncts garner little sympathy. Tenure-track and tenured professors often view them as "only adjuncts." At Wan U, as at many other universities, they do not have a vote at department meetings or a representative in the faculty senate. Most often, they cannot fight back.

Rather, adjuncts become the apotheosis of the accountability regime; they personify human capital management. They enable the development of surplus labor pools that can be hired and fired at will to manage short-term labor costs and maximize revenue. This characteristic of adjuncts renders them comparable to part-time instructors in for-profit universities and, potentially, to surplus labor pools in other industries.

However, higher education's surplus labor pool differs from that of other industries attempting to manage human-capital in a way that makes them lean and agile. Adjunct-instructors must have specialized skills that are expensive to produce. A manager may call an agency to hire a temporary receptionist, but it is more difficult to find credentialed labor to teach (usually) introductory courses.[3] As a result, higher education creates an internal split labor-market that heavily relies on commodifying the career aspirations of part-time labor. Hiring and firing adjuncts and delegating graduate students to teach low-level courses then becomes a means of controlling labor (McMillan Cottom 2014b).

The university, its administrators and its tenured and tenure-track professors benefit from this split labor market. The full-time professors garner prestige and short-term job security. The administrators receive flexibility. However, neither the members of the surplus labor pool nor their employers are happy with this arrangement. Some worry about the ability of their graduate students to find full-time tenurable jobs, but mostly the tenured and tenure-track professors care about the short-term: the number of classes they teach, the number of students they advise, the number of committees on which they serve, the amount of time they have available for research. In the past decade or so at Wannabe U and other flagship universities, these concerns pertain to how these full-timers will fare when they will have completed the yearly professional responsibilities document, which contains the metrics by which the department, the college and the university assesses their worth. Over the long haul, adjunct labor pools degrade the position of all faculty, but as the prevalence of 5-year business plans indicates, accountability regimes stress short-term results. I observed this emphasis on the short-term and the resulting escalation of administrative control as the administrators at Wannabe U prepared to shelve the last plan and to prepare the next.

[3] However, in Michigan, community colleges have been hiring outsourced adjuncts to decrease the cost of fringe benefits.

The Business (or Strategic) Plan

Business plans exemplify an accountability regime. Supposedly they are value-neutral and represent the last word in scientific administration. The essence of an accountability regime is a system-wide audit that expresses the values of the administration. It can be difficult to create such strategic plans and the audits that emerge from them, for they are supposed to cover every aspect of university activity. They seem omnipresent. Even the Wan U mailroom has a plan.

Top administrators take pride in planning; they seem to believe that their decision to plan makes them worthy of support. Thus, in 2 weeks in 2009 I heard two different presidents of good universities say much the same thing to an audience. Again I paraphrase: "Other universities have told every department to cut spending by a specific percent, but I have instituted a plan, appointed a committee, to identify potential selective cuts so as not to harm research and teaching." Each of these men was trying to combine gradual cuts to departments with a reallocation of resources based on the assessments of a faculty committee. Neither wished to be seen as taking drastic action.

I am going to call the methods they used "assess and chop" and "incremental perfection." Both are intended to realign resources and to simultaneously produce both savings and earnings. Assess and chop divorces the review of faculty activity from the judgments of experts in the field and relocates it to administrators or committees chosen by administrators. So do the most recent versions of incremental perfection. Committee decisions are based on what can be measured rather than what experts in a field know. For instance, one might measure a professor's reputation by the number of journals for which she reviews articles and the quality of her research by citations in articles found in journals that have an ISBN number. At best, such measures are reifications.

Assess and Chop

One of the first how-to books about formulating an academic strategic plan recommended the assessment of programs rather than departments in order to determine how much money a specific degree cost. Its title summarizes its intent*: How to prioritize academic programs and services: Reallocating resources to achieve strategic balances* (Dickeson 1999). The book encourages committees to ask such questions as, how much does it cost to produce a master's degree in cell biology as compared to an honors bachelor's degree in French literature?

This organizational logic is directed at maximizing revenues, decreasing losses, or both (The interpretation depends on the interests on the person or people one asks). The "program prioritization process" involves appointing supposedly representative committees, designing complex scales to measure an assortment of characteristics of programs, and then drafting implementation plans and carrying them

out. One problem with this method is the relevant unions may object that the assessment of programs rather than departments illegally ignores tenure; for assessment by program might declare professors associated with a specific wing of a department to be redundant, while permitting the department to remain—albeit in a different form.

Even before Dickeson published his ideas as a book, the Dickeson method had stirred controversies and union-objections at the University of Northern Colorado (where Dickeson was president from 1981 to1991). Eventually, there were also fierce debates at the University of Alaska at Anchorage, San Jose State University, St. Louis University, and the University of Saskatchewan, to name but a few of the institutions where faculty organized to prevent implementation. Some objections center on firing professors without declaring financial exigency, as generally demanded by union contracts. Others maintained that the "program prioritization process" is oriented toward business, not academe.

Jay Cowsill's (2013) view captures the vituperative spirit of the objections: "Prioritizing is what you get when you hire administrators who can't distinguish a university from a Walmart. Each department is to be evaluated as a profit centre. The knowledge factory that the university is currently running under the rubric of basic research will remain untouched (and probably augmented,) for there is no aspect of its present operations that can be so easily and so profitably commercialized."[4]

Gradual Cuts

Generally, administrators prefer to make cuts gradually rather than all at once (see Tuchman 2009: 105ff) since that approach facilitates *the gradual institutionalization of legitimacy* (If Step 2 presupposes Step 1 and one has accepted Step 1, it is difficult to reject Step 2 on the grounds that it presupposes Step 1). Especially since the Great Recession, most top administrators have had enough experience to know that a blunt announcement of financial cuts can throw an institution into an uproar. Since drastic cuts may maim a university, especially a professorial culture of cooperation (where one exists) and create what can sometimes become long-lasting conflict within departments, both the administrators and the faculty prefer to cut as little as possible. Some provosts and presidents prefer to instruct deans to tell academic departments to cut their own programs by, say, 5 % of their current budget. The dean must then approve a department's plan. However, that method is becoming rarer.

At Wannabe U plans to evaluate academic departments and to either increase or shave budgets have involved the paradox of incremental perfection rather than assess and chop. From the late 1980s to 2014, methods of evaluation have permitted

[4] Cowsill works at the University of Saskatchewan, where a committee of both administrators and officers of the Faculty Senate chose committee members. According to well-placed informants at that university, professors who want to become administrators dominate the senate so that the senate invariably supports administrative initiatives.

less and less faculty participation and so seem to involve the gradual legitimation of assessment. When a method of assessment uses faculty experts or experts in a discipline, I am going to call them "internal reviews." When a method does not use such experts, but instead outsources assessment, I am going to call them external reviews.

Here's the progression:

(1) *Internal Review 1*: In the late 1980s, the provost requested academic departments to write self-evaluations, to be interviewed by mutually selected visitors (outsiders), and to discuss the outsiders' advice. The provost visited every department to discuss the outsiders' report and see whether a department could agree to changes.
(2) *Internal Review 2*: Beginning in the late 1990s and culminating in 2003, a vice provost and the deans required academic departments to write a self-evaluation, to be assessed by mutually selected visitors (outsiders), and to comment on the visitors' report. With the provost's office, the chair of the department was then to negotiate a memorandum of understanding about changes to be made.

Several years later, that vice provost declared that the assessments were without value, because every academic department claimed it could become one of the top 20 departments in its discipline.

(3) *External Review 1*: In 2008, with the assistance of the deans, the provost appointed an internal committee to evaluate every academic department using a series of measures that the provost has previously identified.

Some deans objected and some found ways to refute committee recommendations.

(4) *External Review 2*: In 2013, with the assistance of the deans, the provost appointed a planning committee to suggest the goals of a new strategic plan, but the provost hired an outside firm to evaluate academic departments and hired an additional associate dean to implement the outside firm's recommendations.

Step 4 is still in process. Some deans have been trying to gather information to challenge the outside firm's measures and conclusions. The process is sufficiently complex that when the state initiated a somewhat unexpected budgetary rescission, negotiations were still in process. As a way-station, the provost ordered deans to use the perennial stand-by method; i.e. to instruct each academic department to find a way to cut its spending by 5 %. Departments were also free to devise methods to raise money.[5]

Sociologically, this four-step progression suggests:

- Top administrators do not want to eliminate faculty participation. They do so after faculty participation has not yielded the desired result (The president and

[5] In *Academic Capitalism*, Slaughter and Leslie (1997) mention an Australian physical education department that began to give horseback riding lessons to earn funds.

provost may have experienced past failure at either the current or the last university).
- Each step strengthens the accountability regime to which the professoriate is exposed.
- Ultimately, departmental reviews and the reviews of individuals become symbolic; they are based on what can be measured rather than what one wants to know. Or, as Strathern put it, "What is became explicitly joined with what ought to be. This new morality was epitomized in the concept of improvement."
- The emphasis on measurement and accountability cannot anticipate future knowledge; that is, the sorts of basic knowledge that professors may want or need to pursue. It can only predict the possible future need for some sorts of applied knowledge. In this specific sense, it undermines the pursuit or knowledge for the sake of knowledge.

Conclusion

An accountability regime requires participants to internalize its demands. It instructs both top administrators and the professoriate to use specific measures to assess their accomplishments and failures. As both Evans (2005) and Strathern (1997) point out, people's internalization of these measures may become so strong that they do not realize how context gives meaning to measurement. Rather, like weighing oneself and brushing one's teeth every morning, measurement may become unquestioned routine.

Top administrators work toward short-term goals and encourage others to do so too, because they believe that *they have no choice*. Like the professoriate, they too are subject to an accountability regime. When president and provosts reallocate resources, when they hire and fire, they are merely doing their jobs. As Mills explained, "they often carry out series of apparently rational actions without any idea of the ends they serve" (cited in Morrill 1995). They do not necessarily intend to implement neoliberal ideologies.

I have asked the meaning of higher education's increased dependence on, and enactment of, accountability. I have stressed that its responses have been occurring in a neoliberal context, as both the politicians and trustees to whom administrators report expect business methods to guide the academic side of higher education. However, I do not want to assign blame to presidents, provosts, or their bosses. At Wannabe University, as elsewhere, they are just doing their jobs. To be sure, these administrators would not have sought those jobs unless they at least partly agreed with contemporary academic planning practices. But ultimately, individual presidents, provosts, deans, trustees and governors are not to blame. All are adhering to a distinct shift in the socio-economic environment that has been occurring since at least the 1980s. They are taking what they believe to be rational actions that they hope will avoid risks. They have not intended to convert higher education from a public to a private good.

Rather the organizational logic used at twenty-first century colleges and universities—the strategy of making short-term adjustments and of confusing one's own long term interests with the short term interests of one's employing institution—has transformed higher education. As Tressie McMillan Cottom has observed (2014a), contemporary practices at non-profit colleges and universities "experiment" with what are normal, taken-for-granted procedures at for-profit colleges. Inadvertently, without reflecting on the implications of their actions in the larger scheme of things, the organizational logic of contemporary universities is changing the meaning of higher education.

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Part III
Students, Curriculum, and Faculty

Chapter 11
Curriculum Trends in European Higher Education: The Pursuit of the Humboldtian University Ideas

Berit Karseth and Tone Dyrdal Solbrekke

Introduction

From the end of the 1990s, the Ministers in the European higher education area have sought to develop an instrument enabling Europe to educate employable and flexible citizens and to coordinate qualifications for a European knowledge society (Bologna Declaration 1999, p. 1). This ambition is based on the argument from 1998 that "the segmentation of the European higher education sector in Europe was outdated and harmful" (Bologna Beyond 2010, 2009, p. 3). The way traditional universities and academic institutions were organized and managed, and the way academics taught, were seen as malfunctioning in terms of the public responsibility and the challenges in contemporary societies (Bologna Working Group on Qualifications Framework 2005, p. 23). In order to cope with social and cultural challenges encountered in today's Europe, and in order to secure Europe's competitive strength in a global market (ibid. p. 189), higher education had to open up and become more attentive to the interests of employers and the needs of students as learners in a lifelong learning perspective.

Our focus in this chapter is on how the restructuring of European higher education is manifested in curriculum policies with particular interest in the consequences for universities. We analyze initiatives taken by the European Union (EU) and the Bologna Process. The three curriculum themes that organize our analysis concern educational purposes, educational knowledge and notions of students.

Research shows that supra/transnational policy initiatives like the EU and the Bologna Process are understood and handled differently by the national states (Karseth and Solbrekke 2010; Powell and Soga 2011). Nevertheless, aspects characterized as "appropriate" curriculum design in higher education at the European

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Higher Education policy text level are of significance, because they tell us which intentions and goals are given priority and brought to the fore, and which are left aside. Even though restricting the analysis to policy texts does not allow us to determine how the defined goals and intentions are followed up in practice in concrete programs, research has revealed that "policy words are not mere rhetoric; they are policy" or, at least, that "policies are textual interventions into practice" (Ball 1993, p. 12). Studies of prescriptions are therefore important in order to capture the cultural and social context of education on the level above educational practice. The implications of curriculum policy as expressed in European higher education policy documents *do* influence national policies and, to some extent, regulate the daily teaching and learning practices in higher education institutions.

As Ravinet shows, almost all European countries, both within and outside the EU, participate in the Bologna Process or what she labels the Bologna game. "Policies may not necessarily be the same," she argues, but "it is no longer possible to create national higher education policies that are anti-Bologna" (Ravinet 2008, p. 354). Although the Bologna Process is a voluntary process and EU initiatives should confirm to the principle of subsidiarity[1] (European Parliament Council 2008, point 15), recommendations are produced that are legitimizing forces. The normative pressure then, according to Liesener, "makes it advisable to participate voluntarily in this kind of governance – who wants to be at the bottom of the European table regarding education?" (Liesner 2012, p. 297).

The texts studied in this chapter are documents produced by the EU and its agencies, the Bologna Process and the European University Association (EUA). Below the main text are listed:

- The *Bologna Communiques* from the Ministerial Conferences (1999–2012, every second year). The last communique was signed by ministers of higher education from 47 European countries. In addition we have also looked into two Bologna documents prepared for the Ministerial Conferences.
- Conclusions from *the Council of the European Union* and the *European Commission*. The European Council consists of Heads of State or Government of the Members States (27). The commission is the executive body of EU.
- Documents produced by agencies under the *Directorate General for Education and Culture*, the executive branch of the European Union responsible for among other things education. We have looked into the Tuning project and the ECTS users' Guide.
- One document produced by the European University Association (EUA). EUA is the largest and most comprehensive organization representing universities in

[1] Cf. Article 149 of the treaty on European union and of the treaty establishing the European community "the community shall contribute to the development of quality education by encouraging cooperation between member states and, if necessary, by supporting and supplementing their action, while fully respecting the responsibility of the member states for the content of teaching and the organization of education systems and their cultural and linguistic diversity (European Union 2006).

Europe. One text produced by the predecessor of EUA, the Magna Charta of the European Universities.

The selected documents analyzed are limited in number as compared with the myriad of documents published, yet they are of high significance and are seen as containing the main constitutive aspects of European policy on higher education with particular relevance to the curriculum. In addition to the present analysis of the policy texts, we draw on vast scholarly literature on the policy of higher education in Europe and our own previous research in that field.

In the final part of the chapter, we argue that the identified new language of curriculum represents a final break with the main ideas of the Humboldtian University both with regard to teaching and learning in higher education and the way in which knowledge is framed and governed.

Before we present our analysis, we briefly address the position of curriculum in European higher education as well as some characteristics of the higher education system in Europe.

Higher Education and the Curriculum

In most European countries, we find a wide range of institutions that offer short-cycle professional and vocationally oriented programs, but as pointed out by Kyvik and Lepori (2010), the status of these programs as higher education institutions is relatively new. After the 1960s, Western European countries gradually developed dual and later binary systems by upgrading professional schools as well as by establishing new types of institutions. The process of upgrading led to what in the research literature has been labelled "academic drift" characterized by an effort to acquire some of the basic features of a traditional university (ibid.). Thus, what is labelled higher education today consists of faculty and programs that represent not only different academic cultures, but dramatically different historic traditions and cultures related to practice, vocationalism and conceptions of knowledge (Amaral et al. 2002). The borders between institutional types of the higher education system have become blurred. However, we address curriculum changes with the university sector in mind.

Curriculum as a field of study has not played a central role in the research literature in higher education in Europe (Karseth 1994). However, as universities have expanded and moved from elite to mass institutions, the planning of these institutions, and thereby the management of the curriculum, has gained more research interest (e.g. Solbrekke and Sugrue 2014). Still, the academic staff most often regards curriculum and knowledge production in universities as internal or even private matters. Slaughter (2002) notes that the dominant view has been that "knowledge makes its way into the curricula as part of a lengthy but rational and linear process" (p. 261). She criticizes higher education curricular scholarship for not paying sufficient attention to social movements, the political imperatives of the professional class or the influences of external entities.

Slaughter's argument may also be understood as indicating a lack of awareness of the tensions that may emerge between what Ensor (2004) has described as contesting curriculum discourses in universities. One of the distinctions she makes concerns two kinds of discursive orientations. The first represents an *introjective orientation* as typical of the traditional disciplinary curriculum discourse. The rationale underpinning this discourse is that we rely on an epistemological and cognitive legitimation with reference to the program's relation to the scientific and intellectual *qualities of the discipline*. This discourse develops primarily among stakeholders within the university. The second curriculum discourse represents a *projective orientation*, meaning that we rely on a social legitimation pointing to the *utility of the program* with primary references to external functions (in work life) and stakeholders outside the university. While these discourses foreground different aims of higher education and emphasize different approaches when it comes to how education is being legitimated, they additionally function as useful analytical concepts for us in this chapter when it comes to identifying shifts in the rhetoric on curriculum and embedded rationales.

At an overall EU policy level, the *concept* of curriculum is not central. However, in the documents from the biennial Ministerial Bologna Conferences, the main objectives and action lines express clear expectations with regard to curricular reforms. This is visible in the Communiqué from the London meeting where the Ministers urged the higher education institutions (including universities) to develop partnerships with employers in the ongoing process of curriculum innovation based on learning outcomes (London Communiqué 2007). Likewise, the Leuven/Louvain-La-Neuve Communiqué (2009) pointed out the importance of empowering individual learners and new approaches to teaching and learning, and demonstrated that the ministers expect a curriculum focused more clearly on the learner and the development of flexible and more individually tailored education paths and a projective orientation toward the interests of employers and the global world. A key characteristic of the discourse is modularization of the curriculum and descriptions of modules in terms of outcomes that can be measured, matched and exchanged as part of a process of accumulating credit toward academic qualifications.

In the following, we dig into the three selected curriculum dimensions, educational purposes, educational content and the notions of students, in order to identify and discuss the implications of more projective orientations in the Bologna Process and European higher education policy.

Educational Purposes: Toward Employability and Lifelong Learning

In the beginning of the nineteenth century, national universities of Europe became distinct from each other (Torstendahl 1993). Educational historians have traditionally referred to the "Humboldtian," the "Napoleonic" and the "Anglo-Saxon" traditions within European higher education. These traditions reflect different missions

of higher education. While the Humboldtian tradition embraces academic freedom, research and *Bildung,*[2] the approach of the Napoleonic tradition highlights high-level vocational training. Within the Anglo-Saxon tradition, personality development through liberal education was at the core (Sam and van der Sijde 2014). Having a basic understanding of these traditions is important in order to explore how initiatives taken on a European level are perceived. For instance, it gives explanations to understanding national differences with regard to boundary drawing between vocational training and university education, and how the purposes of higher education are formulated (Karseth and Solbrekke 2010). Nevertheless, in this chapter, it is the Humboldtian tradition that will be emphasized since Humboldt has become one of the most important references in defining a research-oriented university not only in German-speaking Europe, but in most of the modern European universities. In many ways, he and his followers conceptualized the modern European university while institutionalizing research and scholarship and transforming the way we perceive and think of universities.

The "Old" Humboldtian Ideas: Academic Freedom and Bildung at the Core

William von Humboldt (1767–1835) believed strongly in individual freedom and argued in favor of a university model where the professors were free to teach what and how they wanted to teach and students were free to choose their subjects and professors (Lehr- und Lernfreiheit). In contrast with traditional education and schooling at that time, this implied a radical break with any form of a prescribed curriculum (Ash 2006). According to Humboldt's ideas, intellectual institutions should "devote themselves to the elaboration of the uncontrived substance of intellectual and moral culture, growing from an uncontrived inner necessity" (Humboldt 1970, p. 243). Furthermore, the primacy of "pure" science (*Bildung durch Wissenschaft*) over specialized professional training (*Ausbildung, Spezialschulmodell*) was crucial. Humboldt saw science and scholarship as processes of inquiry – "not a

[2] Bildung is derived from bilden, to form or in some instances, to cultivate. It is conventionally translated as "education" although this does not cover the connotations the word has in German. Therefore, we leave the term in German. However, Gert Biesta's way to approach the concept seems fruitful to remind us of the complexity and situatedness of the concept: 'The concept of *Bildung* brings together the aspirations of all those who acknowledge – or hope – that education is more than the simple acquisition of knowledge and skills, that it is more than simply getting things "right," but that it also has to do with nurturing the human person, that it has to do with individuality, subjectivity, in short, with "becoming and being somebody." (Biesta 2002, p. 343). From 1810 Bildung was a key concept in German university teaching and education where the main purposes were to give the students advanced teaching based on research, ability to carry out scientific research on their own, and a large amount of scientific and philosophical knowledge within all academic disciplines such that they could act with dignity as members of the learned and academic society (Olesen 2010, p. 1).

finished thing to be found, but something unfinished and perpetually sought after," as he put it. In other words, this was not the repetition of things to be learned from textbooks, but an approach to learning, an attitude of mind, a skill and a capacity to think rather than specialized knowledge (Humboldt 1809/1990, p. 274, here from Ash 2008, pp. 1–42). Another core principal was the unity of science and scholarship. There was no fundamental distinction in principle between the natural sciences and the humanities because the concept of *Wissenschaft* applies to both. Embedded in these ideas is the need for universities to keep a distance from the market in order to encourage and maintain a critical academic awareness of the balance between fundamental and applied research and its relationship with education.

Toward New Ideas of Universities in the Wake of the Knowledge Economy

Humboldt's ideas are visible in the Magna Charta of 1988 signed in Bologna by 430 rectors of European universities. This one-and-a-half page document underscores four important principles for the university: the university as an autonomous institution, the inseparability of teaching and research, the freedom of teaching and research and the notion that a university is the trustee of the European humanist tradition (Magna Charta Observatory on University Values and Fundamental Rights 1988). The Magna Charta text resembles in important ways the Humboldtian ideas of the university with its strong emphasis on *institutional autonomy* and *academic freedom* of the faculties as well as its responsibility to define and disseminate knowledge while retaining the capacity to question, to search for truth and to adapt to circumstances.[3] However, 34 years after the 430 rectors of European universities signed the Magna Charta document, the European University Association (EUA) with 850 members from 47 countries (institutions and national organizations) gave the following input statement to the Bologna Ministerial Conference in April 2012:

> Europe's universities are increasingly acting as strategic motors of regional development, collaborating with a range of stakeholders including business and industry, local communities, national and regional administrations. It is crucial to provide further encouragement to universities to become fully involved in the knowledge triangle of education, research and innovation, as well as in promoting interdisciplinarity and entrepreneurship. The resulting improvement in skills and competences is essential for enhancing the employment prospects of both traditional students and lifelong learners. In this context, EUA underlines the importance to universities of being able to track the progress of their students and graduates

[3] Although the semantics of this text also includes a concern about the role of the societal responsibility of the university, e.g., "they must also serve society as a whole; and that the cultural, social and economic future of society requires, in particular, a considerable investment in continuing education", we do not see this text as an merger between a Humboldtian discourse and a service discourse the way Fairclough and Wodak (2008) argue because the dominant vocabulary clearly can be connected to the core of Humboldtian ideas.

> as part of their institutional impact assessment procedures in order to promote better learning, as well as provide improved and more targeted management and services. (EUA 2012, p. 4)

Even though the meaning of "interdisciplinarity" and "entrepreneurship" is left to individual institutions to interpret, the language used by the EUA suggests a new orientation of universities' missions or purposes. It situates the universities in a very different way, and the meaning of academic freedom is far from what was stated by the rectors in the Magna Charta text, which argued that, for the university "to meet the needs of the world around it, its research and teaching must be morally and intellectually independent of all policy authority and economic power" (Magna Charta Observatory 1988; see also Corbett and Henkel 2013). While the Magna Charta text reflects a dominant discursive orientation which can be described as introjective and hence resembles Humboldt's emphasis on academic freedom, the EUA quotation represents a projective orientation that emphasizes meeting the needs of the labor market and the students; thus, it focuses on meeting students' needs by providing them with the skills of employable graduates.

As Teichler (2011) argues, the policy from this perspective is that higher education should subordinate itself to the presumed needs of the employment system in order to provide adequate preparation for employability and lifelong learning for the world of work in the "knowledge economy." As underlined by the Council of the European Union,

> …progress has to be made to improve the identification of training needs, increase the labour market relevance of education and training, facilitate individuals' access to lifelong learning opportunities and guidance, and ensure smooth transitions between the worlds of education, training and employment. (Council of the European Union 2011: s. 2)

The core driving force for modernization of and investment in Europe's higher education remains preparation for a labor market – a force motivated by the concern of lagging behind in economic competition – because "Europe is no longer setting the pace in the global race for knowledge and talent, while emerging economies are rapidly increasing their investment in higher education" (ibid. p. 2). According to this rationale, the key point is to design curricula that promote the earning of competencies and skills that are needed in today's and tomorrow's economy. This represents a drift away from longer term needs of the society, such as ensuring for the provision of important centers of knowledge and research, to more immediate work to meet market needs; indeed, the text of *Bologna Beyond* (2009) notes that "there is a need to encourage a more systematic dialogue between higher education institutions and employers" (ibid., p.10). Although the purposes of today's higher education are manifold, encouraging and developing a seamless transition from higher education to work life seems to overshadow other dimensions. As Žiljak (2013) notes, the policy of lifelong learning bridges the distinctive positions of academic and vocational tertiary education as the university has become more vocationalized since their purposes "merge" in their common concern with employability.

While academic freedom is emphasized in the Magna Charta text from 1988, the texts produced by leaders of European higher education institutions as well as different European stakeholder groups in the age of the Bologna process, conceptualize teachers in higher education as providers rather than independent scholars. Hence, the academic profession looses power as well as legitimacy with regard to defining the core content and processes of teaching in higher education. We elaborate on this in the next section.

Valuable Knowledge: From Disciplinary Content to Competences

Faculties (academics) in every educational program have always been engaged in debates about what is relevant and valuable knowledge. Such debates are crucial and central to different actors within the institution as they ensure a critical awareness of the dynamic and shifting nature of research and knowledge construction as well as elaborate on what counts as important knowledge within the different disciplines for educational purposes. However, as pointed to above, the increased expectations and engagement by external stakeholders with regard to what the student should learn are relatively new to universities (Karseth and Solbrekke 2010). As a result of new relations and expectations, universities are becoming more involved in instrumental goals (Delanty 2001). Knowledge, Delanty argues, is increasingly being tailored to use rather than being an end in itself.

As mentioned in the introduction, the disciplines have traditionally served as the means of legitimating what counts as valuable knowledge in the university, and the specific skills relevant for a specific profession or occupation constituted the important content of the curriculum of vocational education. As we will show below, the rationale underpinning the strong emphasis on learning outcomes in the Bologna Process is closer to a vocational curriculum model, but the way it is linked to employability moves beyond the traditional vocational curriculum emphasizing specific skills (Karseth 2006). Generic and transformative skills are, as we address below, central in the curriculum discourse of Bologna.

Learning Outcomes as the Core Navigator in Curriculum Planning

Originally, learning outcome statements were characterized by the use of active verbs, expressing categories as knowledge, comprehension, application, analysis, synthesis and evaluation (see Bloom et al. 1956). Although the taxonomies and the emphasis on behavioral objectives have been heavily criticized (ibid.), Bloom's taxonomy is used as a reference point in the Bologna text (Karseth 2008).

Learning outcomes were not mentioned in the original Bologna Declaration from 1999 nor in the Prague Communiqué of 2001. However, beginning with the Berlin Communiqué 2003 until the latest Bucharest Communiqué of 2012, they have appeared regularly. According to Adam (2008), one of the Bologna experts and architects of the European higher education area, European countries are increasingly referring to learning outcomes when setting overall objectives for their education and training systems and when defining and describing qualifications. There is a strong move from focusing on input factors like the duration, location and pedagogical content underpinning a qualification, toward what a learner knows and is actually able to do at the end of a learning process. As a result, "the humble learning outcome has moved from being a peripheral tool to a central device to achieve radical educational reform of European higher education" (ibid., p. 5).

One important initiative to follow up the learning outcomes approach is the so-called Tuning project entitled *Tuning Educational Structures in Europe*. The project, supported by the European Commission, started in 2000 as a project to link the political objectives of the Bologna Process and at a later stage the Lisbon Strategy to the higher educational sector. The Tuning project (2008) was introduced and described with no intention of developing any sort of unified and prescriptive European curricula; rather, it emphasizes the "tuning of educational structures and programs on the basis of diversity and autonomy" (p. 13). Still, the types of knowledge put forward by the project indicate what knowledge is counted valuable and what is measured as important with regard to learning outcomes for the European student in the twenty-first century.

The Belief in Prescriptions as a Means in Curriculum Management

Tuning offers a model for designing, implementing and delivering curricula where definition of learning outcomes/competences is the core navigator for planning. Learning outcomes are prescribed descriptions of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning. They may refer to a single course unit, module or period of studies (Tuning 2008, p. 16). Furthermore, competences are distinguished between subject-specific and generic ones. The Tuning project acknowledges subject-specific knowledge and skills, but makes the point that "time and attention should also be devoted to the development of generic competences or transferable skills" (ibid., p. 17). Furthermore, being responsive to the interests and needs of external stakeholders is highlighted. A checklist is also provided with references to competences for curriculum evaluation focusing on the educational process, the educational outcome and the means and facilities required for program delivery (p. 141). Despite the fact that national and institutional diversity and autonomy is emphasized in the text, the checklist appears to turn the Tuning project into a narrow and instrumental tool rather than one that maintains the "independency of academic and subject specialists" (p. 6).

The "new architecture" of the European Higher Education Area (EHEA) is based on building blocks such as learning outcomes, qualifications frameworks, cycles, quality assurance, credits, recognition and lifelong learning (Bologna Working Group on Qualifications Framework 2005) and seen as the main engine in modernization of higher education in Europe. It also legitimates new forms of curriculum management and initiatives like the Tuning project. With this, values and visions that challenge an academic content-driven curriculum are introduced. There seems to be an implicit critique of the traditional disciplinary-based curriculum based on the introjective orientation as this is seen to have limited relevance to students' interests and the requirements of the labor market. A central argument is that new demands of the knowledge-based economy call for significant transformation in higher education, ensuring projective oriented curricula with clearly prescribed learning outcomes. And, as will be illustrated below, these tendencies are embraced by some scholars while others are critical about the changes.

Protagonists' and Antagonists' Views

Etzkowitz and colleagues (2012) see the ongoing Bologna Process as a stepping-stone in the transition from an industrial society to a knowledge society. While highly specialized curricula were appropriate in the industrial society, the knowledge society requires curricula that foster entrepreneurial and inter-cultural capabilities. The authors propose an approach to higher education curriculum design inspired by Cambridge University's Tripos degree and the medieval *Trivium* of grammar, rhetoric and dialectics (logic). The innovative design is labeled the *Novum Trivium* and according to the authors:

> It is intended as an undergraduate curriculum for the Entrepreneurial University and may be an initial step in the transition to an entrepreneurial academic paradigm, by better aligning the university's teaching, research and socio-economic development missions. (p. 146)

According to this new way for higher education, and in order to fulfill the objective of the Bologna Process, Etzkowitz and colleagues argue for a curriculum reform that brings together disciplinary education, entrepreneurship and innovation, and language and culture studies.

However, how knowledge is considered in the European educational policy and what should count as valuable knowledge within such orientation is met by critique. One argument is presented by Tomusk (2007), who reasons that the ongoing process of creating a European Higher Education Area seems to take on an anti-intellectual shape with little space left for the critical intellectuals. The Bologna Process and its Tuning project, Tomusk argues, are "trying to lower existing institutions by reducing higher education qualifications to a laundry list of skills and competencies" (ibid., p. 286). The role of knowledge in these days, Tomusk argues, is to solve our practical problems. Tomusk refers to Bernstein (2000) and his argument that "knowledge should flow like money to wherever it can create advantage and profit. Indeed knowledge is not like money, it *is* money…. Knowledge, after nearly a

thousand years is divorced from inwardness and literally dehumanised" (Bernstein 2000, p. 86).

Other sociologists of education offer the critique that, in today's higher education policy, knowledge in the curriculum has been subordinated to learning outcomes (Allais et al. 2009). Consequently, the importance of different kinds of knowledge is ignored. According to Shay (2013), there is a great pressure globally to respond to other agendas than simply those of the disciplines. Shay uses the term "contextual turn" to capture how knowledge is transformed to meet these agendas – a transformation that opens space for strong voices representing stakeholders outside academia.

When reading the policy documents, it becomes certainly clear that knowledge is an important political issue; however, we may question whether the pursuit of a new "architecture" of higher education in Europe should disconnect itself from the discussion of knowledge on the institutional level where the distinctiveness of the educational fields traditionally constitutes the important markers for curriculum development in higher education.

Below we will elaborate how the "architecture" and the European policy effort to ensure access to educational structures and the labor market seem not only to transform knowledge, but also the teaching-learning dimension of curriculum with a specific focus on how students are situated and defined.

The Notion of a Student

How students are viewed and positioned within European higher education institutions has shifted over time (Tight 2013). Moreover, as the notion of a student is contingent on structural, financial and cultural factors, it is difficult to talk about *one* notion of a European student. Acknowledging cultural variations, we will nevertheless argue that there are general tendencies in the EU policy and the Bologna Process that move the notion of a student in specific directions, even though they may be dubious notions or better described as a notion in the nexus of several metaphors, as for example in the nexus between "child", "apprentice," "consumer," "co-producer," "employer," "learner" or "pawn". While Tight demonstrates how transnational policy texts embody more than one clear notion of the student in current higher education, dependent from which level it is viewed, we will look particularly at what notions may be identified in discourses related to curriculum construction at the EU policy and Bologna Process level.

The Student: "Flexible Learner" or "Pawn"?

As demonstrated above, a great ambition of the political involvement as represented by the new EU policy and the Bologna Process has been not only to prescribe *what* students are supposed to learn, but also *how* learning should occur, and the need to

empower the individual learner as exemplified in the Leuven/Louvain-la-Neuve Communiqué of 2009:

> We reassert the importance of the teaching mission of higher education institutions and the necessity for ongoing curricular reform geared toward the development of learning outcomes. Student-centred learning requires empowering individual learners, new approaches to teaching and learning, effective support and guidance structures and a curriculum focused more clearly on the learner in all three cycles. (pp. 3–4)

In order to fulfill this goal, rather detailed guidelines for implementation of the European Credit Transfer and Accumulation System (ECTS) have been developed (ECTS Users' Guide 2009/2013). These guidelines not only put new commitments on universities, faculties and students, but also regulate the relations between students, teachers and content in new ways:

> Learner-centred learning puts learning at the heart of curriculum design and delivery, and gives learners more choice in content, mode, pace and place of learning. In such a learner-centred approach, institutions have the role of facilitating and supporting learners in shaping their own learning pathways and helping them to build on their individual learning styles and experiences. (p. 9)

In this quotation we find a notion of the student as an *active learner* who is given *great freedom* to define what and how to study while also being supported by faculties. A close interaction with teachers is also indicated in Ministers' Bucharest Communiqué 2012 and the emphasis on "innovative methods of teaching that involve students as active participants in their own learning" (p. 2). Here a notion of a *co-producer* of curriculum is envisioned and we may identify some of the ideals as embedded in a "Humboldtian" shared inquiry approach. Clearly, there are formulations in the text that can be placed within a learning discourse where the autonomy of the individual is essential, resembling the Humboldtian discourse on "Lernfreiheit" as well as its emphasis on critical thinking.

The ECTS User Guide at an overall level additionally supports the idea of freedom to choose when it comes to content, mode, pace and place of learning (p. 13). The strong rhetoric on the learner-centered approach, and the role of institutions and teachers are "to facilitate and support learners in shaping their own learning pathways and helping them to build on their individual learning styles and experiences" (ibid.).

On the other hand, when reading more carefully, the Guide prescribes detailed guidelines on how institutions shall manage students' diverse, flexible and mobile learning paths (e.g. by developing course catalogues, student application forms, learning agreements and transcripts of records, p. 27). Even though other documents, like the Tuning project (2008, pp. 149–150), underline that students (i.e. learners) "can use the credit accumulation system to transfer or 'cash in' credits achieved from work-based learning/different programs within and between educational institutions," the restrictions in the ECTS User Guide prescribes a less flexible system by providing detailed guidelines for how an academic year should be managed and organized around an explicit set of predefined learning outcomes, assessment criteria, and specified number of ECTS credits (p. 28). Embedded here

seems to be a strong belief that the ability to deliver well in advance is a success criterion in the new regime, and that students can do better with better management (c.f. Ramirez 2006).

The question then is whether the policy actually manages to position students as proactive learners, or if they turn them into more passive learners or even worse--as pawns. Even though the policy and discourses open up several notions of a student, we are inclined to agree with Tight (2013) who suggests the notion of the student as a pawn, "someone who is being used for another's purposes" (p. 292), is appropriate from a European perspective. When student- and learner-centered education is used in tandem with learning outcomes within the climate of market-liberal knowledge regimes, and with an increased concern with the immediate usefulness of work, the outcome of the students' learning is measured primarily for its value in the employment market. Since a core ambition in the European policy is to transform Europe into the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion (European Commission 2000), and the dominant rhetoric on the benefit for society is in terms of economic strengthening of societies, this orientation (or new way) indicates a very instrumental purpose of the development of students. The goal is to develop graduates that are flexible and employable, able to enter the arena of work at many points; in this view, the metaphor of students as pawns seems relevant. If this discourse remains predominant, it seems reasonable to argue that the overall purpose of the Bologna Process and the new management system of European curriculum constructions is not to strengthen the Humboldtian ideas, but to make universities more effective in providing society with flexible workers.

European Policy of Higher Education: Creating Hopes and Managing Risks

However, as part of the policy rhetoric we also find a concern with the social dimension of higher education. It may be seen as an integral part of the Bologna Process (Bergen Communiqué 2005) and, as reinforced in the London Communiqué (2007): "…we share the societal aspiration that the student body entering, participating in and completing higher education at all levels should reflect the diversity of our populations" (p. 5). Nevertheless, the rhetoric has remained on a rather abstract level (Holford 2014), and in line with other researchers' findings (c.f. Tight 2013), the social dimension seems to be ruled out by the employability discourse in the first decade of the Bologna Process. However, in the wake of the European economic crisis, with widening levels of inequality and a sharp rise in youth unemployment, we recognize a shift in the rhetoric, in which a greater emphasis is put on the importance of higher education as a vehicle for fostering social mobility and cohesion (Riddell and Weedon 2014). This is exemplified in the Joint Report from the Council of the Europeans Union and the Commission (2012) where reducing the risk of

drop-outs in higher education is emphasized -- an important purpose followed up in the Bologna Process.

At the Ministerial Conference in Bucharest on 26–27 April 2012, all Ministers agreed to widen the overall access to higher education to increase social inclusion for all European citizens. The text maintains that universities must play a significant role in the solution of the current financial crisis and its damaging societal effects, particularly youth unemployment (Bucharest Communiqué 2012, p. 1). Inclusion of underrepresented groups should be paid increased attention, as shown in the following statement; "…the student body entering, participating in and completing higher education at all levels should reflect the diversity of our populations" (Bucharest Communiqué 2012, p. 1). Simultaneously, the strong emphasis on a "utilitarian ethos" (cf. Brint 1994) and employability remains, as, for example, the following quotation demonstrates:

> Europe's economic recovery and drive for sustainable growth, including through enhanced research and innovation, are increasingly dependent on its capacity to develop the skills of all its citizens, demonstrating the interdependence of social and economic objectives. In parallel with efforts to improve skills through vocational education and training, high-quality higher education and lifelong learning also have a crucial role to play in enhancing employability and increasing competitiveness, while at the same time promoting the personal and professional development of students and graduates, and stimulating social solidarity and civic engagement. (Bucharest Communiqué 2012, p. 3)

Taken together, both the EU policy and the Bologna Process manage to keep two parallel discourses going – one including a hope for the future and one indicating a way of managing risks related with youth unemployment. Thus the discourse on social inclusion and coherence legitimizes the discourse on immediate utility of higher education for the work market and Europe's competitiveness, because this is understood as the solution to Europe's financial and social crisis. Education for all is the salvation, yet also it appears as a means to regulate teaching and learning approaches as well as curriculum construction in European higher education. It is reason also to ask whether or how the "new architecture" offers the "right" solution for the "untraditional" youth student.

Within the current European higher education policy we have identified contesting discourses moving students toward different roles. Being strongly regulated at the one hand, the student is simultaneously directed more towards the self as a flexible learner who is able to manoeuvre between different contexts of learning, yet also being able to manage time and organise an academic year. In a recent article, Barnett (2011) uses the expression of students as "learning nomads", a conceptualisation that underlines the independency and weak bounds between the student and the higher education institution or programme. Mobility, flexibility, employability as well as strong beliefs in learning rather than education, are at the fore. Whether this is the right "medicine" for managing the risk and diminishing youth unemployment, remains to be seen. We will need empirical studies in the future to see the effect of the current policy. We therefore turn back to what our analysis may indicate with regard to shifting university ideals.

A New Language of Curriculum: Toward the Final Demise of the Humboldtian University Ideas?

The analysis in this chapter displays changes in the European policy of higher education and in particular universities that stand in sharp contrast to the ideas and principles of the Humboldtian tradition. Based on our analysis and discussion of the three curriculum themes – educational purposes, educational knowledge and the notion of students – we ask whether European universities are heading toward the final demise of this tradition.

According to Stavros Moutsios (2013), the answer is clear: academic autonomy, as a European creation, is being dissolved under the Bologna Process with regard to defining the purpose, the content and the pedagogic mode of higher education and institutional self-governance. However, other authors conclude otherwise and suggest that there are several possible links to be found between the ideas underpinning Humboldt and Bologna (Dysthe and Webler 2010, p. 23; Serrano-Velarde and Stensaker 2010).

Our analysis takes the curriculum policy as the point of departure and shows that the policy of today's Europe differs radically from the characteristics of the Humboldtian principles presented at the beginning of this chapter. First, the curriculum discourse advocated in the policy documents represents a *language* that sees higher education as a motor for economic growth. Universities should demonstrate their direct contribution to the national economy by offering educational programs that enhance learning outcomes in employment-related skills and competences. In order to meet these demands, the European policy advocates a shift from a content-based approach to a learning outcome approach because the former is seen as outmoded and with limited relevance to students' interests and the requirements of the labor market.

Secondly, the building blocks of the European Higher Education Area such as qualifications frameworks and measurable learning outcomes introduce *planning procedures* and turn toward an instrumental curriculum approach based on a strong utilitarian ethos. There is a demand for a curriculum design that promotes permeability, flexibility and transparent progression routes, in particular from vocational education and training and from non-formal and informal learning. In order to offer such programs, the curriculum outline needs to be built up in small units with a clear time schedule. On one hand, the program should be designed in a flexible way so the elements can be taken separately and combined with qualifications acquired from other learning sites. On the other hand, the courses need to be prescribed and planned in a very detailed way to show what is expected. Hence, the managerial features of curriculum-making are evident.

Thirdly, the curriculum reform initiatives embedded in the new architecture lead to a *governing structure* which implies more direct control over curriculum content and assessment. Despite the lack of hard governance in the form of legally binding laws, the EU and the Bologna Process represent powerful driving forces for the processes of national decision-making through coordination procedures (e.g. meetings

and recommendations), benchmarking and monitoring activities (e.g. reviews, reports and scorecards) and guidelines (e.g. procedures, templates and checklists). These are typical examples of soft laws providing clear advice to national governments and higher education institution (Karseth and Solbrekke 2010). Despite the principle of subsidiarity and the autonomy of higher education institutions, the EU provides clear advice concerning core questions about curricular issues (see for instance Council of the European Union 2013) that normally have been left to the academics. Such advice might be impossible to ignore if one wants to play the Bologna game. The EU policy rhetoric opens the door for agents to develop guidelines and best practices examples that are difficult to escape at national or institutional levels (Veiga and Amaral 2012).

Taken together, the approach of reading European policy texts with curriculum elements in mind has helped us see how development of the pedagogy can never be understood isolated from the overall policy. Universities are no 'ivory towers' in which faculties and students operate in isolation from global trends and policies. As we have demonstrated, in the current policy climate the Bologna Process has influenced higher education governance in ways that are fundamentally different from the idea of academic and the individual freedom. With reference to Slaughter's argument as indicated in the beginning of the chapter, academics need to become more aware of the implications of policy priorities and employment market needs. It is timely to discuss critically which values and purposes to fight for and how academics may increase a collective awareness of how these ideas may be realised within the current circumstances. This calls us, among other questions, to investigate critically what we mean by academic freedom in current HE institutions, and not least critically interrogate the relationship between educational purposes, content and students.

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Chapter 12
Shifts in German Internationalization: A New Space for Academic Capitalism

Jennifer Olson

Introduction: What Is Internationalization?

The internationalization of higher education is an often-used concept, characterizing multiple activities, yet lacks a significant legal basis for practices. In place of law, practitioners and policy makers often rely on normative perspectives drawn from broad, mostly international, documents that call for amendments to higher education practices (e.g. European Commissions' *European higher education in the world* (COM (2013) 499 final); the U.S. Department of Education's International Strategy, *Succeeding Globally Through International Education and Engagement* (2012)). Several authors detail how global institutions (i.e., OECD, UNESCO, World Bank, WTO, European Union) are able to promote various perspectives by generating a number of comparative studies, policy analysis briefs, and indicators for comparison (van der Wende 2011; Lebeau and Sall 2011). The documentation resulting from these organizations' work provides a clear indication of what is considered "best practice." These normative perspectives can be seen as both limiting and providing opportunities. For example, when a higher education system is depicted as too state-driven (often related to financing practices), private providers are often allowed into the sector to tender alternative options. In many cases the systems have not created sufficient boundaries around what private providers can do can, at what cost and how the service is delivered. This situation leaves space for a wide range of activities, quality and logics to exist. Similarly, as internationalization expands, it encompasses an increasingly diverse and broad spectrum of practices and perspectives. This situation has been recognized by leading scholars in the field who have called for a re-conceptualization of the concept (de Wit 2013), and questioned if internationalization has changed higher education for better or worse

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(Knight 2013). Despite questions raised by some scholars, internationalization continues to be propelled forward by ideologically positive connotations and ideals, yet shelters a number of programs, initiatives, and projects that carry very different logics and practices into higher education institutions (HEIs).

The fact that internationalization relies on positive, normative connotations rather than on a bounded definition is not necessarily a weakness. Similar to Readings' (1996) analysis of how the term 'excellence' in North American higher education changed into an "empty notion" (p.39), internationalization is overextended yet retains mostly positive associations. As such, it provides multiple interpretative frames in which stakeholders can legitimize their actions. Additionally, there is a general trend away from more traditional, primarily national social structures and their underlying values, towards an emphasis on flows and mobilities of (elite) people, capital and ideas (Ball 2012). As internationalization is essentially about movement and exchange of people and ideas, it provides a seamless entrance point to look beyond the national space to integrate dominant global scripts for higher education systems and institutions. Though higher education institutions were arguably never isolated from international interactions and circuits of ideas, the diverse practices subsumed under internationalization create new international linkages between individuals, organizations, programs and policies. These configurations often bypass established rules and regulations, allow for stakeholders to operate in a less formally regulated arena, and offer more and new opportunities.

The German higher education sector provides an interesting case for analyzing these change processes. Internationalization in the German system traditionally followed a partnership perspective, whereby international mobility and exchange were seen as academic responsibilities, following the underlying value of higher education as a public good. Although this perspective is still strong, many other logics have emerged that focus on creating competition and use market-like incentives to achieve goals. The mechanisms employed to encourage HEIs to engage with other logics often prescribe the process in a highly scripted manner by federal level coordinating agencies such as German Academic Exchange Service (DAAD), German Rectors Conference (HRK), and GATE Germany. As such, changes are made to the entire system, rather than allowing particular HEIs or states to significantly outpace others. Moreover, by coordinating the new modes of interaction (i.e. competition, marketing, profiling, recruiting) potential (negative) reactions are mediated by the fact that 'everyone is doing it,' which creates a situation whereby no HEI wants to be behind the trend. Although higher education systems and institutions' interactions with market and market-like practices are not entirely new, the degree, pace, and new arenas of change is striking in the German system. Slaughter and Leslie (1997) outlined similar trends in many of the Anglo-American countries beginning in the 1980s. They referred to the movement towards the market, and retreat of the traditional perspectives on higher education, as academic capitalism. Similar trends are now present in the German system (Münch 2011a). Building from Slaughter and Rhoades (2004) and Münch (2011a), this article highlights how one specific internationalization initiative is further contributing to the move towards academic

capitalism, but in a highly coordinated manner, at the federal level, rather than at the level of the HEIs or the several states.

First, I briefly outline the tenets of academic capitalism as it emerged in the context of Anglo-American higher education. Second, I sketch the current conditions within the field of German higher education that are contributing to new rationales for internationalization in general, and to the recruitment of international students in particular. The chapter then explores how the practices around the recruitment of international students by the Guide to Academic Training and Education (GATE Germany) initiative open spaces for more academic capitalist practices to emerge, following a highly organized and coordinated approach. Last, the chapter concludes by discussing how the GATE Germany marketing initiative is reorienting HEIs, away from the traditional view of internationalization as a way to create partnerships and foster intercultural understanding, and toward an analysis of economic benefits similar to that found in many of the Anglo-American institutions.

Academic Capitalism and Internationalization

Higher education was prominently described as a "public good" by Paul Samuelson. In his 1954 article, "The Pure Theory of Public Expenditure," he argued that public goods are naturally non-excludable and non-rivalrous, while private goods are limited and designed for personal consumption (Marginson 2007). The reasoning behind categorizing higher education as a public good rested on the premise that HEIs create and disseminate knowledge and information, 'goods' that are not limited to any one individual. However, changes in perceptions, laws and practices began to recast the production and dissemination of knowledge (e.g., Castells 2000) created through higher education (e.g., Olsen 2007). In the US, for example, science-funding agencies such as the National Institutes of Health or the National Science Foundation increasingly began funding 'translational' and 'innovative research' (i.e., research that could be quickly commercialized). In this situation, university knowledge is aimed at producing private goods that can be accumulated and sold, benefiting the public when citizens purchase the now private product. As benefits accrue to HEIs through increased grants, licenses and start-ups, HEIs often then reorganize resources to the detriment of the traditional perspective of education.

Academic capitalism speaks to the degree to which HEIs and other stakeholders engage with market mechanisms and the logics of competition, job creation, and accumulation of resources. These logics may shape the kinds of students recruited, education provided, and research being funded. Slaughter and Rhoades (2004) stress that "the academic capitalist knowledge/learning regime … is … ascendant … [but] academic capitalism has not replaced the public good knowledge regime. The two coexist, intersect, and overlap" (p. 29). The move away from the traditional public good thus takes the form of a layering process in which elements of the traditional knowledge regime continue to exist in a modified context.

Slaughter and Cantwell (2012) identify several of the means by which a shift away from a more public good perspective on education takes place: the creation and/or expansion of intermediating organizations external to universities; the emergence of interstitial organizations from within universities that intersect with various market oriented projects; the promotion of narratives, discourses, and social technologies that stress marketization and competition; the growth of managerial capacity and responsibilities; the development of new funding streams for research and teaching programs close to the market; and the support of new circuits of knowledge. As these practices develop and evolve, public good advocates struggle to exist and compete with fewer resources. Academic capitalism argues that the role of the state changes, allowing for third-party providers to compete for and deliver various services, which supports the rise of market rationales and shifts focus away from "social welfare for the citizenry as a whole [towards] enabling individuals as economic actors" (ibid., p. 20). As such higher education is seen as an economic investment with individual contributions and returns, and the notion of public good becomes a byproduct of the accumulation of private goods.

In viewing higher education through an academic capitalist lens there is a marked shift in the rationale for why various stakeholders (e.g. the state, individual HEIs) engage in, for example, recruiting and/or funding international students, scholars, and collaborations. More traditionally, international students were valued for the diversity they brought to campuses, and for providing opportunities to promote what is often referred to as 'internationalization at home.' Yet with the shift towards academic capitalism, these qualities are being sidelined as discourse emphasizes international students' economic contributions (in the short and long term) to host countries. Reports outlining these "contributions" abound. The ICEF Monitor (2013), an online platform that gathers information on trends in international education and the student travel industry, summarized various countries' calculations from 2010 related to the financial "benefits" of international student for host countries. In the US, students supply $22.7 billion to the economy through tuition and living expenses. In Canada international students spent more than CDN $8 billion on tuition, accommodation, and discretionary spending, and generated more than CDN $455 million in government revenue. In the UK international students contribute more than £8 billion to the economy every year; and in New Zealand international students provide NZ $2 billion to the economy and sustain over 32,000 jobs. When international students are primarily seen as sources of revenue—both in the short and long term—they arguably become less appreciated for their cultural contributions to campuses, and instead are "socialized into consumption-focused capitalism" (Slaughter and Rhoades 2004, p. 280). Furthermore, many HEIs are rewarding departments or faculty for the "number of student 'customers' captured and the degree of financial surplus created" (Naidoo and Jamieson 2005, p. 39).

German Internationalization

The traditional logic of German higher education internationalization was embedded in the German Academic Exchange Service (DAAD), which grounded many of its policies and practices in its 1925 founding ideals of academic partnership and responsibility. Especially after the Second World War, the DAAD became a primary vehicle to establish partnerships and academic connections outside of West Germany, to provide scholarships for international students and scholars to study in West Germany, to offer opportunities for Germans going abroad, and to administer the exchange of practical internships for student trainees (Baron 1993). In contrast to the more precise policy objectives touted by other countries at this time, West Germany's goal was to restore its place in the international community by fostering an open door partnership perspective for international student and scholar mobility (ibid.). Underpinning this perspective is the strong belief in higher education as a public good. This is still evident today as seen in debate around tuition fees. In 2005 a 500 Euro per semester tuition fee for both German and international students was introduced in 7 of the 16 German states. By the end of 2014 tuition fees will have been removed from every state due to the negative reaction that is arguably grounded in the idea that higher education is a public good.

Although German HEIs do not charge tuition, other rationales (i.e. the "race for brains") for recruiting international students to HEIs are both similar to and different from Anglo-American HEIs. In research undertaken to explore changes in German internationalization, it became evident that emergent practices and associated rationales for engaging in international student recruitment closely resemble those found in Anglo-American countries. Yet the move towards a market-based model is highly orchestrated, and being carried out in a coordinated manner (Olson 2012). The data used to support this claim were gathered as part of a research project that included interviews with professors, students and administrators in three German HEIs as well as with representatives of the HRK, DAAD, and GATE Germany. Further, the data support other recent scholars' (see Münch 2011a) work that details similar process of change in the overall context of German HEIs research and teaching practices. Münch (2011b), writes that "research and teaching are subjected to an entrepreneurial strategic operation….[and] universities have to secure shares of the market through strategic decisions and managerial control" (p. 4). Following Münch's (2011a) and Slaughter and Rhoades' (2004) analyses, my research on internationalization draws on several cases in which both dramatic and gradual shifts are taking place. These shifts have broader repercussions for HEIs than simply trying to recruit more international students. The changes to the logics and practices surrounding internationalization, I argue, allow a more academic capitalist approach to emerge.

To understand why German HEIs are increasing their efforts to attract international students it is important to discuss changes in enrollment of German students in the overall system. Since the 1960s, student enrollment has been a subject of considerable debate and reform both in terms of the number of students and society's

need for a differentiated work force. Throughout the 1960s and 1970s, a restructuring of HEIs through formal policies and informal practices was implemented to serve a more socially and economically diverse student body. The increase in the number of students without a corresponding increase in funding caused universities and the states to look to the federal government for more assistance and caused departments and support staff (doctoral and post-doctoral candidates) to expand. However, the numbers of academic staff members did not expand at the same rate as student enrollment. Universities therefore had difficulty in maintaining a balance between providing quality teaching and research (Enders 2001). The University of Applied Sciences (*Fachhochschule*),[1] was designed to "unburden" the universities from the "student mountain" (Krücken et al. 2009, p. 16). Despite the intention to create more space in the universities, the *Fachhochschulen* did not alleviate the increasing number of students because all school leavers with an *Abitur* or Gymnasium (secondary school) completion degree had a constitutional right to access higher education in any institution. Thus, the original plan to divert 60 % of higher education entrants to the *Fachhochschulen* was not possible to enforce (ibid.). The enrollment dilemmas were amplified in the past years due to the former West states' decision to change from a 13-year to a 12-year Gymnasium study program. This change increased the number of potential new entrants by 275,000 due to "double" graduation classes. Questions are thus posed as to why those HEIs that are already overburdened with students should enroll international students.

Supporters of attracting international students respond with various justifications: (1) after the "double graduation" groups, the states that had higher than normal student in-take are expected to return to their previous or lower student numbers; (2) German students are not taking courses in the "necessary" subject fields and international students can take up the study places (often through the support of targeted scholarships); (3) it is important to maintain international students on campus for intercultural reasons or notions of attracting the best talent; (4) there is a projected demographic decline of the overall German population, a topic presented by the German Chamber of Industry and Commerce (DIHT) in terms of a shortage of 400,000 skilled workers (Gardner 2010); and (5) as most recently detailed in a report entitled *The Financial Impacts of Cross-Border Student Mobility* (Prognos 2013), international students provide revenue to the German economy.[2]

[1] Throughout the 1960s and 1970s, a restructuring of the higher education system lead to the development of the Universities of Applied Sciences. These institutions grew out of the traditional professional schools (e.g. engineering higher education schools), thus had a strong practical orientation and were closely linked to the employment system. The current Fachhochschulen are becoming more similar to universities as seen in the growth of faculty research, yet they are still more connected to particular fields of applied science (i.e. engineering, computer science, business and management, social services, etc). The main different to universities is that Fachhochschulen are unable to award doctoral degrees.

[2] The report highlights the fact that the 'benefits' accrued by host countries can be calculated as a 'gross value added' resulting from expenditures by international students on accommodation, living, leisure and travel, as well as the revenue from indirect taxes and job creation (ibid.).

In addition, there are also changes in the traditional flow of international students to Germany. Previously, many German HEIs had solid links to several foreign countries, most notably the Eastern European countries, which guaranteed a steady stream of 'international' students. Although referred to as international, these students spoke German and came from countries geographically proximate, which alleviated the need to provide additional services, such as basic German language classes or assistance with housing, transportation, or other daily activities. In the late 1990s, this flow of international students began to change as many countries' education systems focused on teaching English and encouraging students to attend Anglo-American universities (Marginson and van der Wende 2007). The change in destination country has been well documented: in 2009, Germany attracted approximately 7 % (1,786,164) of the total number of mobile students, a decrease of 2 % since 2000 (OECD 2011).

The uniting element in the current discussions on why German HEIs should attract international students is becoming primarily economic. These factors affect stakeholders differently. For HEIs funding is calculated and subsequently allocated by the state based on the number of students enrolled in each institution. This per-student funding model, as compared to previous basic, lump-sum financing models, encourages HEIs to more actively rely on enrollment numbers. For state or federal policymakers, there is a forecasted, and in some subject areas an actual, lack of qualified workers. International students can easily fill these gaps as scholarships for particular fields of study provide financial incentives, and reach well beyond the population of Germany. Connected to the lack of skilled workers is also the interest of German multinational companies. They often see higher education as a means to create connections with students (by providing internships when they study in German HEIs), who, either return to their home country and bring German training, cultural understanding and language competencies to the branch firm, or remain in Germany to work.[3] Each of these rationales move HEIs closer to engaging in academic capitalism as they, perhaps at the request of policymakers or firms, 'compete' for students through marketing, branding, or selling their services, activities in which HEIs traditionally did not engage.

GATE Germany

The growing acceptance of linking economic rationales to various practices related to attracting international students is most evident in the marketing initiative GATE Germany. This initiative was initiated in 2001 as a joint-initiative between two

[3] In 2012 regulations to the Entry and Residence of Highly Qualified Workers legislation were adjusted to allow graduate-level international students the opportunity to stay and work for 18 months (in place of 12 months) after graduation to secure skilled, permanent employment. Moreover after 2 years graduates are eligible for an indefinitely 'Right of Residence' to remain in Germany.

federal level organizations, the DAAD and HRK. Funded by the German Ministry of Education and Research (BMBF) and the fees generated from the member HEIs, GATE Germany aims at establishing a global presence for German HEIs. More specifically, the initiative was designed to jump-start a countrywide international marketing campaign by encouraging German HEIs to engage in attracting international students by using more targeted, professional marketing and recruitment strategies. The stated objectives of the initiative are: to promote German higher education institutions as attractive international destinations for study and research, to provide information to potential students about these opportunities, and to offer marketing tools to HEIs (GATE Germany 2012). GATE Germany does not promote individual HEIs, but rather offers a unified 'Study in Germany' approach. This approach developed due to the realization that no single German institution could individually compete with, specifically, the Anglo-American universities that have large endowments and professional marketing departments. As explained by one GATE Germany interviewee, "they [HEIs] are aware of the fact that not one of them is big enough to be its own brand. So they realize that it makes more sense to pull their strength together." Thus, GATE Germany arose to pool resources, offer German HEI staff the opportunity to gain marketing competencies through seminars, courses and workshops, and present German HEIs as "world class." As described by a GATE Germany respondent,

> [GATE] put internationalization onto the map in a much more focused fashion than decades of internationalization work the DAAD had been doing. All of a sudden there were logos, very professional fair presentations. I think all of a sudden it was an interesting higher education debate and an interesting topic. All of a sudden higher education was part of a discourse, a modern, professional, open-minded discourse…universities decided to train their people to be more international, smart communicators (GATE interviewee).

The emphasis on creating a more focused and professional form of internationalization is new to most German HEIs. In fact in most HEIs marketing was nonexistent and, according to a GATE Germany interviewee, a "no-go topic" until the last 15 years. The above-mentioned changes in demographics coupled with shifting perspectives on internationalization provide spaces for the work of GATE Germany as well as the acceptance of new rationales for recruiting international students. As a GATE Germany interviewee explained these rationales:

> …the academic…should sort of give back as a sort of moral responsibility in addition to the academic responsibility….Having said this we are quite aware of, you know, needing 400,000 skilled workers from elsewhere and sometimes there might be a certain bias in what we say and do. So I think what is very important for us in this day and age is to be honest about this ambivalence. (GATE interviewee)

The self-described ambivalence associated with current practices highlights the growing ambiguity and complexity around internationalization as new rationales are woven into practices. In particular, tensions exist between Germany's traditional ideal of internationalization, as academic partnership and responsibility built on the idea of higher education as a public good, and the rise of a politically and economically fueled competition for the best brains, which follows a more academic capitalist approach. The wish to hold both of these rationales is evident in GATE

Germany's work as well as in other German internationalization initiatives and policies; however, as witnessed in other countries it is difficult to maintain a balance between the two. Moreover, the ambiguous motivations of engaging in recruiting international students allows for new (and more) projects to be introduced and carried out by actors who are able to draw from the most relevant rationale to be able to justify why the project is needed. In many instances, the justification is linked to financial—both short and long term—gains. Generally, the economic perspective is garnering more legitimacy, especially as direct state funding is being reduced,[4] HEI stakeholders often have to incorporate an economic rationale in addition to any other perspective. In doing so, the above stated ambiguous motivations may soon give way to the acceptance that internationalization is aligned with a more academic capitalist approach to international student recruitment.

Although changes have occurred, in essence most of the programs and initiatives sponsored by the DAAD have been guided by a public good rationale, and to a large extent still are. Yet, as previously noted by a GATE interviewee there is a new discourse involved in international student recruitment that links it to the need for "400,000 skilled workers," which produces a "certain bias" and "ambivalence" in the programs and perspectives. Despite noting that there is a growing ambivalence or contradictory logics in the motivations for attracting international students, few of the federal level organization interviewees discussed how they are balancing these logics. Strikingly, none of the interviewees reflected on the fact that GATE Germany—a marketing organization—now exists in a tuition free higher education sector.

Marketing requires a distillation of complexity into easily produced, packaged, and quantified services. It also foregrounds the needs of the seller over those of the buyer, which in the case of international students who often do not have complete information leads to an even more lopsided interaction. For HEIs, this means that they must condense their programs or focus on key areas to better market and sell their 'services.' Slaughter and Rhoades (2004) argue that in marketing to international students HEIs must act according to business principles rather than those linked to their position as public (i.e. not for profit) institutions. Additionally, HEIs prioritize the needs of the institution, thus often contributing to a mismatch between student and field of study/department/institution. The American based Association of International Educators (NAFSA) recently commissioned a study on the reasons international students studying in American undergraduate programs transfer from one HEI to another. They found that overwhelmingly it is because a different HEI is a "better fit" (Redden 2014). Unlike American HEIs, that have the additional motivation of direct capture of resources (in the form of tuition and fees) from recruiting more international students, most German HEIs are not motivated by immediate institutional financial gains, thus their marketing appears to be less glamorized. Rather the rewards for attracting more international students appear to follow Münch's (2011a) analysis of striving for other accolades related to accumulating

[4] HEIs are financed by individual states. The federal government or federal-level organizations provide funding through other programs and opportunities but do not provide direct funding.

material and symbolic capital. These relationships can also be seen as providing space for GATE Germany to maintain a more cooperative and coordinated approach to marketing.

GATE Germany's task of developing both a country-wide 'brand' that is built on strong (individual) institutions both eases as well as increases the complexity of its work. As there are only a few world-renowned German HEIs (a situation current policies and individual HEIs hope to change), many HEIs are willing to lend their name to initiatives that may bring in more students and talent to their institution. However, the situation changes when institutions are asked to participate more directly. For example, when GATE Germany requests marketing material to present at a recruitment fair or for distribution in one of DAAD's foreign-based offices, not all institutions are able to provide the high quality products (in various languages) necessary to recruit international students. Initially GATE Germany sought out their "natural" partners, the international offices, to work on these basic marketing "tools" (i.e. creating brochures, using social media, sending representatives to recruitment fairs, etc.). However, GATE officials quickly learned that there were few resources and limited influence in working on this level. Many of the international office respondents were unprepared or even unwilling to start working on marketing at the level GATE hoped to achieve. GATE Germany thus began offering courses and seminars aimed at outlining how an HEI: (1) can begin to think about marketing; (2) can become more 'strategic' in their interactions; and (3) can define its "unique selling point" (GATE interviewee). Moreover, according to one GATE Germany interviewee, the organization was also surprised to learn that many HEIs allocated very limited funds to marketing. GATE Germany thus began extending their work beyond international office staff to involve top administrators to "explain the necessity and importance" (GATE interviewee) of allocating funding and other resources to the task of marketing to international students.

Although GATE Germany is active in supporting and encouraging HEIs in their individual marketing initiatives, the organization also recognizes that maintaining a more collective approach to marketing is important. They do this, according to one GATE interviewee, "to keep that broad and old idea of internationalization that we had established in 1925" rather than letting "individual universities to go out there and do whatever kind of marketing". The organization is aware of other, more clearly market-oriented higher education systems,

> Once I attended a talk from a German who has been working at a British university and it was so fascinating to see how they work, really like a business unit. He was working in an international office recruiting and he said that it was impressive how they calculate through it, "oh an Indian student costs that much in input but will bring us that." It's really like a business case (GATE interviewee).

Although most of the interviewees in both GATE Germany and the DAAD believe "there is still a long way to go" (DAAD interviewee) before German HEIs become like a business, a GATE Germany interviewee commented that "we might just see the tip of the iceberg." This observation may be made for many of the endeavors being sheltered under the broad concept of internationalization.

Internationalization: Another Step Towards Coordinated Academic Capitalism

The German approach to internationalization, as seen in the work of federal-level organizations such as the DAAD and the HRK (and their combined GATE Germany initiative), can be seen as building on domestic traditions of a highly coordinated (political and economic) system (Hall and Soskice 2001). In the higher education sector, organizations such as the German Science Council, the German Research Foundation (DFG), the Max Planck Societies, the DAAD, and the HRK have played an important role in keeping German state policies aligned. However, the role of these federal level organizations is altered as they shift policies away from a coordinated market society that puts a premium on political cooperation, social partnership, and reciprocity, and towards a more market and competition-driven economic model and the corresponding adjustments in political, economic, and social spaces. Welch (2010) argues that in place of their traditional technocratic and administrative roles, many of the federal-level coordinating organizations are now becoming involved in agenda setting and exporting policies. Thus, the organizations are combining their traditional coordinating role with policies that encourage a more competitive and often market-facing approach. The mingling of coordination, cooperation, and competition is not unique to Germany. As many European countries' higher education systems were (and are) primarily state financed, many of the documents put forward by the European Commission have repeatedly integrated the ideas of cooperation and competition into the rationale for internationalization. This has allowed countries and HEIs to maintain the goals related to intercultural partnership but as well begin competing for the 'best and brightest' students. It also contributes to creating internationalization's complex, fluid and ambiguous logics.

Internationalization has become complex, fluid and ambiguous both due to the broad platforms put forth by international bodies and through shifts in daily practices. Hoffman (2011) highlights that it is often not grand gestures that move HEIs towards (international) competitiveness, but instead it is "casualness" through which practices gain their power and influence. In many German HEIs there are highly visible internationalization actions being undertaken, such as opening branch international offices in China or university leaders electing to participate in the HRK's Internationalization Audit that affects large parts of HEIs. Other changes, however, are subtle and more "casual," such as developing more professional routines and materials for the recruitment of international students. These initiatives often also include new vocabularies, which Hoffman (2011) describes as actors giving an innocuous term or belief a new meaning, such as referring to international students as customers and HEIs as service providers. Although they may seem innocent, these terms contribute to moving internationalization from its base of partnership and academic responsibility to its ambiguous, fluid and complex meaning.

Many studies have documented how the gradual shift in practices and terminology brings about various types of shifts in an organization or institution (e.g. Berman 2012; Colyvas and Powell 2006; Gumport 2000; Townley 1997, 2002). Colyvas

and Powell's (2006) analysis of Stanford University's change in their technology transfer policy is one example. The study, which draws on documents covering a 30 year period, traces how faculty and staff move from a position of seeing technology transfer as a potential byproduct of scientific research (i.e., knowledge is for knowledge's sake and "science is not for sale") to viewing knowledge as a direct contributor to economic growth. They document how vocabularies and role identities evolved and adapted to "cement the institutionalization of technology transfer" (ibid., p. 344) and blend the logics of science and market into the university setting. Changes thus occur gradually, over time, and are part of a process of developing new practices and symbolic orders, which echoes Knight's (2013) statement that internationalization is, essentially, a process. As Ball (2012) writes of change processes, it is "not something that is realized as a set of grand strategies and rupture changes but rather made up of numerous moves, incremental reforms, displacements and reinscriptions, complicated and stuttering trajectories of small change and tactics which work together on systems, organizations and individuals" (p. 30). Internationalization efforts promote such change processes whereby small modifications can often result in significant reforms. For internationalization, this can be seen in the wide-ranging and ambiguous motivations associated with its practices.

In the context of German higher education internationalization the complexity around internationalization can be seen in both explicit and implicit changes. For example, the federal government amended their immigration laws in 2005 and 2007, introducing a simplified green card program for information technology specialists from non-EU countries. This initiative enabled highly skilled international workers to obtain permanent residency immediately upon finding a job. Moreover, regulations for international students were also adjusted in 2012 to allow international students both the opportunity to work during their studies and to secure an 18-month residence permit after graduation to find qualified work. These policies were made, according to the former German Interior Minister, to "give us the opportunity to take part in the race for the world's best brains" (cited in Tremblay 2005, p. 10). In addition to these laws, a host of other initiatives, including GATE Germany, have been introduced to make the German system more attractive to international students and scholars, as well as to spur HEIs to be more conscious about the importance of internationalization (i.e. the creation of the Internationalization Audit by the HRK).

Hahn (2003) described similar change processes in the German HE system that took place in the late 1990s and early 2000s as being driven by a new *Zeitgeist* whereby the federal government and the coordinating organizations—the DAAD and HRK in the case of GATE Germany—were attempting to make Germany a "strategic global player in the global higher education (and science) market" (p. 199). Although Hahn's analysis in 2003 illuminated the "hidden agenda" embodied in internationalization, 12 years later it is quite visible. The international brain race is in high gear (Wildavsky 2010), ushered along by a host of initiatives, incentives, and funds that are instrumental in shifting from university engagement in international student *mobility* to competing in an international student *market*. How German HEIs alter their practices accordingly will inevitably affect both universities

and broader perspective on internationalization. Most interviewees recognized that it is not possible to take aspects from one system, such as creating marketing sectors, fostering competition, and promoting differentiation, and simply insert them into another system without affecting other practices and modes of operation. Academic capitalism describes the friction that arises due to conflicts from layering more market-facing meanings and practices alongside or on top of the traditional public-good based roles of teaching, learning, and pursing basic research (Slaughter and Rhoades 2004).

Conclusion

The rationales prompting Germany to recruit and enroll international students throughout the 1980s and 1990s can be grouped into four categories: (1) political (diplomatic concerns and national security); (2) cultural and social development (language acquisition and personal growth), (3) educational achievement (recruiting the "best and brightest"), and (4) economic growth (de Wit 2002). The competition for attracting international students has grown into a global industry with over 3.7 million students enrolling in educational institutions outside of their countries of origin in 2009 (OECD 2011), and countries calculate the income accrued to the national economy based on the students' expenditures. As these processes occur, shifts in rationales for attracting international students become evident. Even if the motivation for attracting international students may not be for immediate, institutional financial gain, as it is in many of the Anglo-American countries, it is increasingly being linked to a long-term investment in economic projections through ensuring a sufficient number of highly skilled and trained individuals. According to one DAAD interviewee this perspective is in line with shifting realities of international student mobility in Germany:

> …these young people coming to Germany are very mobile. If they don't have the possibility to stay here they will go to the third country that's more open with easier possibilities to get a job. And we lose this person and they don't go back [to their home country]. So this is the first thing. The second thing is that sometimes its even, lets say, better for the country of origin if the person keeps on staying here or another country where he or she can do this research or this studies he/she couldn't do at home so sometimes its better than going back and being there without the lab or possibilities (DAAD interviewee).

These new perspectives, however, are leading to unintended and unknown consequences, as one professor noted,

> If you have such a federal system like we have, the different states of Germany are supporting each other and you would like to provide the same living conditions in all these different areas in Germany this is connected to the education. If people will move from the East to Bavaria so that their kids can go to a good university then you have to give up also current living conditions in Germany. Therefore the society has to be kind of honest that you have to give up other values which I believe make up the identity of this entire country. And you cannot just change higher education and make this higher education completely international, competitive and what so ever and not [see changes on] the other end. (Professor interviewee)

Societies, and the HEIs within it, are not static. Rather, HEIs are continually evolving as evidenced by broad shifts in areas such as governance arrangements, laws, finances, or personnel policies. Shifts are also occurring in more mundane practices, for example, in how international students are welcomed, housed, and offered support services. In many cases the more subtle changes do not elicit the same reactions as compared with those that affect more stakeholders. Yet, seeds of (future) broad changes are also found in changes made to seemingly trivial practices. For example, understanding international student mobility in terms of its economic output shifts terminology and thinking toward a "market" of international students. In such a market, HEIs begin exercises in branding and promoting themselves to attract more of the "best and brightest" students. As more international students arrive on campuses (and from increasingly diverse backgrounds) HEIs must create or reconfigure their administrative support units to be able to support more students with a wider range of needs. This brings together new arrangements of actors (e.g., outsourcing certain services to external providers) and perspectives (e.g., students as customers), and encourages HEIs to devote more resources to professionalizing their staff and practices. Several German HEIs have gradually changed from a simple international office to having in-house or hired professional marketing units, branch recruitment offices in key countries, and sophisticated services. Often, these changes occur with the financial support from federal level organizations such as GATE Germany.

Although each practical change may not seem dramatic, taken together these actions alter the vocabularies, narratives, and frames of reference for HEIs and internationalization. Moreover, these actions link individual HEIs to the broader internationalization discussions that no longer question the use of vocabularies such as student market, strategic partnerships, and scenario planning for student recruitment. The HRK and DAAD, as exhibited in the development of GATE Germany, have become key actors supporting shifts in HEIs as they support new programs and initiatives that introduce elements of academic capitalism. German academic capitalism, as compared to an Anglo-American approach, entails a more scripted transition. The practices promoted by GATE Germany rely on a channeled competition and the idea that building a country-wide brand will benefit both the system and individual HEIs. Thus, the programs by the DAAD, HRK, and other centrally formulated projects (i.e. the Excellence Initiative) assume a prominent role in the German variant of academic capitalism as the purveyors and translators of rhetoric to practice. In keeping with broader transitions in the German political economy (Streeck 2009), competition and market mechanisms have been strengthened within the higher education system. In contrast to the Anglo-American system, Germany has not followed a simplistic path of deregulation efforts.

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Chapter 13
Stratification and Vocationalization in Canadian Higher Education

Judith Walker

Similar to the other countries explored in this book, Canada has embarked on a project of vocationalization and stratification concerning its higher education system. Postsecondary education is becoming increasingly stratified in attempts to foster an upper crust in academia and create a high-skills elite. Furthermore, research and programs deemed more vocationally relevant and profitable receive greater support: research that connects more intimately with industry receives substantially more funding and programs closely linked to the professions in business, sciences, and engineering are a focus for expansion.[1] At the same time, the federal Conservative government is thoroughly invested in a resource extraction economy, which is arguably dependent on a narrowly-skilled population (see Gibb and Walker 2011). There is consequently certain ambivalence in the federal government's treatment of universities, research, and science. Science is sometimes mistrusted as an obstacle to economic reform and deregulation efforts. In addition, labour market shortages in oil, gas, and mining have led to targeted funding of programs for colleges and trade schools instead of for the traditionally strong universities.[2] Furthermore, while provincial governments have sought to regionally differentiate post-secondary education based on labour-market needs, they have been challenged by the desire of

[1] For example, in 2003, the government of British Columbia allocated many more full-time equivalent (FTE) spaces over 5 years to double the number of undergraduate degree holders in computer science, and electrical and computer engineering (see BC Ministry of Advanced Education 2003).

[2] For example, the government of British Columbia created three new Centres of Training Excellence in the past 3 years, one in Mining, the other in Oil and Gas, and another to be created in Agriculture (BC Government 2014; BC Ministry of Advanced Education 2013). All three centres are associated with colleges or regional institutions, rather than the three more prestigious and research intensive universities in the province: University of British Columbia (UBC), Simon Fraser University (SFU), and University of Victoria (UVic)

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institutions to develop more prestigious positional goods in the marketplace and develop broad-based curricula (Marginson 2007). In other words, stratification is occurring in tandem with standardization, and vocationalization and stratification have, at times, been in conflict with one another.

There is much to be said about the Canadian experience of vocationalizing and stratifying its higher education system—not least because there are nine provincial systems, three territorial ones, and an overarching federal agenda. In this paper, I focus on what has occurred at the federal level, bringing to light some recent reforms implemented over the past two-to-three decades. The topic of the chapter is largely research policy since this is the one arena in which the federal government has an opportunity to influence higher education in Canada. Fisher and colleagues reflected, by and large the dominance of marketization and commercialization in Canada has not led to privatization (Fisher et al. 2009); however, many reforms made in the direction of vocationalization and stratification are embedded in an ideal of higher education as a privatized good. This chapter attempts to unpack the tension between vocationalization (or vocationalism) and stratification federally in Canada, situating recent reforms within the wider literature.

Vocationalism, Stratification, and the Changing Role of Higher Education

> Public higher education has fallen on hard times…the dominance of market model-empiricist approaches in education policy analysis has produced a set of conclusions that… favors the application of free-market values to higher education policy…if growth is no longer an attribute of all sectors of the economy, then higher education must "invest" in programs consistent with existing "growth sectors," whatever they may be, and "disinvest" in others. This puts higher education, and liberal arts programs in particular, at the whim of wherever the market happens to be at any one time. (Engel 1984, pp. 19–23)

As indicated in the quote above, concerns about the stratification and vocationalization of higher education have been around for at least 30 years. In the early 1980s, Jacques Derrida issued a strong message to Mitterrand's government for its plan to introduce more career-focused curricula to French universities, thus putting the humanities and social sciences at risk (Dickson 1984). Writing in 1988, two Canadian academics observed that the "university means business" (Newson and Buchbinder 1988). Since then, scholars have proclaimed that the university is "in ruins" (Readings 1996), caught up in a discourse of "excellence" and driven by a corporate vision, or that it is "in the marketplace" (Bok 2003) thanks to a pernicious relationship with the commercial sector which is eroding its autonomy. Academic capitalism (Slaughter and Leslie 1997; Slaughter and Rhoades 2004) has provided us with a coherent frame for better understanding the market logic applied to higher education. That a Texas A & M chancellor offers a $10,000US bonus to instructors who receive the highest student evaluations makes sense when viewed within the university's "revamped discourse of progress in which the end goal is [no longer] the betterment of society as a whole" (Giroux 2011, p. 119). It is an ideological

embrace of the values of efficiency and competitiveness, and a valorizing of the economic over the social.

In this individualized, transactional, corporatized model, higher education institutions are being asked to demonstrate the value-add they bring to their customers (Marginson 2006). Employment outcomes are part of an overall accountability trend to evaluate "quality" in university education, exemplified by the Obama administration's recent launch of the College Scorecard (U.S. Government n.d.). The degradation of liberal arts within this model is evident in the U.S. President's own words uttered in a post-State of the Union talk given on "opportunity for all and skills for America's workers," in which he conceptualizes the studying of the humanities and social sciences solely as a career option, and a poor one at that:

> [A] lot of young people no longer see the trades and skilled manufacturing as a viable career. But I promise you, folks can make a lot more, potentially, with skilled manufacturing or the trades than they might with an art history degree. Now, nothing wrong with an art history degree—I love art history. So I don't want to get a bunch of emails from everybody. I'm just saying you can make a really good living and have a great career without getting a four-year college education as long as you get the skills and the training that you need. (U.S. Whitehouse 2014)

This vocational turn and associated desire to make money is evident in Astin's (1998) famous study of the changing American college student from the 1960s to the 1990s: 80 % of first-year students surveyed in the late 1960s believed developing a more meaningful philosophy of life was an '"essential" or "very important" goal. In contrast, only 42 % of freshmen polled in the 1990s considered it as such. In contrast, over 74 % of first-year students from 1980s onwards stated that "being financially well off" was very important or essential, compared to only 45 % of students in 1966.

That students now primarily attend universities and colleges to increase their career options and earning potential is taken for granted. Grubb and Lazerson (2005) explain that the vocational drift began in the early twentieth century when a clear trajectory was crafted from high school to university/college and then to a professional occupation. Before this time, the authors note, people were likely practicing their professions *before* pursuing further education—e.g., formal medical training to sharpen their existing skills. Tertiary education was not a requirement for practice. Vocationalism is presently so deeply entrenched in our higher education systems that there doesn't appear to be an alternative. While this is true for several of the national systems covered in this book, the forms and intensity of vocationalism clearly differ from place to place.

Vocationalization and stratification are closely linked. For example, in the US, vocationalism led to stratification in the creation of comprehensive public universities (i.e., state schools, such as California State, Arizona State etc.) which were to be attuned to labour-market changes and to provide entry into occupations that previously did not require higher education (Grubb and Lazerson 2005). Furthermore, we have witnessed greater stratification within institutions—the undervaluing of the Humanities and Social Sciences in favour of more applied subjects, such as Computer Science, Engineering or the concrete professions such as Law, Medicine, Nursing etc. In fact, there is good evidence that stratification is occurring more *within* rather *between* universities (Davies and Zarifa 2012).

Problems with Vocationalism and Stratification

There are four main concerns regarding current trends of vocationalism and stratification in higher education. The first reflects a worry about what this means for institutions of higher learning. Grubb (2006), as well as others (e.g., Bok 2003; Gould 2003; Readings 1996), caution that universities and colleges are becoming increasingly professional, and that programs in the humanities and social sciences are under threat. Grubb and Lazerson (2005) claim that liberal arts colleges in the US are being undermined and repurposed, becoming little more than preparatory schools for professional programs or graduate school. That being said, Taylor et al. (2013) show that reports of the death of the humanities in the US are greatly exaggerated: graduation numbers have not decreased and it appears that elite institutions can afford to keep investing in various humanist disciplines. They write, "the humanities have been disfavoured because many policy makers regard these disciplines as unlikely to yield novel discoveries or workforce development" (p. 678); and while this is true in general, elite universities have been able to sustain humanities programs by virtue of their increased ability to compete effectively in quasi-markets. However, other institutions (such as state universities or undergraduate colleges) are being truly transformed by a corporate logic. All this has resulted in further stratification in the higher education field.

The second regards the volatility of focusing on a narrow vocationalism in a stratified system. The "education gospel for all" (Grubb 2006; Grubb and Lazerson 2005) and its concomitant credential "arms race" (Collins 1979) means higher education does not guarantee graduates a job matched to their education. Students' career ambitions are frequently dashed in the face of decreasing symbolic capital of their degrees. In a "global auction for skills" (Brown et al. 2011), wherein skills are highly portable, the battle for the brightest means that a degree is no longer a guarantee of success in the labour market (Brown and Tannock 2009).

The third relates to the rising inequality posed by increasing stratification between institutions, especially in the US., which is happening in tandem with skyrocketing tuition fees (Davies and Zarifa 2012). A "good" college in the U.S., accessible to a decreasing minority of applicants (Maisel 2013), seems to financially pay off in any subject and increase people's cultural, social, and symbolic capital. For example, a recent article in *The Economist* found that an arts degree from a rigorous school such as Columbia or the University of California, San Diego "pays off handsomely." Conversely, an arts graduate from Murray State University in Kentucky can expect to make $147,000US less over 20 years than a high school graduate, after paying for their education (Economist 2014).

The fourth presents a clear argument against higher education's purported ability to prepare people well for the workplace, particularly in universities' more recent focus on getting students "job ready" (Bourner et al. 2011; Rospigliosi et al. 2014). For example, Bourner et al. (2011) present six compelling reasons why a narrow vocationalism (as seen in an emphasis on "employability skills" as recently taken up by some colleges and universities) is a poor bet. Rospigliosi and colleagues (2014) contend that what higher education can and does do is increase people's capacity

and propensity to learn. Graduates signal their ability to learn to future employers through their credentials; they don't come in with 'job skills' and, arguably, this is not what employers desire.

While supporters of a competitive market-based approach to education may welcome the demise of the liberal arts in favour of more industry-linked programs, it isn't clear that humanities degrees are in fact dismissed in the labour market. As former Yale English Professor William Dereseweitz (2014) notes in his recent best seller on the demise of elite education in the US, "the liberal arts are more important now than ever," citing billionaire CEO of the Carlyle Group, David Rubenstein, as commenting that the new formula for business is "H = MC" or "Humanities = More Cash" (p. 154). While the humanities are not the only way to develop one's ability to think critically, they can help—and humanities degrees from certain institutions do lead to increased capital, as *The Economist* (2014) article previously mentioned makes strikingly clear

Rospigliosi and colleagues (Rospigliosi et al. 2014; Bourner et al. 2011) and Grubb and Lazerson (Grubb 2006; Grubb and Lazerson 2005), criticize the narrow vocationalism seemingly taken up by higher education institutions and governments, and advocate instead for a broad vocationalism. Grubb (2006) argues that higher education should be preparing people for long-term thriving throughout their many jobs, allowing them to ride out the vicissitudes of the labour market. He supports meaningful workplace learning and "co-op" vocational placements whereby students spend part of their education working for industry or in an organization (as is common in many Canadian engineering programs). It is not, therefore, a resistance to vocationalism: indeed, even Dewey (1938) argued that education should be vocational and applied. A "new vocationalism," according to Bourner et al. (2011), would be one in which higher education institutions promote reflective practice and are oriented to developing people's capacity and disposition to learn.

It is clear that vocationalism and stratification are part of an overall shift in the role and purpose of higher education as institutions become more academically capitalist (Slaughter and Rhoades 2004). It is also apparent that there are good reasons to want to put the brakes on vocationalization and stratification, or at least redirect them, given the implications for students, society, and the entire institution of higher education. While vocationalism and stratification have most been studied in the context of the US, UK and Australia, these trends are equally occurring north of the 49th parallel, as I explore in the remainder of the chapter.

Stratifying and Vocationalizing Canada's Higher Education Sector

Stratification is evident in many new federal initiatives which seek to separate out 'strong' from 'weak' institutions, researchers, and subject areas. Vocationalism is one criterion that is driving such stratification and is reflected in the pressures placed on research to be commercially viable and on researchers to further connect with

industry. In addition, while universities remain the crux of Canada's tertiary education system, colleges and trades institutions are a growing sector. Furthermore, academic research, and universities more generally, can fall in the shadow of the current federal government's larger concern to develop an economy rooted in the exploitation of natural resources.

A Brief Overview of the Canadian Higher Education System

The proportion of Canadians with a postsecondary education is the highest in the OECD (STIC 2012), and almost twice the OECD average in terms of adults holding a certificate, diploma, or degree (Boothby and Drewes 2006).[3] However, much of this ranking can be explained by high participation in colleges or trade institutions rather than universities (Statistics Canada 2009a). The percentage of Canadians obtaining a postsecondary *degree* is also increasing with many more students undertaking their undergraduate degrees not from traditional universities but rather from these other institutions which are now able to grant degrees (such as university colleges). While the growing numbers of universities, colleges, and other institutes are playing an important role in the education of Canadians, there are still relatively few research intensive universities. A consortium of 15 universities, U15, claims that they undertake 80 % of all research across the country and award 70 % of doctoral degrees (see http://u15.ca/). In 2010, the largest percentage of graduates (at all levels) came from the fields of business and administration (18 %), social and behavioural sciences (14.9 %), humanities and arts (12.4 %), and education (11 %) (STIC 2012). At the same time, from 2006 to 2010, there was a 31.8 % increase in science degrees granted and a 7.3 % increase in engineering degrees (STIC 2012).

Higher education in Canada is more affordable, in general, than in the US. Average tuition for an undergraduate degree in Canada in 2012 was $5,300[4] per year, or around $22,200 for a 4-year Bachelors' degree (Statistics Canada 2013).[5] Unlike the US, there are no "out-of-province" fees (excepting the province of Quebec): all Canadians pay one rate and international students pay another. Furthermore, there are relatively few private universities, and private institutions have by-and-large failed to take hold in the "prestigious" market of university education.[6] The limited scale of private higher education helps explain the lower average tuition rate. While

[3] Like most western countries, there are more women than men enrolled in higher education (Statistics Canada 2009b)

[4] Unless specified as other currencies, all dollar amounts included in the writing on Canada can be understood to be CAD or Canadian dollars.

[5] There are institutional outliers here in the very few private institutions; for example, Quest University (2014) charged $30,000 in tuition in 2013/2014.

[6] The exception to this trend is Quest university (Quest University 2014), which can be viewed as a Canadian attempt to create a US-style private not-for-profit liberal arts college, founded by the former president of the University of British Columbia in 2009.

costs of postsecondary education are still a burden for some, and serious fee differentiation exists in some areas (particularly in MBA programs and Dentistry degrees), the average lower fees mean that Canadian students are burdened with less debt than American students (Employment and Social Development Canada 2013; The Institute for College Access and Success 2012).

Canada is unique as the only country in the OECD without a national ministry or department of education (Fisher et al. 2006). The state is known for its "soft federalism" (Fisher et al. 2001): the federal government transfers payment to provinces that in turn fund the delivery of education. The only way the federal government can shape academic activities is through the funding of research (Fisher et al.). There is no coherent national strategy in higher education but rather "a patchwork of indirect and direct federal spending" (Axelrod et al. 2011, p. 145). It is a highly fragmented system. Relatively little is known about employment and training (or higher education) policy at a federal level (Gibb and Walker 2011). Arguably, "the availability of data on Canadian higher education…plague[d] research efforts" (Metcalfe 2010, p. 490), at least up until 2012 where much data was available only on a fee-per-service basis (Metcalfe 2010; Tupper 2011). That being said, the federal government has played a crucial role in the funding of research at higher education institutions across the country, and a number of new policy initiatives have been implemented over the past 20–30 years. Some of these reforms and associated analyses are presented below.

A Focus on Recent Initiatives

Overall, the federal government has invested in stratification of higher education premised on building research capacity and rewarding excellence within a context of commercialization and vocationalization. "Canada has done a good job in making strategic investments in higher-education research in recent years" (Conference Board of Canada 2013) In fact, the higher education sector has emerged as the largest recipient of federal government direct research and development (R&D) funding over the past decade, receiving $3.0 billion (or 51.4 % of total federal direct funding) in 2012 (STIC 2012). Canada is in fact unusual in its high proportion of Higher Education R&D (HERD) spending (Fisher et al. 2006). In 2010, the OECD average for HERD share of a country's overall R&D spending was 19 % whereas it was almost double this in Canada; the US share was only 15 % (Conference Board of Canada 2013). This is because Canada's Business Enterprise in R&D (BERD) was one of the lowest in the OECD (Parsons 2011). Canada also ranked ninth out of 41 economies in HERD-to-GDP performance in 2011 (STIC 2012). In addition, R&D performed by the higher education sector has also increased significantly, from $3.0 billion in 1990 to $11.5 billion in 2012 (STIC 2012).

At the same time, the focus has been on commercially-viable research and industry-related disciplines. In 2012, the Government of Canada cut the budget of the Social Science and Humanities Research Council (SSHRC) by $14 million (Raj

2012). And, similar to what has happened in the US, certain Canadian universities are also restricting admission to arts and humanities programs. For example, the University of Alberta suspended admission to 20 humanities programs in 2013 (Cormack 2013); and, according to Hyslop-Margison and Leonard (2012), the University of Toronto closed its Centre for Ethics, the Centre for Diaspora and Transnational Studies, the Centre for International Studies, five language departments, and may soon cease offering graduate degrees in comparative literature. These authors also write that at their home institution, the University of New Brunswick, "most graduate programs in the humanities have been reduced to mere skeleton status" (p. 9). Further, those professors who still have their jobs are having to reinvent their research to be successful in funding applications, exemplified by the burgeoning field of "digital humanities."[7] Unlike the US, Canada effectively has no "elite" universities that can weather the storm of budgetary cuts. The University of Toronto is the closest the country has to such an institution and it has experienced an assault on its humanities' programs as large as any third-tier institution.

Many reforms took place under the previous Liberal[8] federal government in the 1990s and early 2000s, and were intensified and somewhat redirected during the tenure of the current Conservative government. Since the 1990s, the focus has been on growing innovation by:

1. attracting and retaining talent;
2. supporting world-leading research; and
3. transforming discoveries into commercial success (STIC 2008)

Below, I provide an overview of three major initiatives: the Networks of Centres of Excellence (NCE); the creation of the Canadian Foundation for Innovation (CFI); and, the establishing of an elitist research system through funding of scholarships, fellowships, and Canada Research Chairs (CRCs).

Networks of Centres of Excellence

The Networks of Centres of Excellence (NCE) introduced a new major player to the terrain of research in Canada. NCEs were created to focus a critical mass of research resources on social and economic challenges, to commercialize and apply research breakthroughs, to increase private-sector R&D, and to train highly qualified people (Government of Canada: NCE 2013; Fisher et al. 2001). As Fisher et al. put it: "The emphasis is on translating university research results into marketable technologies

[7] See, e.g., http://www.brocku.ca/humanities/departments-and-centres/digital-humanities

[8] The Liberal party is the centre-left Federal party in Canada. Notwithstanding name changes of the Conservatives, it is one of two parties to lead the country over the past many decades. Canada is not as much as a two-party system as the US, however, as its social-democrat party (New Democratic Party or NDP) is also very strong and emerged for the first time as the country's official opposition party in the 2011 election.

as quickly as possible, in order to enhance Canada's competitiveness in a global 'knowledge-based economy'" (2011, p. 322).

NCEs became permanent in 1997 despite much push-back from academics in regards to the focus on making scientific research more commercial (Fisher et al. 2001). The NCE currently funds 42 networks and centres through a variety of programs aimed at mobilizing "cutting-edge research" (Government of Canada: NCE 2013). Since 1997, the NCE has helped train more than 42,000 highly qualified personnel, and create 138 spin-off companies and 453 start-up companies (Government of Canada: NCE). It has invested a total of about "$2 billion in research, commercialization and knowledge translation…leverage[ing about] $1.5 billion in contributions from industry and other partners," and involving over 3000 partners in 2012–2013, about half of which come from industry (Government of Canada: NCE). One of the more recent developments in NCE has been the creation of the Centres of Excellence for Commercialization and Research (CECR) which are cost-shared centres that match "research expertise with the business community" to help "bring new technologies to market faster" and that have helped stimulate "new commercialization activities that would likely have never taken place" (Government of Canada: NCE). At the same time, it is not obvious that industry makes anything but nominal contributions (Fisher et al.).

The federal government funding of higher education in Canada, through R & D funding and NCEs, has been a way to subsidize industry and is evidence of what Suzanne Mettler (2010) has called the "submerged state". While Mettler's research is on the US federal government, many parallels can be seen in the Canadian context. It is an example of government orchestrating market-based reforms to indirectly support industry, much like a corporate tax cut, but in a manner that is not immediately obvious as state -supported corporate welfare.

The Canadian Foundation for Innovation

The Canadian Foundation for Innovation (CFI) was also launched in 1997 in the federal budget. It was created to support infrastructure for research. Research teams or individuals from universities and non-profits apply for grants whereby the CFI funds 40 % of costs with an additional 40 % funded by the province and the remaining 20 % secured from private or voluntary sectors (Guppy et al. 2013). According to Guppy et al. (2013), the CFI has influenced patterns of stratification both within and between universities. Moreover, the Foundation has also been critiqued by Metcalfe (2010) as key evidence in Canada's turn towards academic capitalism. The CFI has substantial corporate involvement both on its board of directors and in the need to obtain largely corporate matching funding for the 20 %. Although industry puts in at most half of the funds that are provided by government, it disproportionately steers projects towards more commercially useful endeavours. Furthermore, it endorses a very narrow conception of infrastructure, which means the foundation funds expensive imaging machines in Medicine or computer clusters in Computer Science but will not support Graduate Research Assistants.

Most applications funded come from the leading research intensive universities in Canada, with 40 % of all funding going to the top five universities in 2009 (Guppy et al. 2013). Unsurprisingly, the CFI tends not to fund projects in the Social Sciences or Humanities, which are not normally in need of expensive infrastructure. Indeed, the CFI reports that 4.9 % of funding has gone to the social sciences and humanities but overt misclassification of projects means the percentage is likely much less. Stratification appears not only to be widening the gap between the social sciences and humanities and other sectors, but also between men and women: 78 % of CFI project leaders were men (which can be largely explained by the concentration of funding given to engineering and sciences) (Guppy et al. 2013).

The University Elite: Funding the Best and Brightest

The Liberal federal government began to have more of a stake in provincially-run postsecondary education with the creation of its Canada Research Chair (CRC) program, announced in the 1999 federal budget, whereby federal funds are used to pay directly for university positions that are vetted federally instead of provincially (Fisher et al. 2006). These positions are reserved for securing the hiring of "excellent" researchers from both Canada and abroad. The CRC program consists of Tier 1: Senior chairs (for established faculty) and Tier 2: Junior chairs (for promising new or mid-career faculty) for a total of 2000 faculty positions. While renewable, junior chairs expire after a maximum of 8 years at which time the university can apply to promote the faculty member to a Tier 1 position or, if unsuccessful, must foot the bill for retaining the faculty member. CRC invests approximately $265 million per year for attraction and retention. Health, natural, and applied sciences account for 80 % of the chairs with only 20 % of chairs reserved for positions in the social sciences and humanities (Government of Canada: CRC 2014). Furthermore, only 25 % of successful applicants have been women, explained mostly by a focus on sciences and engineering (Government of Canada: CRC 2014).

Shortly after its election in 2006, the current Conservative government released its new Science and Technology strategy.[9] It was around this time that Canada introduced major federal programs to build critical mass at its leading research institutions (Fisher and Rubenson 2010), and to further reward "excellence" in research. They used the existing research funding framework of the Tricouncil to administer these chairs and scholarships, made up of NSERC (for Sciences and Engineering),[10] CIHR (for Health), and SHHRC (for Social Sciences and Humanities).

In the 2008 budget, the government announced an addition to its CRC program with the introduction of the Canada Excellence Research Chairs program (CERC) (Government of Canada: CERC 2014)—which can be seen as CRC intensified. The

[9] See https://www.ic.gc.ca/eic/site/icgc.nsf/vwapj/STsummary.pdf/$file/STsummary.pdf

[10] NSERC is the Canadian equivalent of the US National Science Foundation (NSF). However, unlike the NSF, NSERC does not fund any health or social science research, for which funding is provided by CIHR and SSHRC respectively.

program "awards universities up to $10 million over 7 years to support world-renowned researchers and their teams to establish ambitious research programs as Canadian universities" (Government of Canada: CERC). In addition, while the previous Liberal government introduced a need-based system to increase access to higher education for students in its Millennium scholarship program (in operation from 1998 to 2010), the Conservative government focused its efforts on attracting and rewarding the very top research-based graduate students. Also announced in the 2008 budget was the introduction of the elite Vanier scholarships intended to "increase the supply of highly-qualified research personnel in Canada and brand Canada worldwide as a nation known for quality research and research training" (Government of Canada: Vanier 2014). The program awards $50,000/year scholarships to the very top doctoral students, representing 150 % more money than the regular federal scholarships for graduate students (Government of Canada: Vanier).

The 2010 budget ushered in the Banting postdoctoral scholarship program for the select few, paying $70,000/year for 2-year fellowships instead of the $40,000 for regular recipients (Government of Canada: Banting 2014). At the same time, regular graduate and postdoctoral scholarships have become increasingly competitive (Kent 2013). For example, applicants had about a 30 % rate of success in securing a SSHRC postdoctoral fellowship in the 1990s whereas in 2013 the success rate was around 15 % (Kent 2013). What we see emerging is a further stratified system of graduate and postdoctoral funding divided into three distinct levels: the working class (those with little to no external funding required to work extensively throughout their degrees or postdoctoral contracts); the upper middle-class (recipients of university or regular Tricouncil scholarships/fellowships); and the very upper-class (recipients of elitist doctoral and postdoctoral scholarships/fellowships). The symbolic capital associated with these scholarships and research chairs pays great dividends as successful applicants can expect to secure further funding, promotion, or the pick of the best academic jobs.

Questions Concerning Stratification and Vocationalism

Suggestive in the reforms noted above are: 1. Advancement of elite research and intensification of stratification in separating out the 'cream' from the 'milk' in terms of institutions, research, and people; and 2. Greater vocationalism witnessed in the bolstering of research commercialization and industry-relevant education. However, the relationship between vocationalism and stratification is not a simple one. In fact, the government seems to have an ambivalent relationship with universities and university research and, indeed, may be undermining the very research it claims to be supporting. Moreover, commercialization of the postsecondary sector is less successful than the rhetoric might lead one to believe.

Resource Extraction Over Science?

The government has been building up the university sector within a context of buttressing its resource economy. This is where vocationalism can appear to contradict elitist stratification. The country is increasingly dependent on the profitability of oil (or tar) sands which cover kilometres of northern Alberta, as well as on other industries in mining, oil, and gas, and the construction of pipelines to transport these materials. For example, Canada's non-fuel mineral dependence increased from 17.9 % (of GDP) in 1995, to 27 % in 2000 and to over 36 % by 2010 (Haglund 2011). This is potentially an economically risky trend, born out in part by recent decreases in oil prices: Sachs and Warner (2001) have remarked on the "curse of natural resources" observing that the economies of countries with large natural resource wealth tend to grow more slowly than those of resource-poor countries, a fact that is best accounted for by the idea that "resource-abundant countries tend to be high-price economies and can therefore miss out on export-led growth" (p. 827). Furthermore, the proclaimed new jobs in the resource extraction sector require certain skill sets and have led to the re-engineering of education in British Columbia to focus on the training of pipefitters, crane drivers, and welders (see for example, Province of BC 2014). However, it is up for debate whether these positions in fact require high-level cognitive processing, or what Robert Reich termed "symbolic analytical" skills (Reich 1992). Indeed, research in Canada suggests that a skills-surplus can be just as common as a skills-shortage (Livingstone 2010).

The same Conservative government that has provided generous research funding has been accused of stymying or dismissing the very research it is funding, in favour of supporting its resource economy and balancing the budget (e.g., PIPSC n.d.). Earlier in its governance, the Tory government limited public access to data from Statistics Canada by introducing an access fee for certain documents (Metcalfe 2010; Tupper 2011). In addition, the government has repeatedly made national news for ending the previously mandatory long-form census in 2011, seriously jeopardising the availability of reliable data (Beeby 2014; Ditchburn 2013). Up until 2011, Canadian households were obligated to fill out a census form with many demographic questions. The government introduced a truncated version which could gather only basic data, and concomitantly brought in a voluntary National Household Survey, sent to only one-third of households. Whereas the long-form census, sent to every residence, had a 94 % response rate, the replacement National Household Survey had only a 68 % response rate sent to 1/3 as many people (Ditchburn 2013). It appears to have cost taxpayers $22 million more and is less reliable (Beeby 2014).

While the government is reducing access to data that enable rigorous research, it also appears to be underfunding science itself and creating an environment that is less amenable to science and to scientists. A detailed study on attitudes of scientists towards federal government policy reports that a significant majority of Environment Canada scientists (69 %) believe Canada is doing a worse job of environmental protection than 5 years ago, and that 80 % of scientists at the National Research Council believe Canada has done a worse job over the past 5 years of advancing Canada's international standing in technology and innovation, "an area the Harper

government has particularly touted as important to the economy and that includes so-called basic research" (PIPSC n.d.). Indeed, despite the government's science and technology strategy, and related valorization of science over the humanities, there are not necessarily adequate numbers of high skills jobs in these sectors:

> research is showing us that, over the past two decades, our economy has not been generating enough engineering jobs to absorb the supply of new graduates…according to Statistics Canada, nearly two out of three people who hold engineering degrees in Ontario no longer work in 'traditional' engineering jobs. (Hume 2014)

The government is set to enact further cuts to science budgets, which 90 % of federal scientists believe will negatively impact the ability of the government to serve the public. The president of the Professional Institute of the Public Service of Canada (PIPSC), Debi Daviau, writes, "the Harper government's efforts to balance the federal budget in time for the 2015 election is being built on deep, unpopular cuts to public science that put at risk Canadians' health, safety and the environment" (PIPSC n.d.).

Prime Minister Stephen Harper himself has come out repeatedly in favour of bolstering and expanding Canada's resource economy. However, the highest employment vacancies in the country continue to be found in mining, quarrying, oil, and gas (STIC 2012). Despite increasing apprenticeships and college (rather than university) enrolment, apprenticeships in the country have a very low completion rate (Statistics Canada 2009b, 2011). While there may be increases in the number of positions in the oil, mining and gas sectors, the training for these positions is still in its beginning stages. Indeed, under the previous Liberal government, from 1997 to 2003, trade and vocational education experienced a reduction in public expenditure of 19.5 % while overall public expenditure on postsecondary education increased by 10.4 % (Metcalfe 2010). Provinces like British Columbia are attempting to "re-engineer" education and training to support this sector; however, this has not yet led to increased overall funding to the postsecondary system (Province of British Columbia 2014).

A Complicated Commercialization

Commercialization of postsecondary education is undoubtedly increasing. In fact, the federal government and the leading advocacy group for higher education, the Association of Universities and Colleges of Canada (AUCC), "signed an agreement to triple the amount of commercialization from academic research before 2010" (Metcalfe 2010, p. 507). Nonetheless, although industry funding of research dramatically increased over the past two-to-three decades, "Canada is almost at the very bottom of the pack when it comes to companies interacting with public research organizations" (STIC 2008). In addition, the number of spinoff companies generated from universities increased substantially in the 1980s and 1990s but has steadily declined since (STIC 2012). In 2012, a Canadian institution received, on average, approximately $1.6 million from licensing income, while a US institution received,

on average, approximately US$13.3 million (STIC 2012). It appears that commercialization efforts have been even less profitable than reported. Well-known law professor and IP researcher, Michael Geist, stated that Canadian universities' focus on building IP portfolios and patents as its commercialization strategy is extremely expensive. Geist (2010) notes that a 2008 Statistics Canada study finds the total IP income (primarily from licencing) at reporting Canadian universities was $53.2 million. He writes,

> The cost of generating this income? The reporting institutions employed 321 full-time employees in IP management for a cost of $51.1 million. In other words, after these direct costs, the total surplus for all Canadian universities was $2.1 million. The average income per university from IP was only $425,000. (Geist 2010)

Discussion and Conclusion

The relationship between stratification and vocationalization is complex. In Canadian postsecondary education, stratification does not always result in differentiation. Research funding policy suggests a desire to establish an elite university sector in Canada. At the same time, the statistics show that most gains in postsecondary completion come from enrolment in colleges and less-elite institutions. Mission creep of community colleges, university colleges, and new universities has resulted in increasing competition in the higher education sector. Trades, while a (discursive) priority of the government, are not necessarily the focus for the many university-colleges or "new" universities (formerly university colleges or community colleges) that recognize the prestige associated with providing "university" courses instead of courses in basic education, welding, or pipefitting. Furthermore, the rhetoric for supporting such jobs is not necessarily matched by funding from the federal government (Metcalfe 2010). Canadian postsecondary institutions, which have a large amount of autonomy (Fisher et al. 2006), are deciding the direction they will go, offering degree programs in broad-based subjects rather than providing narrow programs focused on regional labour-market needs.[11] Furthermore, many new faculty members in regional universities (i.e., former community colleges) are applying for CFI grants and major Tricouncil research funding and securing CRCs, despite claims to their roles as instructional staff in teaching institutions. As Fisher and colleagues (2009) note, 'a trend toward vocationalism in the university sector has coincided with 'academic drift' in the community college sector, leading to convergences in programming and institutional functions' (p. 550). This is not surprising in the context of a global standardized approach to university rankings, which promotes vertical segregation and discourages specialization or diversity in university missions (Marginson 2006).

[11] This has been the discourse associated with the creation of new "regional" universities in British Columbia, for example.

Furthermore, a tension can be seen between elite stratification and narrow vocationalism. The (relatively) generous funding of research in the sciences appears to conflict with the government's priority of balancing the budget and supporting the ongoing development of a resource extraction economy. To examine some of the recent reforms made by the Conservative government suggests that scientific research is not a priority but rather a hindrance to its economic agenda. Here, there is a clash between the left-hand and right-hand of the state. Bourdieu (1998) explained,

> the left hand of the state [is] the set of agents of the so-called spending ministries which are…opposed to the right hand of the state, the technocrats of the Ministry of Finance…the right hand does not know or in many cases does not even care to know what the left hand does. And, more importantly, it does not want to pay for it—[the right hand is] obsessed by the question of financial equilibrium. (pp. 2, 5)

As the above quote suggests, the right hand and left hand work relatively separately. The ministry that funds basic science research is not the same one that votes in favour of building pipelines to funnel more oil from Alberta into the United States; it is not the same department that decided to eliminate the long-form census nor is it the Ministry of Finance. The desire to develop a robust research infrastructure in Canada is certainly being advanced by the left hand of the state, a priority that is not shared by the right hand. However, both left and right hands contain within them a neoliberal embrace of competition, commercialization, and a concern for direct labour-market applicability of postsecondary education—a narrow rather than broad vocationalism.

Vocationalism, as Grubb and others suggest (Grubb 2006; Grubb and Lazerson 2005; Rospigliosi et al. 2014), is not necessarily a negative goal of higher education; in fact, it is so integral to the understanding of the purpose of higher education that it is difficult to imagine a world in which we did not think about labour market success as an outcome of undertaking postsecondary education. Yet, "narrow vocationalism" has few data to support it. For example, in Canada, the discourse of "high skills" is accompanied by a promotion of trades training. However, the statistics so far are disappointing: the completion rates of apprenticeships in Canada is low (Statistics Canada 2009b, 2011) and the pay-off for completing a trades diploma or certificate is minimal, if not negative (Boothby and Drewes 2006). Further, it is yet to be seen whether the various levels of government will invest the necessary capital to support trades education. And, as Rospigliosi et al. (2014) have argued, employers do not primarily seek narrow employment skills but rather evidence of the propensity and capability of an employee to learn, which is the capital associated with a university degree.

A narrow vocationalism is also visible in supporting both subject areas that have clearer links with the labour market and also researchers who can readily commercialize research. This direction towards vocationalism is also problematic. There is at best uneven evidence that universities are reaping millions in their commercialization efforts (Geist 2010); as Derek Bok (2003) mused, if the university is a business, it is a pretty bad business. Furthermore, the liberal mission of the university, and the social sciences and humanities especially, is under threat. In effect, "the

liberal version of the university promotes a logic that speaks directly to broad learning, whereas the technical efficiency logic clearly enhances the interests of commerce and business administration scholars, while reinforcing forms of human capital training" (Guppy et al. 2013, p. 15). While "making money" may very well be the priority of freshmen in the US and Canada (Astin 1998), perhaps we should continue to strive for a broader purpose of education, as Dewey (1938) reflected.

In conclusion, stratification and vocationalization are two of the most important trends occurring in higher education globally. This chapter has discussed a handful of recent federal reforms in Canada that illustrate these trends. To better grasp how these reforms are affecting higher education in Canada, it is necessary to examine provincial and institutional reforms. In doing this, one will realize that Canada has many systems in one and that different provinces have gone in many different directions (see also Fisher et al. 2009). Nonetheless, federally we see certain patterns emerge: tension between vocationalism and stratification, a narrow vocationalism, competitive stratification, promotion of sciences over liberal arts, and a government that provides generous funding to certain areas but not to others. Academic capitalism is alive and well in Canada, as Metcalfe (2010) observed. However, a highly fragmented system means Canadian academics and students continue to enjoy relative autonomy and (as of yet) do not face the magnitude of struggles facing our neighbours to the south or across the Atlantic or Pacific.

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Chapter 14
Positioning for Elite and Quasi-Elite Colleges and Universities in the United States: Parent and Student Strategies for "Maintaining Advantage" in New Economic and Postsecondary Context

Lois Weis

Thomas Piketty's (2014) *Capital in the Twenty-first Century* demonstrates that the "great equalizing decades following World War II, which brought on the rise of the middle class in the United States, were but a historical anomaly" (Dewan 2014, p. 6). In addition to demonstrating that the U.S. is increasingly marked by growing concentration of income and wealth in the hands of a small economic elite, noted economist Paul Krugman suggests that Piketty "makes a powerful case that we're on the way back to 'patrimonial capitalism,' in which the commanding heights of the economy are dominated not just be wealth, but also by inherited wealth, in which birth matters more than effort and talent" (NYT 2014).

Piketty's voluminous corpus of research underscores intensifying inequalities in capital and wealth in the late twentieth and early 21st century, most notably in the United States.[1] Analyses of income share by decile and percentile (Saez 2013) demonstrate that average real income among the top 1 % grew by 86 % from 1993 to

*Data are drawn from a larger study reported in Lois Weis, Kristin Cipollone and Heather Jenkins, *Class Warfare: Class, Race and College Admissions in Top-Tier Secondary Schools* (University of Chicago Press, 2014). Thanks to Sheila Slaughter and Barrett Taylor, co-editors of this volume, for their trenchant comments and suggestions. Thanks also to Michelle Fine and Kristin Cipollone for comments on an earlier version of this paper. This research was supported in part by the Spencer Foundation. Thanks to the foundation for its support over many years. All errors of interpretation, of course, rest with the author.

[1] Piketty's *Capital* represents a highly collective research effort that covers inequalities in wealth and income over three centuries and more than 20 nations. For purposes of this chapter, I refer only to one piece of this large project, that being markedly growing inequalities in late twentieth and early century. Much of the research was done in collaboration with Saez and others, who Piketty (2014) acknowledges as instrumental in the overall project.

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2012, and that soaring incomes among the top 1 % "captured just over two-thirds of the overall economic growth of real incomes per family" (Saez 2013, p. 3). A close collaborator of Piketty, Saez (2013) concludes that fluctuations in the income distribution of the top 1 %, in particular, "play a central role in the evolution of U.S. inequality over the course of the twentieth century" (p. 3). As a consequence, the vast majority of highly educated professionals, as well as those who inherited modest wealth from their parents, find their relative positions substantially eroding in relation to a class of super-rich.[2]

The realignment and increased consolidation of capital and wealth has deep implications for the ways in which *relatively* privileged parents and students (i.e., privileged families who do not comprise the top 1 %) strive to position themselves and their children for future advantage. As scholars note, the maintenance of privileged class status has, in previous decades, been primarily dependent upon attendance at particularly located educational institutions (e.g., Cookson and Persell 1985; McDonough 1997, among others), where upper class parents sent their children to prestigious secondary boarding or independent day schools that historically functioned as pipelines to elite colleges. In such context, twinned attendance at these prestigious secondary and tertiary level institutions functioned relatively seamlessly to reproduce class.

Marked alteration in the context within which the linkage between education and social class takes shape and form presses towards heightened anxiety among relatively privileged parents and students. Such heightened anxiety is coupled with a sharply amplified and specific drive towards admission to particularly located post-secondary destinations (beyond the historic Ivies) that relatively privileged parents and students conceptualize as key for the preservation of class. Such heightened drive for a relatively small sector of largely *private* institutions that are marked as Most Competitive and Highly Competitive+ (Barron's 2009, 2013) in the United States has important implications both for families seeking entry and for the institutions themselves.

In this chapter I address the refractive implications of greatly altered economic and global context for class and institutional *habitus* among relatively privileged parents, students, and secondary schools in the United States, as specifically linked to now normative actions and activities surrounding preparation for and enactment of the college admissions process.[3] Building upon deep ethnographic research in three affluent and elite secondary schools, I argue that the rise of the neo-liberal state and altered economic conditions has led to the sharp re-shaping of family and institutional *habitus* among relatively privileged populations.[4] Such re-worked

[2] Thanks to Sheila Slaughter for underscoring this important point.

[3] It is important to point out that detailed normative actions and activities stem from deep ethnographic work rather than any a priori understanding of what is going on within this particular class fraction. See Weis et al. (2014) for details as to method and subsequent theorizing.

[4] In discussing privileged families in this chapter I am not referring to the top 1 %, whose extensive wealth enables them to preserve class position through transference of massive economic capital. Rather I am referring largely to the professional and managerial class (what is generally referred to as the upper-middle class) who now heavily invest in particular kinds of experiences and educa-

habitus is particularly evident in relation to the ways in which and extent to which parents and students, individually and collectively, both position for and enact the college admissions process. In light of political economic changes, heightened uncertainly with regard to the transference of privilege makes the "admissions arms race" more all consuming than in decades past. This is fueled by a collectively forged perception of an "all or nothing competition" coupled with the fact that parents are now convinced that "good education" is a scarce commodity.

Drawing upon a 2-year ethnographic investigation of affluent and elite co-educational secondary schools in the U.S., this chapter highlights the explicit "class work" of a now highly and increasingly insecure middle/upper-middle class (Reay et al. 2011), as parents and students attempt to "maintain advantage" via entrance to particularly located postsecondary destinations. Affirming the fact that privileged class position must now be "won" at both the individual and collective level, rather than constituting the "manner to which one is born," data enable us to track and theorize intensified preparation for and application to particular kinds of postsecondary destinations in a substantially altered national and international marketplace that is increasingly defined by intensified privatization, soaring levels of compensation for the top 1 %, and new forms of stratification in the higher education sector.[5] Although the U.S. media have taken note of such postsecondary "application frenzy," little scholarly work tracks and theorizes this "frenzy" as a distinctly located and driven "class process." Nonetheless, this process represents intensified "class work" at one and the same time as class "winners" and "losers" become ever more apparent in the larger global arena (Brown et al. 2011).

Intensive ethnographic data embedded in this chapter were collected at one of three sites that comprise the larger ethnography: Matthews Academy – a co-educational private secondary day school in a tier-two, non-global city (e.g., Charlotte, Pittsburgh).[6] Data were collected over a one and one half-year time period, which encompasses the full course of the college admissions process. (In-depth details regarding methods are fully reported in Weis et al. 2014, including information linked to de-identification of data, and anonymity.) In a context where postsecondary institutions that already hold status are accumulating more status (Taylor, Rosinger and Slaughter, (Chap. 5) in this volume), *where* one goes to college takes on heightened importance. Running parallel to a well-honed discourse of "college for all" in the U.S., those with privilege increasingly attempt to position their children for entrance into particularly located postsecondary destinations,

tion for their children so as to maintain intergenerational class advantage (Weis et al. 2014; Kaushal et al. 2011).

[5] The development of a corporate elite in the United States – one that, as Piketty (2014) argues, is the result of actions and activities of a self-interested and well-compensated managerial stock-owning class, underscores this point. In this sense then, the construction of a privileged class differs markedly from what we see in the manors of Europe. Thanks to Barrett Taylor for highlighting this important point.

[6] Matthews Academy is located in a city of under two million residents. Historically the city was comprised of a well-known upper class that controlled the city's industrial and manufacturing base. For reasons of anonymity, no further details are provided about local context.

explicitly working to maximize status and positionality in line with Lucas's (2001) notion of "effectively maintained inequality."

In addition to altered economic context (Piketty 2014), struggle over entrance to a particular strata of postsecondary destinations – specifically, in this case, those deemed Most Competitive, Highly Competitive+, and Highly Competitive by Barron's (2009, 2013; Weis et al. 2014) – takes place on massively altered admissions terrain. Applications to particularly located "name brand" colleges have soared over the past three decades, rising markedly in the past several years. Harvard, for example, now boasts over 35,000 applicants for virtually the same number of "spots" as existed decades ago. Stanford received over 42,000 applications for entrance into the Class of 2018, and accepted 2,138, an accept rate that now stands at 5 %, the lowest ever recorded for any U.S. institution (Perez-Pena 2014). Although the good news is that a broadened range of prospective students and families think that they can potentially gain access to such colleges, and online application procedures and the widespread use of the Common Application encourage and facilitate this, the bad news is that it is increasingly difficult to gain admission to this strata of institutions. For example, admit rates in 2013 for Harvard, Yale and Princeton respectively, stood at 6 %, 7 %, and 8 %. Top state schools are not immune to this tightened admissions phenomenon. UCLA, for example, had more than 86,000 applications in 2014, twice as many as in 2005, with an anticipated admit rate of less than 20 %.

Ranking schemata, such as the *U.S. News and World Report College Rankings* and *Barron's Profile of American Colleges* (2009, 2013) fan the flames of competition, serving to exacerbate anxiety among privileged students and families. Such specifically located ranking schemata are, in this case, inherently national, thereby differing in many respects from global ranking systems such as Academic Rankings of World Universities (ARWU) constructed by Shanghai Jiao Tong, and Times Higher Education World University Rankings. These latter rankings emphasize research and reputation rather than undergraduate selectivity, as is the case with *Barron's Profile of American Colleges*. The fear, it seems, is that failure to gain entry into a "good" college limits long-term economic and social opportunity, a fear that is, by and large, substantiated in the scholarly literature.

Recent studies suggest that *where* one goes to school *matters*, particularly in regards to persistence and graduation rates (Bowen et al. 2009; Stephan et al. 2009), and access to jobs and prestigious graduate and professional programs (Carnevale 2012). Additionally, institutional and research expenditures increasingly vary substantially according to whether research universities are public or private, with expenditures at private research universities now rising head and shoulders above even the state flagship research universities (Leslie et al. 2012). This collectively underscores the "value add" of attendance at particularly located postsecondary destinations. In this markedly more competitive context for college and university entrance, parents' "fear of falling" (Ehrenreich 1990) is not completely unfounded.

In this chapter I take up this theoretically located "class" project via multi-year ethnographic research with a representative sample of largely, but not entirely, White students and flexible immigrants of color (Ong 1999) who fall, by virtue of class rank, in the top 20 % of their secondary school graduating class, as this is the

group most likely to be positioned and positioning for acceptance to America's top schools.

The underlying context of this form of *class warfare*, is now centrally located at the point of college admissions in the United States. Although to most people, "class warfare" implies social classes engaged in violent struggle against each other, my use of the term is different, and, I would argue, more resonant with current realities in the U.S. Rather than focus on classes in violent struggle with and against one another, I highlight tensions *within* a social class as people struggle to maintain and/or gain class advantage for the next generation. As I suggest earlier, such class warfare is linked to a combination of shifting structurally linked drivers that substantially alter broad global economic context. Such multifaceted movement has enabled the development of an extremely wealthy and self-interested corporate elite in the U.S., while simultaneously altering class relations, sensibilities, and sense of future possibilities within and across nations.

Particularly relevant to the population under study here, is the fact that this set of economic and social drivers, coupled with the financial crisis of 2008 (with attendant global consequences), imperils a wide variety of occupational positions. It is in this context that privileged families seek to instantiate opportunities for their children at the same time as such within-nation opportunities are objectively increasingly scarce (Brown et al. 2011), as the new global knowledge economy alters the availability of particular kinds of jobs.

In the United States, this is coupled with heightened stratification *within* the postsecondary sector itself – a form of intensified stratification that has led to increased competition for those schools that parents and students assume will continue to enable class advantage. Such competition is additionally fueled by a now enacted U.S. discourse of "college for all" that further encourages those with privilege to *differentiate* themselves from the rest of the pack. As Ayalon and Shavit (2004) and Lucas (2001) argue, "once saturation has been reached with regard to a given level of education, inequalities in the odds of this level's attainment may be replaced by inequalities in the odds of placement in the more selective track" (Shavit et al. 2007, p. 4). Known as "effectively maintained inequality," or EMI, this framework recognizes that educational expansion at any given level is often accompanied by increasing institutional differentiation and/or heightened internal systemic stratification, thereby rendering the *status* of any given institution within a range of hierarchically possible options increasingly important. Put another way, the battle over *qualitative* distinction in educational opportunities can be expected to "heat up" as more generalized access to any given level of education is achieved. This is, I would argue, exactly what we see when we ethnographically witness the unprecedented drive towards particular kinds of postsecondary destinations, a phenomenon that goes well beyond the 2- versus 4-year distinction, and the historical centrality of Ivy League schools in the production and maintenance of the U.S. elite (Wechsler 1977).

In fact, attendance at an undifferentiated 4-year state institution no longer guarantees entrance into the stable middle/upper middle class (Brown et al. 2011) and it is this reality that drives what we see unfolding at representative elite/affluent insti-

tutions like Matthews Academy. Although the quantitative data are striking, and often affirm notions of "effectively maintained inequality" (Shavit et al. 2007), they cannot, by their very nature, illuminate the ways in which qualitative distinctions are struggled over at the point of access to any given institutional location. Specifically, admissions to "Most Competitive" and "Highly Competitive" (Barron's 2009, 2013) private colleges now constitutes an increasingly critical space where future class position is struggled over, engaged, produced, negotiated, lived out, and "won" or "lost" in increasingly competitive circumstances.

Clearly, where one goes to college is linked to differential ability to pay for higher education, as well as the widely divergent range of opportunities for academic preparation available in elementary, middle and secondary schools across the nation. However, the intensified production of particularly located future inequalities – specifically those associated with what I now call the "new upper-middle class" – must additionally be understood as increasingly tied to the ways in which differently situated students, parents, and schools are able and willing to harness/actualize all available capitals to *position* for postsecondary entrance at a time of deepened internal stratification in the higher education sector (e.g., Bowen et al. 2009; Leslie et al. 2012; Thomas and Bell 2008, among others). In this way, the opportunities and experiences of low-income students are inescapably and increasingly tethered to what is happening among those with privilege. As relatively privileged families intentionally move to consolidate future class position explicitly via access to particularly located postsecondary destinations (Weis et al. 2014), poor, working-class, and even lower-middle and middle class students will be left farther and farther behind. Here we witness the extraordinary measures engaged by parents and students in privileged secondary schools as they drive towards *distinction* in the college admissions process, in the hopes of maintaining advantage in new times.

Matthews Academy: Students Engage the College Admissions Process

As part of the Matthews based college admissions process, in the middle of junior year and into senior year, students are encouraged to engage in frank assessment of their strengths, weaknesses, and desires with regard to what kind of postsecondary institution they wish to attend, a task that students generally take quite seriously. This comprises a re-constituted *habitus* (Bourdieu 1984; Bourdieu and Wacquant 1992) wherein a *specific* set of actions and activities around the college admissions process becomes normative for both parents and students. Although scholars like McDonough (1997) and Cookson and Persell (1985), in particular, investigated affluent and elite school *habitus* in relation to college admission in the 1980s and 1990s, their discussion cannot account for the massively altered broad context, in which transference and maintenance of privilege via attendance at particularly located secondary schools can no longer be assumed.

Such actions and activities are largely enacted in relation to the school itself, with a keen eye towards the anticipated college admissions process. Even when explicitly asked in the interviews about activities and friends external to Matthews, students talk virtually entirely about Matthews. With few exceptions, Matthews comprises their entire world during the academic year, particularly as students approach and engage the postsecondary admissions process. Their friends attend Matthews; they play on Matthews sports teams; their work experiences, if they have them, are largely linked to positioning for college, such as lining up prestigious unpaid internships; their discussions with their friends are, senior year in particular, comprised of discussions about college and the admissions process; and their parties are almost wholly with friends from school, wherein postsecondary admissions inevitably surfaces as a dominating topic of conversation.

In this regard, the postsecondary admissions process becomes a *shadow curriculum* in that it embeds its own totalizing actions, activities and set of external experts such as tutors, expensive test prep courses (often suggested by the counseling staff), and so forth. Although an individual may be somewhat shielded from this barrage of Matthews centered activities if he or she participates in out of school activities such as a drama performance or dance company, hockey team, and/or vocal or instrumental ensemble, even these experiences feed into performance opportunities at Matthews. Dancers are encouraged to dance with the Matthews linked company, and hockey and squash (a traditionally upper class sport in the U.S.) players are encouraged to play on Matthews' teams. Inevitably, all such activities become part of the postsecondary admissions dossier, as students and parents drive towards "distinction."

Little social or academic interaction, in fact, takes place outside the bounds of the secondary school, with students arriving at 7:45 am and generally returning home after 7:00 pm. Those who engage in both sports and drama (this is not unusual) do not return home until after 9:00 pm, since these practices run back-to-back after school. Finally arriving home, juniors and first-semester seniors inhale a quick dinner, often do homework and college admissions activities (the latter during senior year, in particular) until 3 a.m., only to get up early the next morning and repeat the cycle. As students in the top 20 % generally select the most rigorous courses available to "make colleges see that they are continually challenging themselves," it is not unusual for the top 20 % of students to take 5 or 6 Advanced Placement courses (AP's, that culminate in external examinations) per semester during their senior year. This is a consciously engaged and strategic move that is explicitly encouraged and directed by the college counseling staff. Students take such courses very seriously, particularly during first semester of senior year, as first semester grades are included in the college admissions dossier. In-school counselors specifically warn seniors to continue to take their courses seriously, as they do not want to appear to be "slacking off" to admissions committees who review their dossiers.

Increasingly, and as routinely noted by teachers, students and counselors, students in the top 20 % are doubling up on math and science courses with the expressed aim of making themselves more competitive and distinctive in the admissions process. Such doubling up is *rarely* construed as positioning for admittance to STEM

fields, but rather a bold move designed to mark distinction wherever and whenever possible, particularly with regard to the most highly valued postsecondary destinations wherein evidence suggests that top math courses, in particular, are valued in the admissions process (Riegle-Crumb and Grodsky 2010; Riegle-Crumb 2006). Data indicate that students in fact care more about *where* they go to school than what they intend to study there. This is particularly striking in the case of STEM fields, given intensified effort in the United States to position larger numbers of students for STEM. In this regard it is noteworthy that students, school personnel and parents at privileged U.S. secondary schools envision the "piling on" of math and science courses as a way to position for particular postsecondary institutions, as opposed to field of study.[7]

Although weekends are ostensibly for "fun," such fun is peppered and constrained by the ever – present "shadow curriculum" – extensive study sessions, SAT prep courses, course tutoring, and so forth. Although teen partying is a ubiquitous part of the landscape, it is difficult to engage a steady stream of hard partying and simultaneously engage all activities necessary to make oneself competitive for "top" colleges.[8]

In the midst of what focal student Jason Sheffield refers to as a "marathon," students are instructed to engage in a serious assessment of the "self," building upon and extending skills that were learned and activated 4 years earlier when "choosing" a secondary school (Weis et al. 2014). Below we hear from iconic students Ryan Dougherty, Matt Tomlinson, and Stephanie Larkin, all of who assess their strengths and weaknesses as they approach the college admissions process:

> Ryan Dougherty: I think a lot of kids who apply to college are scholar/athlete, scholar/musician, but one of the things that's kind of given me a bit of an edge is that I have both scholar/athlete and the scholar/musician aspect. So I kind of have all three of those areas (the third being his academics), and because I've had so many experiences, and sports and academics: baseball, tennis, cross-country…And I actually ended up doing this for a lot of my (application) essays, playing to my strengths, you know, talking about physics and music. …In general I do not like to think of myself as having weaknesses… I think I was across the board pretty strong.
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> ********
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> Lois: How would you describe yourself in relation to the college process?
>
> Stephanie Larkin: I'm one of two people in that class (AP BC Calculus class—the most rigorous mathematics course available) who's not taking AP Physics…I don't think I'm bad at science necessarily, it's just that I'm not that interested in it. I really don't put that much

[7] In the U.S., students are not generally admitted into particular fields of study at the undergraduate level. Only Schools of Engineering consistently admit students to the major at the point of admissions, in which case number and type of STEM courses at the secondary school level become substantively critical with regard to the postsecondary admissions process. Generally speaking, however, students apply to postsecondary institutions and declare a major at the end of their sophomore year. This practice markedly differentiates the U.S. from numerous other nations.

[8] Parent Lisa Norwood shared with Lois that in the thick of college admissions, her daughter and her closest friends got together for a house party (movies, food etc.) designed to take their mind off the admissions process. They spent the whole evening dissecting and rehashing the process. Mrs. Norwood tried to step in and redirect the conversation, pointing out that this was supposed to be fun rather than stressful, but to no avail.

effort in… I think overall I'm pretty academically strong. (I'm) OK at standardized testing. I probably do bring something to the table because I do have an international background.

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Matt Tomlinson: Strengths, I would say definitely lies in my extra-curriculars, because I do soccer, hockey, and lacrosse…Another student and I started a chess club here, which is doing really well…Any clubs that I wanted to do, I've started, Most are not anything major, but I also did really well on my SATs (scores confirmed with college counseling office: 670 Verbal; 780 Math)

Lois: Did you prep for them?

Matt: I am just one of those really good test takers (he did no SAT prep courses and took the test only one time, unlike other students).

Lois: And with those kinds of test scores, you still think you'd say your strengths lie in the extra-curriculars?

Matt: I would say that my test scores are certainly a big thing, but there are a lot of kids out there who did really well on the test, so extra-curriculars are going to make me stand out a little more than just good SAT test scores and good (high level) classes.

Upon taking rigorous assessment of their strengths and weaknesses, students in the top 20 % of the graduating class generally apply Early Action (non-binding) or Early Decision (generally binding) to select colleges, attempting to maximize possibilities of admittance to particular institutions since colleges take a relatively high proportion of students from the early application pool (Weis et al. 2014).[9] In consultation with the college counselor, students are encouraged to develop an explicit strategy that takes into account their self-assessment, as expressed by Ryan, Stephanie and Matt, in relation to desired type and location of institution (small versus large; urban, suburban, rural; university versus liberal arts college, etc.); and expected "chance of admission" based on published admissions data related to GPA, SAT test scores, percent of accepted students, and the like.

With the "self" firmly instantiated at the center of this analysis, students hone and engage a very specific set of skills that layer on top of already deep personal,

[9]This is a widely agreed upon point, for which there are two main explanations. (1) Early applicants tend, on average, to comprise a particular group of students, and dossiers tend to be relatively stronger overall than those garnered in the regular admissions cycle. (2) Equally important is that Early Admissions, in most cases, is binding – in other words, if one is admitted under an Early Admissions cycle, the student must attend the institution. As student yield (proportion of students who are offered admission who actually attend any given school) is a factor in many U.S. ranking systems, colleges are incentivized to fill as much of their entering class as practical via Early Admissions, so long as they do not compromise other ranking system indicators such as SAT scores, etc. Early Action, in contrast, is not binding; however, students who apply under this program often end up attending one of the schools that offer acceptance, similarly contributing to the yield. Some top institutions have exhibited concern over the potential for early applications processes to differentially benefit students from higher SES backgrounds. For this reason, Princeton, Harvard and University of Virginia shut down their early admissions cycles in 2006, in the hopes of spurring similar actions amongst a broader range of top schools. This did not happen, and all three colleges re-instituted an early action cycle in 2011. While perhaps not a yield issue in this particular case, it is arguably the case that when the concept did not spread to other top institutions, Harvard, Princeton and UVA did not want to lose a portion of their peak applicant pool that could be admitted via early admissions elsewhere. For further information, see Inside Higher Education February 25, 2011.

academic and extracurricular "work": (1) self-assessment of strengths and weaknesses; (2) self-assessment in relation to the larger marketplace; and (3) strategic intellectual and practical deployment of accumulated academic and cultural capital. The latter includes, among other things, grades, SAT/ACT scores, number of AP courses and scores, difficulty of course load relative to what is offered at the school, personal and academic experiences, extra-curriculars both in and outside of school, and notable awards, all of which are strategically deployed in the admissions dossier. Particularly critical to such dossier is the Personal Statement, a piece of individual writing that is usually read and commented upon by teachers, parents, and, at times, the college counselor, before being tweaked and personalized for inclusion in a range of individuated admissions dossiers. This "personal statement" further enables applicants to create "distinction" in the admissions process, thereby maximizing the chances of acceptance at a range of top institutions in an increasingly competitive marketplace. In point of fact, students are explicitly encouraged to use the personal statement towards this end.

After completing on-site visits to an average of 10–20 (and, on occasion, more) carefully selected institutions that are designed to enable students to assess their "fit" with any given school, students assemble a final list of colleges to which they will apply. With the option to obtain advice from within-school college counselors, such a list is designed to embody a well thought through strategy with regard to the informally or formally calculated odds of admittance to a range of potential institutions. Although the vast majority of such prospective schools are located in the United States, it is not uncommon for schools such as St. Andrew's, The University of Edinburgh, McGill University, and other international locations to appear on student lists.

A strategic list includes "safeties," meaning institutions at which they would almost certainly be accepted; "probables," or those that would most likely accept them; and "reaches" that would probably *not*, but might possibly, accept them. Interviews with focal students – once in the fall and once in the spring of senior year – clearly reveal such embedded strategy. Below we hear from representative students Brandon Cowan, Joe Marino, and Ethan Sanderson:

> Lois: Where did you end up visiting, and then applying?
>
> Brandon Cowan: Let's see…(I visited) Northwestern, Bard, Oberlin, Tufts, Swarthmore, Harvard, Princeton, and Carleton. I didn't apply to Northwestern or Amherst, so those dropped off the list. I applied to Bard early and got in there. I also applied to Middlebury.
>
> *****
>
> Lois: When you were deciding on your initial list (of colleges you were going to apply to), how did you do that?
>
> Joe Marino: I kind of just went online and looked up the college, saw how they were, kind of imagined if I could see myself going there, and then from there, I said 'OK, This one I'll be looking at. This one, it didn't wow me….
>
> I did receive the Caltech (California Institute of Technology) medal last year from Matthews, so I have a scholarship there, so I do believe that I will get in pretty easily (…) I applied to Columbia, Carnegie Mellon, Caltech, Harvard and RIT (Rochester Institute of Technology) (…) And so I never doubted that I wouldn't get into RIT and Caltech – and from there, I kind of thought I *could* get into everything else, and Columbia and Harvard

might be a little bit of a stretch. So I set up my list in that way, that I would have a couple safeties, a couple that I should get into but you never really know, and then one that's a reach (Columbia), and then one that's an even further reach (Harvard)…

I think every place that I went to, I visited either the head of the math department or a math professor. I emailed them and my mother emailed them, and we set it up and we asked 'Could you possibly meet a prospective student?' And they said, 'Sure, I'd be willing to'. My mom actually suggested that and so I said 'OK'. I'd be willing to meet with the math professors, just because we wanted to get a greater sense of the faculty. Because me, I go to every math professor after school (Matthews). I have questions that are not at all part of the curriculum…I do all those things, so I wanted to know that I could do that at college.

Lois: So, what happened at Lake Forest College? (He said he had a bad experience there when he visited)

Joe: I got in and sat down with the professor. He asked me about myself. About two minutes into the interview, a student knocked on his door and asked when he would be free and he turned to us and he said, 'This isn't gonna take more than a couple more minutes will it"', and I'm like, 'I guess not.' And so he also asked me how I did on my SAT math, and I said I received an 800, and he said, 'Well, any idiot can get an 800 on the math. That doesn't really say much about your math knowledge'…and I'm like…

*****

Lois: How did you decide where to apply?

Ethan Sanderson: I was in contact with my college counselor about the choices I had made about colleges, and he told me whether he thought it was a good idea or not. He agreed with me on my choices. It was a mixture of sort of touring and seeing if I felt right there, and academically what I was looking for, which is strong humanities and languages.

Lois: So where did you end up applying?

Ethan: I applied Early Decision to Stanford and was deferred, and my strategy was, sort of, apply early to Stanford, but also get a good list. I applied to eleven schools and I have my reaches, middles and safeties.

Lois: OK, let's go through them.

Ethan: I'll do it in order: Stanford, Yale, Princeton, and University of Chicago; Williams, NYU, Tulane, Johns Hopkins; Vanderbilt, Trinity, and American. My safeties would definitely be Trinity, Vanderbilt and American; my middles would be the Tulane and NYU group; and then my reach is the obvious (Stanford, Yale, Princeton, University of Chicago).

The above students, like virtually all students in the top 20 %, reveal a well-articulated admissions strategy. Only one student, Briana Kenney, admitted that her applications were driven by fear rather than strategy.

Although college counselors warn parents that they need to let their "children drive the process," parents at privileged secondary schools are loath to let go of the college admissions reins, particularly given the now heightened constructed importance of institutional location in relation to future class position. I turn now to parents in this particular site, a group that refuses to adopt any kind of circumscribed role in the admissions process despite the wishes of the college counseling staff.

Parents Engage the Admissions Process: Thinking, Plotting, Planning

At the most basic level, privileged parents at U.S. secondary schools pay for and facilitate college visits, and ultimately pay, in most cases, for the cost of attendance, which is exceptionally steep, even at state institutions. With regard to the increasingly complex admissions process, parents prod, strategize, and remind their children to meet deadlines, stay on top of and get feedback on their college admissions essays, and study for standardized tests. Perhaps most importantly, they support their children emotionally as they go through the increasingly long and arduous admissions process that spans approximately 2 years.

Matthews parents (in most cases) do not leave this array of dossier building decisions to either their children or the college counselor, despite continual counselor admonitions to the contrary. Each Matthews student is expected to meet with the counselor and their parents at the end of junior year. From that point on, children are expected to meet with the counselor on their own, as deemed necessary. However, it was not at all uncommon for Matthews parents to schedule additional and not infrequent one-on-one meetings with the school counselor, to contact school counselors by phone and email on a routine basis, and, from there, to take over the process.

In spite of the fact that students are expected to assess their own strengths and weaknesses with respect to the admissions process, Matthews parents additionally monitor and assess their children's strengths and weaknesses, with an eye towards their chances of acceptance at particular institutions based on *parental* assessment of student grades, difficulty of course load, and the like. Such vigilance extends well beyond those parents who are themselves highly educated. Ron Tomlinson, a White working-class parent who has no prior connection with private schools, is, according to veteran Head of Counseling Dave Henderson, "hunting big game" (most specifically Harvard, Yale, Princeton), after which comment, Dave notes, "He is not going to get it." The struggle between son and parent is palpable, as Matt wants to go to Rensselaer Polytechnic Institute (RPI), as this is where he personally sees his strengths, and Ron wants him to apply to the Ivies mentioned previously.

The desire of Mr. Tomlinson to situate his child in an Ivy League school is certainly understandable, especially in light of the sacrifices that Mr. Tomlinson had to make in order to send his son to Matthews, but Matt wants no part of this scenario, making it clear that he wants to go to RPI. In response, Mr. Tomlinson drives even harder towards college visits, a push that is largely ignored by Matt who had already made up his mind that he was interested in RPI.

> Ron (recounting his discussion with his son, to Lois): Take your pick (of colleges to visit). Here's my schedule. And I offered it before the application process. I said, you know, when he was at Harvard over the summer, he really didn't get to see the school. You know, cuz at first he's like, "I'm not sure (why I didn't look at the school). I was at practices (wrestling).' Why don't I take you back there in the regular school year? …Nothing ever, you know, and I was trying not to pressure him too much, and there were times where I was like, pulling my hair out!…One of the reasons why I told him I was hoping he would apply to Harvard

was income-wise, it's free for me to send him there (tuition pricing is tied to income levels and Matt by his father's calculation would attend tuition-free).

As argued earlier, for highly ranked students at relatively elite schools, there is marked pressure to gain admission to the most selective colleges and universities in the U.S. Students (and their parents) perceive themselves to be the "best of the best" (Gaztambide-Fernandez 2009) and strive to gain entry to the most prestigious postsecondary institutions that will confirm this status. In response, parents and students at Matthews collaboratively intensify their own strategizing irrespective of counselor disapproval of this practice. Susan and Robert Larkin cast their "outsider" eyes on the process, as they experienced their own schooling in Europe and their two older children attended higher education there.

Susan: (…) So, I would say the last 8–10 years that I've heard parents talking about it (college application process and entry). Parents of the older children, I would say, maybe even into middle school, parents are contriving or conniving.

Robert: From my point of view, in a real sense, it (the conniving and contriving) started in sophomore year.

Susan: It intensified certainly.

Robert: Became much more apparent. So we had heard, Susan probably more than I had. We'd heard the noise, some of the sure things, but it didn't have anything to do with us, things that we had to do. And I think it was at that level, we began to realize that it was competitive, and…maybe you could've started sending your child to this place (a specific institution) to do extracurriculars and you would tell your colleagues (other parents of children in the class) afterwards, to show how good you are, but you wouldn't actually bring them all up and say, "Why don't we all send our children to (the local cancer research facility) to do cancer research…because everyone wanted to get a step ahead with their children, was my impression.

Robert: So I think that sophomore year onwards, we began to realize it was a game, and that we were perhaps a bit late in the game, and that we're still a bit late in the game and we're realizing that. Even if you put down your name for mock trial and you don't even appear or do anything, at least you can put on the form…I did mock trial at sophomore level, even if you had only turned up to one meeting, and we go 'shoot', we didn't do that because we thought honor was pure…It's just a bit unfair, you know, that sort of, well most people probably behaving entirely honorably, but there's some sense of competition and do anything to get your child well positioned, and I think we've been swept up in it because at the end of the day, the person who loses if we stand our ground is Stephanie.

Succumbing to the U.S. processes around postsecondary admissions as situated in privileged secondary schools, Susan and Robert began to encourage Stephanie to emphasize her *international roots*, thereby *distinguishing* herself from others in the college competition:

Susan: I did say to Stephanie, it's all well to say you've traveled, but further down the line, this may be mistaken for colleges thinking here's a rich kid, driving around in expensive cars, you know, (staying at) the Best Western overseas. I said maybe you have to demonstrate you can do more than that. I mean, I knew she could. So I put it to her that volunteer at this home in Bogotá. And it was started and run by a former colleague of mine from (the firm) because otherwise it might have been hard for us to get there because of her age. But there were 170 boys of all ages and just under 20 girls. She spent two weeks with them and was a little tearful when she left. And she did say that if she should take a job here that she

might well go back and volunteer. And I thought again that if one wanted to demonstrate her adaptability that it was the perfect testing ground for her.

As the above example demonstrates, parents actively encourage and facilitate the building of a dossier through amassing high-profile extracurricular activities designed to create distinction in the applications process. As in Stephanie's case, even when parents don't fully support such "game playing," they "connive and contrive" to ensure that their children seek out activities that will mark them as "distinctive" in an increasingly competitive postsecondary admissions context, hoping to maximize the possibility of acceptance at valued postsecondary destinations in spite of soaring application numbers. Utilizing her social capital, Susan arranges for Stephanie to work in a children's home in Bogotá as a way to demonstrate that she is not just some "rich kid" who is well traveled. Susan, while not fully on board with "conniving and contriving," nevertheless actively intervenes in order to ensure that her daughter "stands out" to admissions officers.

Dubbed a "poster parent" (to Lois) in relation to parental over-management of the admissions process, Donna Kenney notes the following:

Donna: I don't know how many other parents feel this way, or who you (Lois) already talked to, but it was really hard to get the kid to focus and to get off of their rear ends and pay attention to it (the college process). So I was doing all the stuff on the Internet, and before we would plan a trip we would figure out which schools and which we could handle on a (college visiting) trip. And there were schools we had to eliminate because we couldn't get to all of them. And then, I do sheets with getting the most important information. I get language about their Anthropology Department, whether they have them, whether there is squash. At some point, she seemed interested in sororities. We wrote down whether they had them and what percentage (join), so that we could see at a glance as she was going through. Then we would have information on how to find the admissions offices at each school and directions, and then Jeremy (husband) would take it and MapQuest …you know….

Donna: I think… for me … it has been a little bit of a nail biter (laughter). I would tell you that we have kept hands off with helping with any schoolwork, but we changed that process with the college thing. We read her essays and we realized she needed help. It sounded like people, when she finally let us read them, she was keeping them close, because one of her essays was about us, and in it she took a lot of poetic license and made me look kind of foolish and it was not true…

Lois: Have you had any frustrations with the way the school handled this? It sounds as though you did an immense amount of work?

Donna: I did. The school should have done more, they—they being Jeremy (husband) and Brianna (daughter)—they kept telling me to back off a bit, but it had to get done. We had to organize it.

The Larkins, Kenneys and Mr. Tomlinson, are all engaged heavily in the postsecondary preparation and application process, far more heavily than the school desires. Ron Tomlinson is a class outsider. The Larkins are outsiders to the U.S. postsecondary admissions process, having only had experience with a European system prior to moving to the U.S. 12 years ago. Two aspects appear to drive Donna Kenney's intense management of Brianna's process. On the one hand, she is not entirely happy with the level of assistance provided by the Matthews college counselor. On the other, her own college choices had been quite limited as she was sent to a private

women's college that she found only minimally appealing, and she wants to ensure that her daughter's experience is different. In all cases, however, the heavy-handed drive towards college admissions must be understood as located in highly altered economic context and the re-stratification of the U.S. postsecondary sector.

While the parents discussed in the previous examples express their motivations somewhat differently, they all feel the necessity to take a *very* strong hand in positioning their children for the postsecondary entrance process and, in fact, to "drive the process." Despite the counselor's sustained edict to be more "hands off," parents in this sector are in fact deeply involved every step of the way, from helping their children to conceptualize and carve out "distinction" *as an applicant*, to proofing college essays, planning and executing road and/or plane trips to visit potential colleges, and weighing in and facilitating final decisions once accept, reject and wait-list letters are received. The receipt of final dispensations from the colleges/universities involves a *second* full round of college visits, where students generally spend several days at each college that offered them admission, perhaps attending an "Admitted Students Program." Although designed primarily for admitted students, wherein each institution attempts to maximize its "yield" in the current admissions cycle, parents inevitably hover in range of the school, preparing to "grill" their children as to pluses, minuses, and generalized thoughts with regard to "their decision."

The above scenario is clearly predicated upon a certain level of parental privilege – which, as I suggest here, in a sector comprised of schools like Matthews, is exacerbated by the normalization of a set of college positioning strategies within the given space – *and* an ability to actualize social and cultural capital in relation to the postsecondary linking process. Rather than constituting any kind of exceptionality, then, Matthews Academy stands as representative of a sector of secondary schools wherein such class processes are now etched into the fabric of the institution, becoming normalized among those families who attend them. It is certainly the case that such privileged capital is linked to parental educational attainment, as parents who are not highly educated would be less likely to be able to engage this process as normative or leverage the necessary resources. However, the space itself also presses towards particular kinds of moves with regard to "class positioning," and what *comes to be seen as normative parental engagement* in the college admissions process.

We see this clearly in the example of Ron Tomlinson. While the planning and execution of college visits rests on parental time and money, which allow parents to accompany their children on expensive visits and to dig through the myriad of admissions and testing materials that now characterize admissions procedures at highly selective institutions, simple possession of such capital is not enough, as capital must be conceptualized and "activated" as an investment in their children's postsecondary options (Lareau 2000). The activation of such capital in particular kinds of ways becomes more or less normative in particularly located secondary schools. At Matthews Academy, this means that class anxieties play out in such a

way that parents turn over one and a half years of their own time during their child's secondary school to preparing for and engaging the college admissions process. In so doing, they study the current terrain of college admissions, with an eye towards explicitly actualizing their children's possibilities in relation to the process. Available capitals define this group to be sure, but such capitals must be explicitly and continually activated in the service of their children's future.

Concluding and a Brief Note on Gender

I have argued in this chapter that underneath massive shifts in the global economy as accompanied by marked intensification of inequalities of income and wealth and intensified stratification of the U.S. postsecondary sector, privileged parents and students mobilize every bit of cultural, social and economic capital to carve out *distinction* in the college admissions process. This is engaged with an eye towards new and/or continued privilege for their children via admission to particularly located postsecondary destinations. Although the social and economic terrain has changed for everyone in the United States, a particularly located slice of the historically forged broad-based middle class is activating any and all intellectual, economic and personal capitals to lay the groundwork for the construction of what will arguably be a new upper middle class of the twenty-first century (Weis et al. 2014). The particular role that gender plays in such class construction is worthy of comment, and I briefly consider this here.

Although largely uninvited and even, at times, denigrated by the school, the self-embraced "class work" chronicled in this chapter in relation to the postsecondary admissions process in privileged secondary schools is, in fact, largely "mother work," comprised of a set of intellectual and practical actions and activities that often, although not uniformly, sit side-by-side with high level professional and managerial commitments among women. Although Ron Tomlinson spends a great deal of time engaging the college admissions process with respect to his son, his high level day-to-day involvement stands as exception rather than the rule, as data suggest that most of this work is engaged by mothers. This renders mothers who are themselves often high level professionals or managers, the metaphoric CEO of the college admissions process. Although fathers certainly participate in this process and go on virtually all college visits that have been arranged by mothers, they generally script themselves as having to worry about "paying for it," rather than taking full or even primary responsibility for all aspects of the intricate planning process.[10]

[10]This point holds for all school sites in the broader study. In only one case at each school under consideration is the father the primary driver of the process. In one case (Ron, as reported here), the father is divorced and is the primary caregiver, with the mother wholly uninvolved in the college process. In the other two cases, one father is retired and the mother continues to hold professional positions, and in the other, while both parents are immigrants with professional jobs, the father's job is of higher-status, and he feels the need to drive the process. To be clear, we have no reason to lodge any kind of critique at fathers' role. Figuring out how to cover the costs of soaring

As such, the actual parental work involved in class warfare over postsecondary admissions is highly gendered, reminiscent of Ball and Vincent's (2006) work on middle class women's role in child care and school choice in the UK.

This particular moment of deepening and re-configured "mother work" as it plays out with regard to struggles over class advantage is, of course, quite ironic, given that women across race/ethnicity were locked out of top institutions, particularly the iconic top Ivies, for well over two centuries. Now centrally located in newly conceptualized and enacted "class warfare," women take the lead in positioning *both* their sons and daughters for class advantage in a context where such advantage and the intergenerational transmission of class privilege, can no longer be assumed via attendance at privileged secondary schools. Rather than reflective of any particular historic form of patriarchy and attendant relationships and responsibilities in home and workplace, the stark insertion of gender and gendered labor into new class processes and productions arguably and fundamentally alters the fulcrum of class struggle and "class warfare" as it takes shape in the current historic moment. Where men comprised the center of class analysis and class struggle of the not too distant past via industrial workplace conflicts and/or accumulation and management of economic capital, it is now women, via the kind of class positioning we see here, who arguably sit at the epicenter of new class productions, formation, and outcomes. This sets the stage for future important work on gender and class productions for differentially positioned class fractions in the twenty-first century.[11]

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postsecondary attendance is, in fact, increasingly difficult. The point here is that it is likely that this particular form of "class work" is highly gendered, with mothers engaging the majority of the planning and execution of actions and activities that are seen to be increasingly necessary to maintain advantage.

[11] Although space does not allow further discussion of this issue in this chapter, we explore this issue somewhat more fully in Weis et al. (2014).

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Part IV
Counter-Trends

Chapter 15
Humboldt Meets Schumpeter? Interpreting the 'Entrepreneurial Turn' in European Higher Education

Rómulo Pinheiro

Introduction

In Europe, but also elsewhere, there is increasing interest, amongst policy and scholarly circles, in the role of the university in the economy/society. The traditional notion of university systems as relatively *de-coupled* from external events and dynamics has gradually been replaced by increasing external expectations for addressing the demands of various stakeholders. Against the backdrop of the competitive challenges brought by the rise of a knowledge-based economy, there has been a new impetus towards modernizing (European) universities. The aim for this chapter is twofold. First, it will take stock of the phenomenon associated with the rise of entrepreneurialism in higher education. And second, it will cast critical light on the sustainability of the entrepreneurial university model, as presented in the existing literature, as a means of resolving the tensions or dilemmas facing contemporary European universities.

The chapter is organized around five main sections. Following the introduction, the chapter revisits the notion of the multiversity. It then moves to cast light on the rise of entrepreneurialism in European higher education. The chapter then illuminates a set of inter-related dilemmas facing universities,[1] and discusses

[1] It is worth noting that there are significant differences amongst universities across Europe, aligned with the historical models. Some (Central and Southern Europe) followed the Napoleonic model, with its emphasis on general education and the separation of teaching and research. Others (Northern Europe) adopted key features emanating from the Humboldtian model of university, centered on the teaching-research nexus and considerable academic autonomy. In the UK and Ireland, the influence of Newman meant that increasing focus was attributed to the transmission of knowledge (teaching) and liberal education. The North American university is characterized by the

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them in light of the entrepreneurial model. Finally, the chapter concludes by suggesting possible avenues for future research.

The Multiversity, Revisited

The term *multiversity* (Kerr 2001) has often been used in order to characterize the 'ambiguity of purpose' and internal complexity inherent to the modern university (cf. Pinheiro 2012a). Writing in the early 1960s, Clark Kerr drew attention to the emergence of a new social phenomenon embodied in a new kind of university, characterized by its pluralistic orientation. According to Kerr, a multiversity differs from the classic conception of the university since it is characterized by a multiplicity of *purposes* and *centers of power*, in addition to serving a variety of clienteles (2001: 103). One of Kerr's original aims was to call attention towards the fact that what had once been a *community* (of like-minded individuals) was now more like a city, a "city of infinite variety" (p. 102).

Krücken et al. (2007) contend that Kerr's notion of the multiversity challenged the classic nineteenth century "idea of the university" promulgated by either Wilhelm von Humboldt (Nybom 2003) or Cardinal Newman (Newman 1999). Inspired by the humanistic tradition, the former conceived of the university as a place for character formation and self-cultivation (*Bildung*), with a strong emphasis given to the teaching-research nexus and the degree of autonomy enjoyed by the academic staff. In contrast, Newman conceived of the core function of the university as being the *transmission* (rather than the advancement) of universal knowledge.

Following the lines of neo-institutional theory (Powell and DiMaggio 1991), Krücken and colleagues contend that whereas Kerr's multiversity was embedded on the contextual circumstances facing North American research universities (c.f. Geiger 2009), nowadays there is a worldwide trend towards the multiversity phenomenon. This, they argue, is being shaped by *globalization* trends in higher education which are resulting in the transformation of national higher education systems and individual institutions alike (King et al. 2011; Marginson et al. 2011). Yet, contrary to what is advocated by proponents of world society theory (Drori et al. 2006; Meyer et al. 2007) suggesting the widespread adoption of a universal template leading to *homogenization*, Krücken et al. take into account variations resulting from the local adaptation or translation in light of contextual circumstances (Czarniawska-Joerges and Sevón 2005; Gornitzka and Maassen 2011; Pinheiro and Stensaker 2014).

seeming combination of the aforementioned features (latter two models) combined with the pragmatic character of American society, including its outreach mission (consult Ridder-Symoens 2003; Rüegg 2004; Jencks and Riesman 2002).

> The 'new multiversity' emerges because universities all over the world devise diverse solutions in the face of global trends that may appear standard, but that are never standardized in their effects, as they are *adapted*, *incorporated* or *resisted* by universities that are ultimately rooted in particular times and places. (Krücken et al. 2007: 8; emphasis added)

Studies from Europe suggest that even in highly regulated binary higher education systems, where particular missions are allocated to specific types of higher education providers, there is a general tendency for all institutions to take on a multiplicity of functions or missions (Kyvik 2009; Kyvik and Lepori 2010; Taylor et al. 2008). This basically means that there is an inherent tension – which has not yet been adequately addressed in the literature – between convergence towards a specific universal template which is ahistorical in nature (Ramirez et al. in press), and the need to develop a distinctive institutional profile and/or identity that takes into consideration historical trajectories (Krücken 2003) and institutionalized or taken for granted local norms, values and traditions (Pinheiro et al. 2012a).

The Entrepreneurial Turn in European Higher Education?

The first academic reference to entrepreneurialism in higher education dates back to the early 1980s when Henry Etzkowitz, an American sociologist, published an article about entrepreneurial orientations amongst North American scientists and universities (Etzkowitz 1983). It focused on the commercialization of research findings and the apparent shift, in US academe, from conceiving of science as a *public good* to be enjoyed by many towards that of a *private commodity* to be exploited by a few. Etzkowitz's insightful accounts point to financial stringencies as the primary driver for the adoption of entrepreneurial endeavors amongst US academics. Yet, the author goes one step further by suggesting that something else is at stake, namely; a fundamental shift in traditional academic postures and values, a thesis that was corroborated by subsequent inquiries (Gumport 2000; Slaughter and Leslie 1997; Slaughter and Rhoades 2004). What is more, Etzkowitz attributes this change in the *scientific ethos* (Merton 1979) of North American academics to the endogenous nature of scientific work, particularly around the development of team- and result-oriented research.

> In some respects, research groups in universities have become "quasi-firms", continuously operating entities with corresponding administrative arrangements and directors of serious investigations responsible for obtaining the financial resources needed for the survival of the research group. The specialisation of labour in scientific research, the increasing use of highly specialised and complicated equipment, the pressure to produce results quickly to ensure recognition and continued financial provision have changed certain aspects of scientific activity. (Etzkowitz 1983: 199)

A recent (August 7, 2015) google search on the term 'entrepreneurial university' delivered 6.7 million hits; 813 thousand in google-scholar, of which 80 % are since 2011. Similarly, Web of Science identified a total of 108 scientific articles with the term in the title in the 30-year period 1982–2011. Whereas the average number of

articles in 1990 and 2000 was two, by 2011 this figure had increased eightfold. The average annual number of citations in the last 30 years was 36, with the seminal work by Etzkowitz leading the way with close to half of all citations (Etzkowitz 1998, 2003; Etzkowitz et al. 2000). By far, the single most cited title on the topic (google scholar) relates to the rise of the phenomenon of 'academic capitalism' (Slaughter and Leslie 1997). Etzkowitz and colleagues refer to the famous 'triple helix' of university-industry-government relations as illustrative of the types of mutually reinforcing and beneficial relationships amongst public and private sectors within the context of a knowledge-based society (Etzkowitz et al. 2000; see also Etzkowitz 2008).[2] On the basis of empirical evidence from *four* continents the authors conclude that:

> It appears that the 'entrepreneurial university'[3] is a global phenomenon with an isomorphic developmental path, despite different starting points and modes of expression. (Etzkowitz et al. 2000: 313; see also Etzkowitz et al. 2008)

The first traced publication referring to entrepreneurial behavior at a European university dates back to the early 1990s when Maassen and van Buchem (1990) described how the leadership structures at the University of Twente in the Netherlands turned an institutional crisis into a strategic opportunity. The result was the reinvention of a relatively marginalized regional university into a dynamic and innovative academic establishment. Such "success cases" were later popularized by Clark (1998) whilst describing how a group of mid-size European universities located in relatively peripheral geographies were able to overcome institutional constraints and paralysis.

> Pushed and pulled by enlarging, interacting streams of demand, universities are pressured to change their curricula, alter their faculties, and modernize their increasingly expensive physical plant and equipment – and to do so more rapidly than ever […] In traditional European settings, enterprising universities are places that actively seek to move away from close governmental regulation and sector standardization. They search for special organizational identities; they risk being different; they take chances in the 'market'. They adhere to the belief that the risks of experimental change in the character of universities should be chosen over the risks of simply maintaining traditional forms and practices. (Clark 1998: xiv)

Clark's investigations reveal *five* distinctive features characterizing entrepreneurial behavior amongst academic institutions throughout the 'old' Continent, namely:

- A strengthened *steering core*; substantiated on strong leadership structures at both the central and sub-unit levels;
- An *expanded developmental periphery*; linking-up with external organizations and groups (partnerships);
- A *diversified funding base*; reducing the financial reliance from government;

[2] The triple helix has been the target of major criticism, inter alia, for paying little attention to national contexts and other social settings (Cai and Liu 2015: 1)

[3] Consult Mora and Vieira (2009: 82) for definitions of entrepreneurial university in a strict- and broad- sense.

- A *stimulated academic heartland*; with actors at the level of the various sub-units receptive towards a new set of values and enterprising orientations;
- And finally, an *integrated entrepreneurial culture* acting as the basis for a distinct organizational identity and market reputation (Clark 1998: 137–44).[4]

More importantly, Clark warns against the idealization of one particular feature while referring for the need to approach the university as a *system* (consult Birnbaum 1988) by paying close attention to the transformative synergies emerging out of the interaction amongst the above (five) elements. In his sequel, titled "Sustaining Change", where the analysis is expanded beyond the European Continent, Clark (2004) concludes:

> "The key seems to lie in *mutually supportive interaction* among the elements. As interaction becomes institutionalized, producing a new 'natural' state of affairs, the university acquires a steady state that presses for continuing change. New combinations of interest groups take the stage; new sunk costs become embedded. The changed organization is both stable and mutable." (Clark 2004: 47–8; emphasis added)

Following Clark, a number of other social scientists have attempted to empirically operationalize the notion of entrepreneurialism in higher education. For example, Benneworth (2007) shows how, in England, the construction of Newcastle as an entrepreneurial university encompassed bringing a group of outsiders in order to initiate and stimulate changes in an organizational culture that was seen as *risk-averse* and *dysfunctional*, albeit the presence of some entrepreneurial capabilities across the academic heartland. Similarly, Pinheiro and Stensaker (2014) take stock of the structural and cultural changes set in motion by central leadership structures within universities in Northern Europe, shedding light on processes of localization or *adaptation* of the global model of the entrepreneurial university (see also, De Carolis 2014; Ferreira et al. 2006; Gibb et al. 2013; Mok 2013; Nelles and Vorley 2008; Shattock 2009; Van Looy et al. 2004; Vorley and Nelles 2012).

Scholars have also started to shed light on the potential impediments to university entrepreneurialism. These include: (a) *legal barriers*, like the civil servant status of academics; (b) *mental barriers*, associated with conservatism, groupthink and the 'traditional' ivory tower syndrome; (c) *resource constraints*, such as the lack of personal incentives; and (d) bottlenecks associated with problems of *assessment*

[4] It could be argued that, to a certain degree, Clark's core dimensions are rather arbitrary and that they do not necessarily reflect the current dynamics across most European (and US) universities where: the bulk of funds still emanate from the public purse; the central administration (strategy) is still rather decoupled from the real life of academic units; and that the periphery is increasingly becoming an integral part of the core – or at least it exercises a negative influence on core tasks, e.g. as regards research priorities, cultural fragmentation, etc., as indicated by much of Sheila Slaughter's work. What is more, Clark's "successful" European case studies were carefully selected in the light of the aforementioned features, and in a number of circumstances universities became entrepreneurial due to the lack of viable alternatives (Stensaker and Benner 2013). That said, it is undeniable that Clark's insights have had considerable influence amongst institutional managers and scholars alike when it comes to filling the abstract notion of the entrepreneurial university with meaningful content, not least as an aid to strategic agency (cf. Pinheiro and Stensaker 2014).

and measurement, with entrepreneurialism often conceived as a "moving target" (Lambert 2009: 149–50).

While investigating developments across the European continent in the period 1994–2004, Shattock (2009) reveals that the gradual movement towards the entrepreneurial model at state-funded universities in countries like Russia, Poland, Sweden, Spain, and the UK, is part and parcel of significant changes in the institutional and technical environments in which universities operate, particularly at the domestic level. Amongst other things, it is concluded that full institutional autonomy (consult Schmidtlein and Berdahl 2005) is a *necessary* condition for universities to become entrepreneurial, yet not a *sufficient* one. Furthermore, this rather comprehensive comparative study contends that:

> "Universities become entrepreneurial for a variety of different reasons – dynamic leadership, financial shocks to the system, a sense of regional isolation, a response to local economic pressures, or the leverage exercised by certain kinds of funding systems. But it remains the case that the bottom-up drive of individual 'academic intrapreneurs' also represents a key factor in motivating institutional entrepreneurialism. An institution may not be entrepreneurial overall but may have distinctive entrepreneurial enterprises within it." (Shattock 2009: 204)

Discussion: How Sustainable Is the Entrepreneurial University Model?

Studies from various corners of the world suggest that a process of *convergence*, by this it is not meant *homogenization,*[5] is currently under way (Etzkowitz et al. 2008; Shattock 2009; Temple 2011), illustrated by the gradual but steady move towards the entrepreneurial model by 'classic', research-intensive universities (Geiger and Sá 2008; Lawton Smith and Ho 2006; Mohrman et al. 2008; Powell and Owen-Smith 2002). Mohrman et al. (2008) shed light on the above phenomenon whilst referring to the so-called *Emergent Global Model* (EMG) of the research-intensive university in the twenty-first century. The former is characterized by a number of key features that, until recently, have been strongly associated with more innovative or entrepreneurial academic entities, namely; a diversified funding-base (Clark 1998) and new relationships with external actors across public and private sectors (Etzkowitz and Leydesdorff 2000) as well as the larger surrounding community (Benneworth 2013; Soska and Butterfield 2005). A number of studies have described how national research universities are both *adopting* and *adapting* key features associated with entrepreneurial universities in light of their unique historical trajectories and specific circumstances (Beerkens 2010; Mohrman 2008; Mok 2013;

[5] As alluded to earlier, it is in this respect that neo-institutionalism perspectives on the rise of the entrepreneurial university across the world are short-sighted, since, as it will be demonstrated here, the local adoption of key features associated with the former model has a tendency to foster rather than constrain heterogeneity, i.e. they result into *polymorphic* rather than *isomorphic* tendencies.

Pinheiro and Stensaker 2014), thus suggesting that path-dependencies (Krücken 2003) and context (Kehm and Stensaker 2009) do matter.

These developments suggest that the entrepreneurial model is increasingly seen as a legitimate template (Deephouse and Suchman 2008) for organizing activities across the *organizational field* of higher education (c.f. Kyvik 2009). Having said that, we would argue that the entrepreneurial model, as is presented in the literature, is far from being a solution for all the problems facing modern universities in Europe or elsewhere (see Baker and Lenhardt 2008; Brint 2002; Ritzen 2010). The adoption of selected entrepreneurial features by universities the world over has indeed the potential for addressing a number of pending problems, for example when it comes to *resource dependencies* (Pfeffer and Salancik 2003) associated with the scarcity of funding (see Lepori et al. 2007). Yet, at the same time, we contend that the adoption/adaptation of entrepreneurial features at the levels of central *steering core* and *academic heartland* (Clark 1998) may result into new internal tensions and dilemmas given the distinctive structural and cultural features characterizing the university both as an organizational form (Musselin 2007) and rather autonomous social or *fiduciary* institution (Maassen and Olsen 2007; see also Pinheiro et al. 2012a).

Given this, and inspired by an earlier analysis undertaken by Norwegian political scientist Johan P. Olsen (2007) we conceive of the sustainability of the entrepreneurial paradigm in higher education has being intrinsically dependent upon its ability to help solve *four* main tensions or dilemmas that lie at the heart of the modern European university. Each one of these tensions is linked to what is considered to be a critical element defining the university both as a functional way of organizing academic work (Clark 1983) as well as a set of rules – both formal and informal – affecting the behavior of its participants, particularly academic communities (March and Olsen 2006b; Merton 1973), namely: (a) historical trajectories and institutional legacies; (b) resource-dependencies and the degree of external control; (c) formalized structures, work arrangements and power allocation; and (d) institutional character and integrity, linked to the notion of a distinctive organizational-culture and identity. The successful resolution of the aforementioned dilemmas can best be described around the desire, by university managers, for achieving a balance between the following dilemmas:

- *Change or self-renewal* vs. *continuity or stability*; as related to path-dependencies and institutional legacies (Pinheiro 2012c; Tapper and Palfreyman 2011);
- *Public* vs. *private (for-profit) knowledge regimes;* as associated with resource dependencies and the degree of external control (Covaleski and Dirsmith 1988; Slaughter and Cantwell 2012);
- *Unity of action* vs. *individual freedom;* linked to formalized structures, work arrangements and the power re-distribution (Pinheiro and Stensaker 2014; Ramirez 2010);
- *Unity of purpose* vs. *multiple identities and accounts*; as pertaining to a shared sense of identity (Fumasoli et al. 2015; Stensaker 2015).

Below, we explore, briefly, each one of these tensions or dilemmas in more detail.

Change Versus Continuity

As is the case with other social institutions, higher education systems in general and universities in particular require a certain degree of continuity while simultaneously adapting and responding to emerging demands emanating either from the inside or the outside (Rothblatt and Wittrock 1993; Tapper and Palfreyman 2011). Ongoing attempts at transforming the university into a more complete organizational actor, i.e. a rationally-design entity capable of defining a course of action (around strategic goals) and of being accountable for its own behavior (Krücken and Meier 2006; Whitley 2008), not least to external stakeholders like funders (Benneworth and Jongbloed 2010), are likely to encounter resistance by the academic heartland when such 'modernizing' efforts are perceived, rightly or wrongly, as threatening deeply-entrenched and widely shared values, norms, identities and behavioral postures. These latter dimensions are intrinsically associated with the notion of the university as an autonomous *institution* characterized by a life of its own (Olsen 2007; Trow 1970). Institutional scholars remind us that institutions – i.e. formal and informal rules affecting the behavior and actions of social participants – are defended by *insiders* and validated by *outsiders*, and that since "their histories are encoded into rules and routines, their internal structures and rules cannot be changed arbitrarily." (March and Olsen 2006a: 7)

In his seminal studies of entrepreneurial universities in Europe and beyond, Clark (1998, 2004) concludes that a key *success factor* is the direct involvement of the academic heartland in processes of internal change and self-renewal, with reform processes driven from the top-down (by the central steering core) and lacking the consent of academics facing the danger of being rejected or ignored (see also Gornitzka 1999; Oliver 1991; Tuchman's chapter, this volume). While referring to one of his European case studies, the Chalmers University of Technology in Sweden, Clark states that:

> The *idea* that the institution should become an entrepreneurial place was openly and strongly voiced in both the *academic heartland* and the central part of the *steering core* as early as 1980, when the campus's leading professor, backed by the rector and the administrative director, announced his total devotion to 'innovation' and started up an Innovation Center, a step that led in time to the building of a multi-sided extensive development periphery. (Clark 2004: 61; emphasis added)

A distinctive feature of the entrepreneurial paradigm lies on the re-allocation of formal power and authority from individual academics, as it used to be the case across most European countries (Clark 1983), to leadership structures or *steering core* at both the central and sub-unit levels (Clark 1998: 5–6; de Boer and Goedegebuure 2009). This factor alone tends to exacerbate existing internal tensions and volitions, particularly when the members composing the academic heartland subscribe to the idea or *vision* of the university as a 'representative democracy' (de Boer and Stensaker 2007; Tapper and Palfreyman 2010). Even in national systems characterized by strong hierarchical arrangements or power asymmetries, as is the case of Southern Europe, academic audiences are reacting negatively to ongoing

attempts aimed at centralizing decision making procedures and at making the university more like a 'normal' organization akin to the managerial structures found in firms (Santiago and Carvalho 2008). This new state of affairs – which is laden with tensions and contradictions (Santiago et al. 2006) – is characterized by attempts at devising a clear 'chain of command' with academics seen as *implementers* rather than the *architects* of long-turn strategic decisions affecting their individual sub-units and/or the university as a whole (for a recent account, see Pinheiro 2012a).

Public Versus Private Knowledge Regimes

In the literature, entrepreneurial universities are often characterized by their willingness to engage with a wide variety of external actors, many of whom have the commodification or commercialization of knowledge as the leitmotiv for engaging with academe (Geiger and Sá 2008; Powell and Owen-Smith 2002). The institutionalization of a 'spirit of entrepreneurship' across the board (Clark 1998; Etzkowitz 2001) implies that academics themselves are now expected to take pro-active efforts in the economic exploitation of knowledge (Slaughter and Leslie 1997). Given the traditional public orientation of academic systems in Europe (and most other countries as well), this transition is giving rise to new internal tensions and volitions (Benneworth et al. 2014; Marton 2005; Pinheiro et al. 2012b).

Despite vast evidence – from Europe and beyond – suggesting that academic communities are increasingly willing to engage with external actors like industry (for a recent review consult Perkmann et al. 2013), major concerns with respect to the commodification of university-generated knowledge remain (Pinheiro 2012a; Slaughter and Rhoades 2004). In an essay titled "*Universities and Knowledge*", as part of a broader discussion on the future of the university in North America, Gumport (2002) sheds light on the clash of institutional logics (c.f. Thornton and Ocasio 2008) between the university as a *social institution* (multiplicity of goals and functions, traditional academic ideals, etc.) and *industry* (focus on resources, efficiency, competitiveness, etc.), and the worry that, over time, market forces will redefine public higher education as a *private* economic benefit rather than a *public* good (see also Deem 2001; Slaughter and Cantwell 2012; Slaughter and Leslie 1997; Slaughter and Rhoades 2004).

Studies from Northern Europe report that the normative boundaries of the university seem to be in tremendous flux. Yet, this does not necessarily imply that academics have fully embraced the 'logic of the marketplace', at least as far as the production and transmission of knowledge is concerned (Benner and Sandström 2000; Marton 2005); or that change processes are unproblematic per se (Pinheiro et al. 2014a; Weiler 2005). For example, Pinheiro (2012a, c) provides recent evidence suggesting that, in spite of increasing pressures for generating additional revenues, academic groups based at universities throughout Northern Europe, including those characterized by an institutionalized *entrepreneurial ethos*, still have some reservations when it comes to the commercial exploitation of academic-generated knowledge.

Undoubtedly, the entrepreneurial paradigm in higher education presents tremendous opportunities to re-balance external dependencies and to enhance the levels of autonomy and control over internal operations and activities (Pfeffer and Salancik 2003). That said, the emphasis placed on external dynamics and the shifting demands of various stakeholder groups pose a potential threat to both institutional- and individual- (scientific) autonomy (c.f. Schmidtlein and Berdahl 2005), thus increasing the risks of *co-optation* (Selznick 1966).

> "A challenge for the University is to balance between the Scylla of being seduced and the Charybdis of being abandoned and at the same time defend its identity and integrity. Potential contributors of funds, and the population at large, have to be convinced that it is worthwhile to support the University in the future." (Olsen 2007: 51)

Finally, the adoption of an entrepreneurial 'label' (Huisman et al. 2002), even if only symbolically/rhetorically (see Meyer and Rowan 1977), often leads to the unfounded myth that financial support by external patrons is a mere formality.

Unity of Action Versus Individual Freedom

Clark (1983: 75) observes that, "under the steady pounding of larger scale, greater specialization, and multiplying complexity" higher education systems have a natural tendency for symbolic *disintegration*. Such developments have also been documented as occurring within universities themselves, to a large degree due to the *loosely-coupled* nature of their internal structures and activities (Birnbaum 1988; Pinheiro and Trondal 2014). By fostering rationalization (Ramirez 2010) and centralization (Clark 1998), the entrepreneurial paradigm promises to enhance *task-integration* (coupling), thus, it is argued, increasing universities' ability to more efficiently respond to emerging environmental demands (Etzkowitz et al. 2000). However, by doing so, two additional dilemmas come to the fore. The first pertains to the notion that individual freedom at the level of the academic heartland is, as a result, curtailed, e.g. around the choice of research topics. Recent studies across the Nordic region point to the rise of new internal tensions – across the heartland – resulting from the predominance of 'strategic science regimes' (Rip 2004) driven by funding agencies and universities' central steering cores (Pinheiro 2012a, c; Pinheiro et al. 2014a).

An additional dilemma relates to the assumption that enhanced structural integration through a *tighter coupling* amongst sub-units and their respective activities will automatically result in a faster speed of response to emerging (market) demands (Pinheiro et al. 2014b). Over the years, social science scholars, including higher education researchers (Birnbaum 1988; Hölttä and Karjalainen 1997), have suggested that *loose-coupling* is advantageous in situations characterized by increasing complexity and ambiguity as it allows different sub-units to sense their environments and respond accordingly, even if this means increasing the overall levels of *disintegration* across the board. Ironically, by strategically attempting to more closely

integrate university structures and activities in order to foster 'unity of action', universities' central steering cores may instead end-up *curtailing* rather than enhancing the ability of the organization as whole to more efficiently respond to unforeseen external events. This is related to the fact that loose coupling has the potential for increasing organizational redundancies or slack, and these are seen as critical in universities' abilities to respond to, and bounce back from, disruptive (internal and external) events and circumstances (Pinheiro and Trondal 2014; for a similar discussion focusing on 'university resilience' consult Karksen and Pritchard 2013).

Unity of Purpose Versus Multiple Identities and Accounts

It is widely acknowledged that universities are composed of a variety of *sub-cultures* (Becher and Trowler 2001; Clark 1983). One of the consequences is that, traditionally, it has been rather difficult to articulate, in concrete terms, what the core purposes or functions of universities really are (c.f. Castells 2001). Internal actors hold different (often conflicting) conceptions of what the role of the university and academics in society/economy ought to be (Benneworth and Jongbloed 2010), and, consequently, what types of internal activities shall be prioritized and financially supported (Rip 2004). One of the chief aims of the entrepreneurial model is to address this cultural fragmentation by attempting to create a sense of *common purpose* and *shared identity*. This is done by infusing a 'culture of entrepreneurialism' throughout the entire university, not least across sub-units composing the academic heartland.

> "Entrepreneurial universities become based on entrepreneurial departments – dynamic places attractive to faculty, students, and resource providers." (Clark 2004: 176)

In reality, however, this is easier said than done. A major dilemma pertains to substantial differences in knowledge structures (Pinheiro et al. 2012c) and the valorization of certain forms of knowledge by influential external stakeholders such as industry and funding agencies (Benneworth and Jongbloed 2010). Earlier studies show that, generally speaking, an enterprising orientation tends to be easier to initiate and sustain amongst *harder* and more *applied* academic fields like science, technology and medicine when compared to the *softer* domains of the social sciences, the arts and the humanities (Owen-Smith et al. 2002; Powell and Owen-Smith 2002). Albeit the fact that such repositories of additional resources aid science (and the knowledge-based institutions like universities) more generally, such a situation also has the potential for creating winners and losers, further contributing to cultural fragmentation and, in the case of universities specialized in softer fields or located in the geographic periphery, institutional decline and marginalization (Nedeva 2007; Pinheiro 2013; see also Clark 1968).

Notwithstanding, an additional dilemma needs to be addressed by the central steering core. This is particularly the case for those universities rooted in national systems characterized by an institutionalized tradition or *ethos* of *egalitarianism,* as

is the case of the Nordic countries (Gornitzka and Maassen 2011). Studies from Northern Europe (Pinheiro 2012a, c; Pinheiro et al. 2014a) point to processes of local resistance and contestation around internal attempts by the central steering core at *de-institutionalizing* (Olsen 2010) a cultural tradition focusing on equality and cooperation amongst members composing the academic heartland and replacing it – *re-institutionalization* – with an internal ethos where meritocratic behavior and competition are to be celebrated and rewarded instead (see also Kwiek 2012; Trommel and van der Veen 1997: 61). Interestingly, such a phenomenon was also found to occur amongst academic groups associated with so-called 'entrepreneurial universities' (Pinheiro 2012a).

The entrepreneurial paradigm in higher education poses yet another dilemma associated with the search for a distinct *organizational identity*. By adopting the entrepreneurial label, and sometimes the content as well, universities become associated with what is perceived as a relatively homogeneous group of institutions, not in the sense that their structures and activities are all alike, although this may occur due to isomorphic pressures (c.f. Morphew and Huisman 2002; Stensaker and Norgård 2001), but, regarding the fact that, as a group, they all are *enterprising*, *innovative* and *responsive* to the needs of their constituencies and stakeholder groups. In the short- to mid-run, this apparent similarity might deliver tangible benefits when it comes to securing external support or *legitimacy* (Deephouse and Suchman 2008) as well as in tapping into new sources of funding (Geiger and Sá 2008). Yet, in the long-haul, we would argue, it does not necessarily address a fundamental aspect of all organizations, i.e. the need that local participants have of being ascribed a distinct *role* and *identity* (Kondra and Hurst 2009; Ouchi and Wilkins 1985), and, in the process, of feeling that they are somewhat 'special' when compared to their academic peers based elsewhere (see Clark 1972, 1992; Huisman et al. 2002; Pinheiro 2012b). In other words, the entrepreneurial university model seems, at best, to provide a partial solution to the dilemmas associated with the interplay between *mimetic isomorphism* (DiMaggio and Powell 1983) or the need 'to be like the others', and *polymorphic behavior* (Fleming and Lee 2009), substantiated around the natural urge for differentiation and a shared sense of distinct organizational identity (see Fumasoli et al. 2015).

Concluding Thoughts

The rise of the entrepreneurial paradigm in higher education, while tackling some solutions to traditional dilemmas associated with the lack of structural- and cultural- integration (Clark 1983), the multiplicity of goals and functions (Castells 2001), task-ambiguity (Musselin 2007), and resource stringencies and the allocation of funds (Covaleski and Dirsmith 1988), nonetheless leads to a new set of tensions and volitions intrinsically linked with: (a) the university as a distinct organizational form and relatively autonomous social institution (Olsen 2007;

Pinheiro et al. 2012a);and (b) to strategic imperatives like the need to survive/succeed in an increasingly volatile and competitive environment at the local, regional, national and international levels (Kehm and Stensaker 2009; Marginson 2004). Going back to the beginning of this essay, and the notion of the *multiversity* (Kerr 2001; Krücken et al. 2007), it is worth paraphrasing renown sociologist Manuel Castells who contends that:

> The critical element in the structure and dynamics of university systems is their ability to combine and make compatible seemingly contradictory functions which have all constituted the system historically and are all probably being required at any given moment by the social interests underlying higher education policies. (Castells 2001: 211)

Whether the entrepreneurial university will be capable of resolving the tensions and dilemmas associated with conflicting functions, including but not limited to balancing local *relevance* with global *excellence* (Perry and May 2006; Pinheiro 2015)), is undoubtedly an important topic to purse in future empirical investigations within and beyond Europe. In this context, scholars from both sides of the Atlantic could cast empirical light on the ways in which the rise and diffusion (institutionalization) of entrepreneurialism in higher education is affecting internal structures, processes, functions, values and norms, as well as behavioral patterns and academic identities. This could, for example, be done in the form of exploratory qualitative studies focusing on the ways in which, as a *global script* (Pinheiro and Stensaker 2014) or organisational archetype, the entrepreneurial university is being adopted, translated and adapted to specific local circumstances. And, in turn, researchers could take critical stock of observed variations in the light of historical trajectories and developmental paths, resource dependencies, geographic location, field-level dynamics like competition for students, staff and funding, etc.

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Chapter 16
From Privatization (of the Expansion Era) to De-privatization (of the Contraction Era): A National Counter-Trend in a Global Context

Marek Kwiek

Introduction

Polish higher education is radically changing: it is still a dual (public-private), highly differentiated, strongly marketized, and greatly expanded system – but under heavy pressures of declining demographics, it is currently becoming more public, less differentiated, less marketized, and greatly contracted. This unexpected change needs scholarly exploration that puts the Polish trend in wider European and global contexts of higher education change. Since 1989, the system has witnessed a phenomenal rise in the number of public and private (not-for-profit) institutions, and the rise (and fall) in the number of students (from 0.40 million in 1989 up to 1.95 million in 2006 and down to 1.55 million in 2013). Private higher education institutions from the very beginning have been almost fully fee-based and profit-driven (although nominally not-for-profit institutions, in fact most of them operated like large-scale for-profit educational companies employing staff predominantly from public institutions). The unprecedented expansion of the system and the stunning growth in its accessibility and affordability have led to an increase in the share of the labor force with higher education credentials to about the Western European average (24 % in 2012). While we have explored the expansion era of 1990–2005 through the concept of "privatization" elsewhere (Kwiek 2010), the system is now contracting (the private sector in particular). This prompts exploration of the ongoing changes through the concept of "de-privatization."

As a concept, "de-privatization" relates to the theory of academic capitalism in important ways. Research in the tradition of academic capitalism (Slaughter and Leslie 1997; Slaughter and Rhoades 2004) explores the ways in which competition for resources – including but not limited to student enrollments – reshapes university

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operations. A typical consequence of academic capitalist processes is heightened stratification among universities (Slaughter and Cantwell 2012). In the US, where much research on academic capitalism has been conducted, growing gaps between universities have tended to advantage private universities over their public peers. Relative to their enrollments, private universities tend to enjoy higher status (Cantwell and Taylor 2013) and greater resources (Taylor, Chap. 4 in this volume) than do their public counterparts. Poland therefore provides an important counter-example that adds texture to the academic capitalist account, as suggested by the concept of "de-privatization." Because public subsidies in Poland are attached directly to "seats" rather than to research monies (Rosinger, Taylor, and Slaughter, Chap. 5) or tax advantages (Cantwell, Chap. 9), public universities have improved their position as total enrollment has declined and competition for students has increased. This chapter therefore highlights the ways in which state policies can incent competitions in a manner evocative of the quasi-markets that characterize academic capitalism (Taylor et al. 2013) without necessarily favoring private providers relative to their public counterparts.

The expansion from elite to mass to universal higher education in Poland was abrupt and uncoordinated. At the end of the communist period the gross enrollment rate was about 10 % (1989). Drawing on Martin Trow's terminology, 3 years later, the system entered the age of "massification" (15.5 % in 1992). Within the next 15 years, it moved to the age of "universalization" (51.1 % in 2007 and beyond) (Trow 2010a: 86–142). The enrollment rate grew by a factor of 5 in a decade and a half, occurring in a much shorter period of time than anywhere in Western Europe. Expansion had broad public support from the state, academia, and the public at large. The most important drivers of this change were powerful social pressures to make higher education accessible to ever larger segments of society (Bialecki and Dabrowa-Szefler 2009). These included expansion of the population seeking higher education, a new labor market with growing private sector employment that required a more educated labor force (Baranowska 2011; Kogan et al. 2011), a laissez-faire public policy towards the emergent private sector in higher education (which we have termed "the policy of non-policy," in Kwiek 2008), and the willingness of the academic profession to be very involved in the institutional growth of both public and private sectors (Antonowicz 2012; Kwiek 2012a). The emergence of the private sector in postcommunist countries "took the state and society by surprise. This often meant private proliferation amid little regulation" (Slantcheva and Levy 2007: 5; Scott 2007). Change processes in Poland were typical of Central and Eastern Europe, where countries faced similar challenges stemming from the communist legacy. Post secondary education had to move beyond communist conceptions of universities as organizations that should heavily restrict access, be under strong political supervision and tightly coordinated by the state, as well as engaged in redesigning basic social structures towards a Soviet ideal of social justice.

The combination of demand and supply factors led to unprecedented growth of the Polish system. Public institutions used their newly gained institutional autonomy to offer ever more study programs to ever larger numbers of students, in both previously existing tax-based tracks and in newly emergent fee-based tracks (all

full-time studies in the public sector are tax-based, e.g., fully subsidized by the state, in accordance with the Polish Constitution, all part-time studies are fee-based). The absolute size of the system increased greatly, as did the size and numbers of public and private institutions. The post-1989 period has been a Golden age of Polish higher education with regard to mass, affordable access.[1] However, expansion came with a notable cost. The national focus on increasing student numbers came at the expense of the research mission of top Polish universities and the relative decline of national academic research output in 1995–2010, especially in "soft" as opposed to "hard" research fields, when compared with the major Central European systems of Hungary, the Czech Republic and the Slovak Republic (Kwiek 2012a).

The expansion era ended about 2006. The contraction era is expected to last for at least another decade for fundamental, demographic reasons (see Fig. 16.1 below).

In contrast to the European Union and the OECD area,[2] the Polish system is currently both universal (in Trow's terms) *and* heavily contracting. Consequently, the logics underlying public policy in the postcommunist expansion period (1990–2005) inevitably differ from the logics underlying it in the contraction period (2006–2025 and beyond). The key parameter of the ongoing change processes is declining demographics, rooted in a huge decline in the birth rate in the early 1990s.

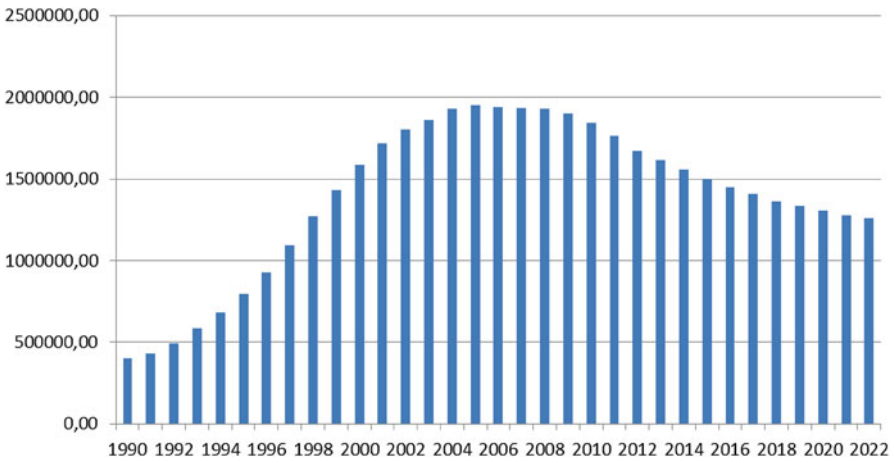

Fig. 16.1 Enrollments in Polish higher education, 1990–2022 (2014–2022 projections) (*Source*: National statistical data for higher education, main statistical office (1990–2013) and MoSHE (2012) for demographic projections (2014–2022))

[1] A recent empirical study based on data from the Polish Household Budget Survey from the 1995–2008 period shows that improvements in access refer to students with low family educational background living outside large metropolises rather than to students from low-income families, Herbst and Jakub 2014: 14, see Kwiek 2013a for a European comparison of access.

[2] Exceptions are Korea and Japan; see detailed projections in Vincent-Lancrin (2008: 97–103), and analyses in Yonezawa and Kim (2008: 199–220) and Huang (2012).

The population of the 19–24 age group is projected to decrease between 2007 and 2025 by 43 % (GUS 2009) and the number of students is projected to decrease from 1.96 million in 2006 to 1.33 million in 2020 to 1.17 million in 2025. The private sector enrollment is expected to decrease almost five times, from 660,000 students in 2007 to 151,000 students in 2022 (MoSHE 2012: 7–8). According to several consistent enrolment scenarios based on national statistical data (Vincent-Lancrin 2008: 45; Antonowicz and Godlewski 2011: 10–14; IBE 2011: 110–11; Ernst and Young 2010: 20), enrolments in Poland in 2025 are expected to fall to 55–65 % of 2005 levels. Thus not only is the expansion era ending, privatization processes prevalent until recently are also in a fundamental retreat, which we explore here in detail.

This paper focuses on what we term "de-privatization" as a local Polish phenomenon, especially with regard to private sector growth and reliance on cost-sharing mechanisms in public sector institutions (Levy 2009; Altbach et al. 2010: 75–84; Johnstone 2012; Johnstone and Marcucci 2010). De-privatizaton may also possibly occur in Central and Eastern European, given declining demographics in Bulgaria, Romania, Slovakia, Estonia, Lithuania and Latvia. De-privatization is a uniquely postcommunist European process today as only in postcommunist Central (and Eastern) Europe has private higher education been on the rise for almost two decades (Kwiek 2013b). Private higher education was stimulated by rapid expansion of access to higher education following the collapse of communism. De-privatization stems from aging populations, marked by dramatically low birth rates since the transition period of the early 1990s. De-privatization is a demographically-driven public-private re-balancing process. Consequently, the current public-private dynamics in postcommunist Europe differ greatly from both Western European and global dynamics. However, Poland may ultimately resemble Western Europe where "normal" has always been predominantly public and free (tax-based) higher education.

Higher Education: From "Privilege" to "Right" to "Obligation". A Brief Historical Context

Three eras of "massification", "maturation", and "post-massification" in the Polish system (Gumport et al. 1997) were collapsed to about 15 years, in comparison with major industrialized economies where these processes took at least three decades. The unprecedented speed of changes in Poland had unintended policy implications. Consistent with what Martin Trow suggested in the 1970s (2010a), conceptions of participation in higher education changed in Poland in the last three decades from a "privilege" of birth or talent (before 1989) to a "right" for those who had certain formal qualifications (after 1990) to an "obligation" for children from the middle classes (the 2000s and beyond). The new universal yet contracting system leads to entirely new policy dilemmas in both funding and governance, ranging from such issues as how to maintain public and private higher education infrastructure with a shrinking student body to how to differentiate between various institutional types and their functions so that current elite institutions (or their segments) can survive

in a universal system. Especially interesting are funding dilemmas in the emergent contracted system: should it follow the global (but not Continental European) trends of private sector growth and increasing reliance on cost-sharing mechanisms, or should it increasingly rely on public funding for students in the public sector, treating (the currently shrinking) private sector as a temporary phenomenon of the early postcommunist transition period? In our view, the private sector – currently a "declining industry" (Porter 1980) – was merely a temporary phenomenon. The Polish state allowed private higher education to flourish in the expansion period to cover part of the rising costs of higher education from the private purse. But from the very beginning, as in communist China of the 2000s, "the private higher education sector was designed to be inferior to the public one" (Wang 2014: 110). The two sectors were never equal partners, and the dominance of public institutions in prestige was always taken for granted.

Under communism, access to higher education was heavily restricted: the entry rate for the relevant age cohort in 1990 was 11 %. Higher education in Central Europe, as opposed to other industrialized nations, was as elite in 1990 as it was in decades past (Kwiek 2011). The basic trait of Polish higher education, as of the whole economy, in the postwar communist period (1945–1989) was central planning. As Jan Szczepanski (1978: 32) stressed in his 1978 country report on Poland, "since education is an integral part of socioeconomic planning and admission to any institution of higher education is, in principle, a guarantee of employment, the government must try to harmonize admissions with the possibilities for graduate employment." According to the stated needs of the national economy, the numbers of admitted candidates for the whole country were set for every type of institution and for every field of studies. Unsurprisingly, in the majority of fields of study (medicine, architecture, construction, engineering, humanities, teacher training colleges, law schools and economics) between 90 % and 98 % of graduates were employed in the fields in which they graduated. The principle of full employment combined with the principle of carefully planned supply of qualified workers within the closed, national labor market was a key factor limiting the massification of higher education under communism

At the same time, universities in communist countries were used by the government as agents of social change, for example to redress social inequality. This was consistent with the idea that all European communist societies were "political societies" (Szczepanski 1974) in which political aims, ideological values and communist parties' targets were fundamental factors in every public decision. For universities, the target was to implement a change in social stratification by changing the social composition of the educated strata. As Jan Szczepanski (1978: 29) described the doctrine, "the social revolution could be completed only if a strata of intelligentsia were educated from the prerevolutionary lower classes of manual workers and peasants. However, the share of students from lower socioeconomic classes was stable, about 20 %, despite the use of a system of "preferential points" among entry criteria, in the 1970s and 1980s." The overall goal of the communist party to have new intelligentsia with roots in working and peasants classes was only partly successful.

The majority of Polish academics in the second half of the 1970s, and especially in the 1980s, became increasingly indifferent to communist ideals. The whole idea of universities as engines for creating new patterns of social stratification was massively distrusted. In part because academics were indifferent to or unsatisfied with communism, after the transition there were no anticommunist purges in the higher education sector but neither did academics cling to the communist ideology. The most ideologically engaged university departments (e.g. political sciences, economics, and philosophy) changed internally, mostly through hiring young academic staff. The problems after 1990 were not ideological but academic: low research focus combined with marginal research performance and high teaching focus, even in top public universities, combined with academic moonlighting in the private sector. Universities became what we termed internally "divided institutions," with different academic attitudes and behaviors in soft and hard academic disciplines, and declining research production in the former (see Kwiek 2012a, 2014a).

With the fall of communism, private higher education in (some) Central European countries, and in Poland in particular, expanded rapidly. Private sector employment in the market economy grew more slowly. However, as salaries in the new private sector economy grew gradually, ever more young people were pushed into higher education. The demand for degrees was growing and, consistently across the region, the wage premium from higher education for Central European countries was the highest in Europe. Currently the Czech Republic, Hungary, Poland, Slovak Republic, and Slovenia have higher wage premiums for all age brackets than the average for OECD and EU-21 countries (OECD 2013: 111–112). Poland's wage premium is the lowest of the five countries because the Polish labor market is saturated with higher education graduates. The private sector of higher education in Poland was forced to operate "around the periphery of the state system of higher education" (Geiger 1986: 107), because the public sector was also expanding heavily. As Slantcheva and Levy (2007: 1) rightly emphasize, "nowhere else has the change been as concentrated in time and as inclusive of so many countries that share a historical legacy. Although private sector growth has been common worldwide, its development across Central and Eastern Europe is more striking in that it comes against the backdrop of at least four decades of communist public monopoly and historically limited higher education enrollment."

From the Distribution of Growth to the Distribution of Decline

The fall of communism started massification and universalization processes that were accompanied by increasing hierarchical differentiation of the higher education system. In Poland, as elsewhere in the region, much of the growth was absorbed by public and private second-tier institutions as well as by first-tier public institutions in their academically less demanding and less selective part-time (and fee-based) studies. Fees were relatively low because of competition between a high number of private and public institutions (between 300 and 400 institutions in the 1995–2005 period of most intensive enrolment growth). Outside of Warsaw, tuition at most

institutions did not exceed 150 USD per month. In 2011, annual average tuition fee for full-time students converted using PPPs was 1242 USD for bachelor programs and 1335 USD for masters programs (OECD 2013: 232). Fee-based participation, which includes all students in the private sector and part-time students in the public sector, was high in the expansion period of 1990–2005, rising from 46.6 % in 1995 to 62.8 % in 2000 and decreasing in 2005 to 58.9 %. In the contraction period, it has been systematically decreasing, to 47 % in 2012, and it is expected to decrease to 20 % in 2022 (MoSHE 2012: 8).

Expansion also took place predominantly in specific fields of study, such as social sciences, economics, and law (see Fig. 16.2 below, drawn separately for the public and private sectors). In the private sector, the share of students in these areas was more than 70 % in 2000, and then decreased, but it is still about a half of all enrolments. These fields were especially popular for both demand and supply reasons. On the supply side, they were cheap to teach and did not require any additional infrastructure or investments, and they were the core of the emergent private sector in terms of study fields offered. On the demand side, for students, not surprisingly, they were relatively easy to study and to complete. In the expansion period, credentials were more important than rigorous content. The question "access to what?" was not publicly discussed until the labor market was relatively saturated with graduates in the contraction period, and graduates faced low but steadily increasing unemployment rates. In the current wave of reforms (2009–2012), the field of study-graduate employment link is increasingly important, with obligatory graduate surveys and tracer studies being gradually introduced at institutional and faculty levels (Kwiek 2014a). In some cases only (business and administration, journalism or marketing), the popularity of soft fields was related to their prohibition or nonexistence under communism. Generally, academics from public institu-

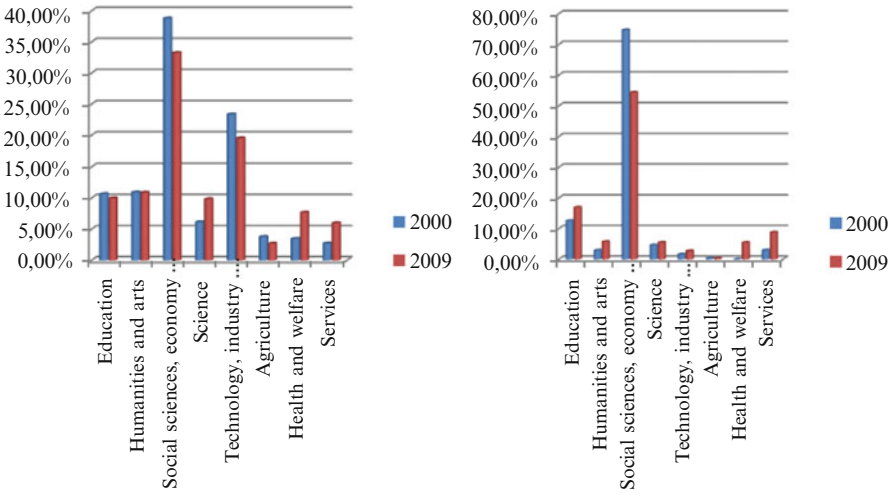

Fig. 16.2 Fields of study: public versus private sectors, 2000 and 2009

tions in soft fields were heavily involved in fee-based teaching in their institutions and in opening, running, administering and teaching in private sector institutions. There were no transitions of academics to the private sector: only a tiny minority (less than a thousand out of dozens of thousands involved) worked only in the private sector. Consequently, until the early 2010s, academic "multiple employment" was a major policy issue and a major, massively defended, academic "right." The phenomenon of "travelling professors" was widely known in other postcommunist countries too.

Polish higher education students can be defined by sectors they come from (public and private) and whether they are fee-paying or tax-based students. Fee-paying students are all students from the private sector (both full-time and part-time) and all part-time students from the public sector. Only those (tax-based) full-time students in the public sector do not pay fees – and it is their number which has been increasing in the last few years The increase of full time students in the public sector is one of the elements of a process which we term de-privatization. Currently, 27 % of students are enrolled in private institutions and 73 % in public institution. At the same time, less than half of all students in both sectors, or 47 %, paid fees in 2012.

The first impact of the current powerful demographic contraction trend is seen through the stagnating, then falling share of fee-paying students in both sectors (combined) beginning in 2006. Going against the global trend of increasing cost-sharing (Heller and Callender 2013), the total number of tax-based students increased throughout the last decade. From 2009 to 2012, this figure grew from 44 % to 53 % (GUS 2013: 59). Admission to public higher education is based on scores in national standardized secondary final exams. The selectivity of public institutions is heavily decreasing in the contraction period because they have to select a rising number of students from a falling number of candidates. While the pool of candidates is shrinking year by year, the pool of tax-based places is expanding. Shrinking enrollments mean uncertain academic job prospects. Every public institution, and every department, focuses its strategy on keeping enrollments stable.

The speed of ongoing changes in the student body composition by sources of funding (and by sector) has been amazing. In a zero-sum game, the public sector gains definitely. A good option to compensate for private sector losses is importing international students on a massive scale, which is unlikely as current levels of internationalization are among the lowest in Europe, about 2 % (or 24,000) in 2012. The future of private higher education in Poland (and the public–private dynamics in the context of a zero-sum game with a relatively fixed pool of Polish applicants and limited inflow of international applicants), is linked to downward demographic trends that are stronger than in any other European Union country.

The tax-based places in metropolitan elite institutions were scarce in the early 1990s and available on rigid meritocratic selection criteria, though the number of tax-based places increased throughout the periods of expansion *and* contraction. Elite metropolitan universities tried to retain their high quality of teaching during rapid expansion by channelling the newcomers, mostly from the lower socio-economic classes, to their paid part-time study offers, of considerably lower academic quality than full-time tax-based study. An expanding system needed the

funds provided by fee-based part-timers. Consequently, entry criteria were very loose: students needed to enrol and pay fees, and there was no or almost no entry selection based on results of standardized tests at the completion of secondary education (*Matura* exams), or types of secondary education completed. For tax-based full time places, high scores were needed; for fee-based part-time places, just the passing of *Matura* exams was enough, regardless of the scores achieved. Full-timers and part-timers never mingled, the former being taught during the week and the latter during weekends.

Students were increasingly seeking credentials to be used in the emergent predominantly private labour market and willing to pay for their education, and public institutions were increasingly seeking additional revenues from part-time students. Elite public universities became open to the newcomers as never before (Wasielewski 2013). The share of students from lower socio-economic classes in tax-based studies reached the 20 % ceiling in the last decade, and in fee-based studies it was higher. In particular, the private sector in higher education (first emergent and then consolidating) was completely open to new clientele, following "open-door" policies. Newcomers to the education sector after 1989 had a choice of going to new regional public universities, fee-based streams in elite metropolitan public universities, or the emergent fee-based private sector. Not surprisingly, Poland smoothly entered the era of universal access to higher education.

But in the current contraction period, masses of poorly qualified newcomers are already able to choose tax-based places in the public sector to an unprecedented extent because the expanded public sector faces declining demographics. The current decline in the number of part-timers seems like a return to normal – but in fact it means channelling of those with lower qualifications to full-time places, previously predominantly taken by those with higher qualifications. The selectivity principle is confronted with the workplace stability principle. If strict selectivity prevails, academic jobs are likely to be lost, which so far is unacceptable regardless of institutional types or fields of study. Thus, first-choice tax-based public places are becoming less selective due to the declining number of candidates and increases in the number of places offered.

Privatization of the Expansion Era, De-privatization of the Contraction Era

The massification of higher education was inextricably linked to the processes of "external" and "internal" privatization (Kwiek 2010, 2013a). External privatization as we define it means a growth in the number of private higher education institutions and enrollments in this sector. In Poland the number of private institutions grew from 3 (in 1991) to 95 (2000), 315 (2005), and, eventually, 324–328 (circa 2009). Internal privatization means a growing number of fee-based students and growing nominal and/or proportional income from fees in public higher education. In the

case of Poland, fees are from part-time students enrolled in a nominally tax-based public sector.[3]

We argue that while "privatization" was the key feature of the expansion era (1990–2005), "de-privatization" is becoming the key feature of the contraction era (2006–2025). Or, perhaps we could speak of "re-publicization" of higher education. The gradual decline in the Polish private sector projected for the future is consistent with Daniel C. Levy's (2013) conclusions about the impact of declining demographics on a demand-absorbing type of private sector like that which dominated in Poland:

> Much PHE [private higher education] has not had to offer very much, other than access and the prospect or hope of a degree. This helps explain why the demand-absorbing subsector is most vulnerable when demand slows. … It is the demand-absorbing subsector that is generally the least desired by students. (p. 30)

While Levy sees the potential of private sector decline in public sector growth through what he terms "public university self-privatization" (which clearly intensifies public-private competition), there is another option in contracting systems that he may underestimate: public sector growth *without* internal privatization. In Poland, public sector growth is combined with de-privatization, that is to say, there are more public sector students enrolled as full-timers (without fees) and fewer public sector students enrolled as part-timers (with fees). In the unique Polish case, there are stable or increasing numbers of tax-based students (and stable or increasing public funding) in the public sector, without explicitly stated (but clear in practical terms) governmental intention to assist the public sector to survive in hard demographic times. While in some countries "internal privatization proves to be a potent way in which the public empire strikes back" (Levy 2013: 38), Poland provides a more traditional response: keeping public funding stable or increasing, which was possible because in the 2008–2013 period Poland has been economically successful. There was no economic recession, and cumulative growth for these years is about 20 %. If the public sector continues to grow as projected (without fees), private higher education will be the major loser, becoming what Porter (1980: 254–274) termed a "declining industry" that often "look[s] for optimistic signs since pessimistic ones are so painful." The best strategy for some survivors in the sector may be the identification of a niche or segment with a stable demand.

[3] While we are exploring conceptual clarifications about privatization (and de-privatization) elsewhere, let us only indicate that our line of research draws on Daniel C. Levy's studies of the private sector and privatization (1985, 1992), Roger L. Geiger's studies on "mass", "parallel" and "peripheral" private sectors and privatization (1986), Gareth Williams' study on "the many faces of privatization" (1996), D. Bruce Johnstone's paper on privatization in and of American higher education (2007) and Simon Marginson' study of "markets in education" (1997). Then useful are papers on privatization and the public/private divide by Arthur Levine (2001), Carlo Salerno (2004) and Simon Marginson (2007), as well as three recent books on privatization across Anglo-Saxon countries: Margaret Thornton's *Privatising the Public University. The Case of Law* (2012), Douglass M. Priest and Edward P. St. John's *Privatization and Public Universities* (2006), and Christopher C. Morphew and Peter D. Eckel's *Privatizing the Public University* (2009).

We view "de-privatization" as a new and suitable concept to study ongoing change processes in higher education (it has not been applied to a higher education context in research literature available in English so far). Processes of higher education change at a national system level in Poland can be defined as stemming from:

- *a fully public* system under the communist regime (1945–1989), to
- *a dual (mixed) public-private* system in the massification and expansion period of 1990–2005 (with clear public dominance in terms of share of enrollments and prestige), to
- *a de-privatizing* system in transition in which the private sector and private funding are playing a decreasing role (2006–2014); and (possibly) to
- *a deprivatized* system, with a marginal role for the private sector with enrollments slightly above 10 % and the dominant role for the public system and public funding (2025 and beyond).

To sum up: surprisingly, and against powerful global trends in post-massified or universal systems, the Polish dual public-private system is currently re-publicizing. It is increasingly based on public institutions, public research funding, and tax-based students enrolled in the public sector. Thus it is becoming increasingly de-privatized.

Both external and internal privatization in Poland is in a fundamental retreat: the number of private institutions is beginning to fall (from 330 in 2009 to 315 in 2012, and is expected to fall by 80 % within a decades). Enrolments in this sector have been falling continuously, from 34 % in 2007 to 27 % in 2013, and are expected to fall to 12 % by 2022. The number of fee-based students in the public sector has fallen from 36.2 % in 2007 to 20 % in 2012, and is expected to fall to 8 % by 2022. In financial terms, the inflow of funding from fees to the system as a whole has also been falling since 2007, and is expected fall farther in the next decade.

The changing share in enrolments over time in the two sectors is U-shaped for the public sector and inverted U-shaped for the private sector, as shown in Fig. 16.3 below. The processes of de-privatization of the system, after a decade and a half of privatization, also means the re-monopolization of the system by the public sector, a return to a standard Western European pattern in which the role of the private sector is marginal as Western Europe is "one of the last hold-outs of free higher education" from a global perspective (Marcucci 2013).

Internal and external dimensions of privatization have their mirror images in the case of de-privatization. Under declining demographics, and in a heavily contracting system, "external de-privatization" of Polish higher education, or the gradual disappearance of private higher education institutions and their systematically falling enrollments in a contraction period, is a mirror image of "external privatization," or the gradual emergence of private higher education institutions and their systematically increasing enrollments in an expansion period. To a degree, external privatization can be viewed as a protection measure for public sector institutions in tough demographic times. Public institutions are able to accommodate to new demographic realities (in a zero-sum game of the falling total number of students in both sectors) because the state continues to be willing to provide tax-based higher education. And

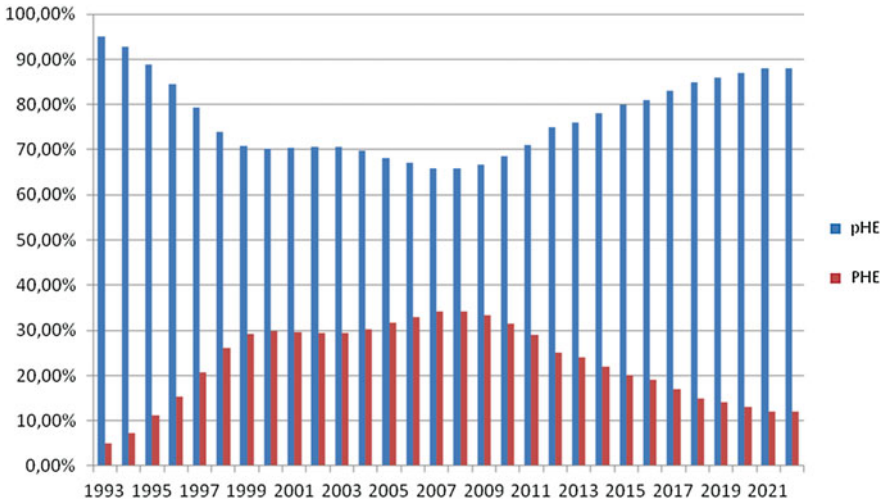

Fig. 16.3 Change in the share of enrollments, by sectors (pHE – public, PHE – private), in percent (2013–2022 projections)

"internal de-privatization" of Polish higher education, or gradually decreasing income from fees charged only to part-time students in a contraction period, is a mirror image of "internal privatization," or increasing income from fees in an expansion period. "Internal de-privatization" occurs because those previously paying fees for part-time studies now find access to tax-based full-time studies.

And de-privatization can be seen as a gradual return of public institutions to a predominantly public funding environment. Ever fewer numbers of fee-based students mean an ever smaller share of fees in public institutions' total operating budgets, as testified by annual financial statements of top ten public universities from 2007 to 2013. During those years, income from fees declined systematically even in the two most prestigious universities, University of Warsaw and Jagiellonian University of Cracow.

The abruptness of changes in the public/private dynamics theoretically might be mitigated by the introduction of universal fees in the public sector, on the assumption that decreasing the fee gap between tax-based public universities and fee-based private universities would shift some enrollments into privates. Theoretically, in Levy's (1986) typology of public/private mixes in funding regimes, the system could move gradually from a "dual and distinctive" ideal typical model to a "dual and homogenized" ideal typical model in which both sectors are funded through a combination of universal fees and direct public subsidies. As Levy (2013: 16) emphasizes in his recent seminal paper on the decline of private higher education, "a general increase in tuition at public universities can lead to loss of public market share, as it decreases the 'tuition gap' between public and private institutions," making private institutions more attractive. However, in Poland, with no fees in the

public sector, the tuition gap is maximal. And Poland has a long-established tradition of higher education being funded almost exclusively from the public purse.

However, this mitigating policy option seems rather unrealistic. The standard cost-sharing arguments tend to assume that total higher education costs are rising; the burden for these costs must be distributed, so the argument goes (see especially Johnstone 2007; Johnstone and Marcucci 2010). Such analyses are less convincing in contracting systems because public expenditures on higher education are expected *fall* rather than increase due to demographic changes noted above.

In general terms, the two global privatization agendas of cost-sharing and private sector growth are not expected to be translated into national policy changes in Poland, especially in a current European Union context in which neither agenda is strong. In principle, the universalization of higher education directly invites both agendas, given that that they tend to reduce public funding for social and public sector services. However, a European Union context (except for England with high deferred tuition fees) still matters, and substantially mitigates their local influence in Poland. As Callender and Heller (2013: 254) put it explicitly, "underpinning this global cost-sharing trend are gradual transformations in beliefs about higher education, its role in society, who should provide higher education, who benefits, and so therefore who should pay." However, beliefs take time to become rooted and transformed. Despite almost a quarter of a century of private sector and fee-based tracks in the public sector in Poland, these access-increasing instruments – which clearly absorbed social demand in the expansion period – are still viewed with suspicion by both the labor market and the public at large. As the subtitle of a collection of essays on private education in postcommunist Europe indicates, private sector institutions are still "in search of legitimacy" (Slantcheva and Levy 2007) because their "shocking newness and deviation from established norms naturally make legitimacy problematic" (Slantcheva and Levy 2007: 281). Contrary to elite roles assumed by prestigious private universities in the USA, the private sector in the region took up overwhelmingly demand-absorbing roles, with only a limited number of institutions aspiring to semi-elite status (Levy 2011). From the very beginning, as in most European systems (with only several exceptions such as, for instance, *les grandes écoles* in France), it was clear that prestige is located only where research is performed. In Poland, as elsewhere in the region, research is located in the top public institutions (Kwiek 2014a, Kwiek 2012b).

Increasing Competition: Towards Higher Intra-Sectoral Differentiation and Inter-Sectoral Public-Private Homogenization

The massification (high and rising enrollment *rates*) and expansion (rising student *numbers*) period of 1990–1995 was accompanied by institutional cooperation rather than competition, both in intra-sectoral (public-public and private-private) and

inter-sectoral (public-private) terms. In contrast, the current universalization (high and stable enrollment *rates*) and contraction (declining student *numbers*) period is increasingly accompanied by competition, both intra-sectorally and inter-sectorally. The big and increasing pool of prospective students from the past two decades is shrinking. As of October 2013, regulations no longer allow multiple site employment for public-sector academic faculty after 2 years of the *vacatio legis* period, and all senior academics are ascribed to the so called "staff minimum" of a given (public or private) institution. Moonlighting in the private sector is still possible but only on a per hour basis. Two decades of moonlighting had detrimental effects on academic norms and behaviors, and contributed strongly to low research productivity. Forty-three percent of Polish academics in the university sector do not publish at all (Kwiek 2014c). Now things seem to be coming back to normal: one professor, one institution, one full-time job. Hopefully, under current reforms Poland, currently the lowest in publishing among the 11 European countries studied, will gradually increase its share of publishers in top public universities, strengthening faculty research orientation.

A likely response to shrinking financial resources available to the system as a whole is the increased competition for students between institutions of both sectors and among institutions within each sector. Increased competition for students and the financial resources they bring through fees or public subsidies might potentially increase differentiation. In the Polish case, though, the likely outcome may be inter-sectoral public/private homogenization. In other words, all institutions may be increasingly client-seeking, that is, looking for students in a shrinking national pool of candidates. The system may be returning to the status quo in which public institutions are in a near-monopolistic position, forced to differ more in their educational offerings than ever before. Private institutions may be heavily reduced in numbers and in both enrolment share (12 % expected in 2022) and student numbers (about 150,000 expected in 2022, as in current Ministerial projections). The gradual decline of one sector is thus inevitably leading to the hegemony of the other sector. In all probability, *tertium non datur* (although the history of higher education research tends to show that it should strongly avoid large-scale predictions).

The changing public-private dynamics take different forms in different clusters of systems in Europe. For instance, in the Nordic context, higher education systems are predominantly public. Wherever private institutions appear, as in Norway and Sweden, they are still publicly-funded despite their private legal status. In contrast, Central Europe, including Poland, is one of the European regions where private means "independent private," defined by OECD as obtaining more than 50 % of income from fees. At such universities, staff are not employed by the state

The decline of private higher education is a rare theme in scholarly literature, as it is a rare phenomenon from a global perspective. But it is also rare for universal higher education systems to be contracting. As Levy stresses,

> Many types of private higher education do decline and for various reasons. Yet, private higher education grows significantly despite all the negative factors identified. The overall private higher education decrease almost always refers to public- and private-sectors shares, not absolute enrollments. Even proportional decline in the private sector applies only to a minority of countries. (Levy 2010: 11)

Poland, together with several other postcommunist European countries, is therefore currently exceptional from a global perspective: both private shares in enrollments and also private absolute enrollments have been systematically decreasing in the last 7 years. The 315 private higher education institutions will compete for shrinking numbers of students. The demographic shift in Poland also creates a major institutional funding challenge to the public and introduces fierce competition among universities, but for private institutions, it may be a life or death challenge. A dream of the public-private competition (and public-private "markets" or "quasi-markets") may have ended, but the competition for top students through new course offerings will still be in place. The public sector will likely be stratified, with a few prestigious, highly ranked institutions at the top, and the remaining, mostly open-door institutions below. The stratification processes are well advanced today, accelerated by ever more competitive public research funding streams, concentrated in top 20 public institutions. In those institutions at the top of the academic pyramid, fluctuations in student numbers will matter less than the steady attraction of research Euros.

Conclusions and Policy Implications

Two major global trends in higher education funding and governance seem to affect only some parts of Europe: the increasing reliance of cost-sharing mechanisms in the public sector and the growth of the privates, or what we term here "internal" and "external" privatization of higher education. The two Polish trends of "internal" and "external" "de-privatization" (decreasing fee-based private funding in public institutions, and decreasing share of enrollments and student numbers in private institutions, combined with their shrinking numbers, mergers, and closures) are rare both globally and in the European Union. The long-term, systematic contraction of Polish higher education may precede by a decade similar demographic trends in other European countries such as Germany and Spain (Vincent-Lancrin 2008: 49–51). However, de-privatization processes will likely not occur there because there is no private sector and public funding for higher education is already gradually decreasing rather than increasing. The fall in enrolment levels in Poland is projected to be one of the highest in Europe, and comparable only with other postcommunist countries such as Bulgaria, Romania, Slovakia, Estonia, Lithuania and Latvia. De-privatization is a postcommunist European phenomenon today as only in postcommunist Central (and Eastern) Europe was private higher education on the rise for almost two decades.

Clearly in Poland, there is more public funding for higher education, both nominally and proportionally, compared with private funding. This is true both in teaching and research. There is an increasing share of students in the public sector, and a decreasing share in the private sector The public sector also has an increasing share of tax-based students and a decreasing share of fee-based students. The cost-sharing agenda is weak, and public and academic arguments for the introduction of universal fees (across both public and private sectors) are weaker than ever before.

From a historical perspective, what we may term "the privatization experiment" in higher education in Poland may be interpreted as merely a transitional phenomenon. Within a massification/maturation/post-massification cycle, it can be viewed as a highly useful experiment during accelerated massification, a less useful experiment during maturation, and, finally, an experiment of marginal usefulness in a post-massified period.

The Polish case study is important for several reasons: public–private dynamics are rapidly changing in a system that has the highest enrolments in the private sector in the European Union. In the global context of expanding higher education systems, there are several systems in Central and Eastern Europe, and Poland is the biggest of them, that are actually contracting. Their contraction is fundamental and rooted in systematically declining demographics. In the global (rather than European) context of increasing reliance on cost-sharing mechanisms in university funding, and on the private sector paradigm in university governance, the Polish system seems to be moving in the opposite direction. Global trends towards higher education privatization can be juxtaposed with the Polish counter-trend towards higher education de-privatization.

This paper is an exercise in locating national trends in higher education funding and governance in wider global and European contexts to see to what extent various "convergence" themes fit a national case. Clearly, postcommunist systems in Central and Eastern Europe might follow a different trajectory in the coming decade and to a traditional catalogue of historical, political and economic differentiating factors, we should add one more, namely different demographics, which are routinely underestimated in higher education research.[4]

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Chapter 17
A State Theoretical Approach to Understanding Contest in Higher Education

Brian Pusser

The provision of higher education in the United States and globally is an essential function of the state, one that takes its primary institutional forms in public, private and for-profit universities. Universities can thus be seen as political institutions of the state because they are chartered, regulated, subsidized and shaped by state action (Pusser 2004, 2008). At the same time, universities shape the state through a variety of activities, including serving as sites for critical thinking and critiques of the state itself, creating professional cohorts and status hierarchies through admissions and credentialing, providing research funded by the state that reflects both state and institutional priorities, and in myriad other ways. Higher education is nested in the political economy of the state, and as the United States has grown increasingly economically stratified over the past four decades, so too has the system of higher education. Recently, the scholarship of postsecondary education has turned increased attention to the role of the state in the rise of inequality, the balance of the production of public and private goods, and the creation of competitive advantages for particular individuals, institutions and activities in the provision of higher education (Mettler 2014; Pusser and Marginson 2013; Rhoades and Slaughter 2006).

Over the past few decades the analytical benefits of understanding the university as a key actor in the state have become more apparent (Pusser 2008; Rhoades 1992; Slaughter 1990). Research on the role of the state in higher education has been driven to the fore by models of academic capitalism, the concept that universities are increasingly engaged in "market-like behaviors" (Rhoades and Slaughter 2006, p. 104) through new modes of revenue generation, new discourses on the missions of higher education, shifting relations between academic management and academic labor, new forms of internal competition, and through an overarching conceptualization of the purpose of higher education as revenue generation and capital accumula-

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tion. Academic capitalism thus represents a state-supported process that calls for internal restructuring of postsecondary priorities and practices, and transformation of the relationship between universities and the state (Cantwell and Kauppinen 2014; Slaughter and Leslie 1997; Slaughter and Rhoades 2004). One of the most notable of the many analytical contributions provided by the model of academic capitalism is that it positions the university as a central site of state activity, as an institutional setting that both shapes and is shaped by state goals. At the same time, increased attention to the role of the university and the state has opened space for scholarship on the state and the university as sites of contest, spaces for negotiating conflicting visions of the purposes of higher education (Pusser 2014, 2015). These contests manifest in myriad ways, including struggles over resources, student access, the discourse shaping the production of private and public goods through higher education, investments in basic research and entrepreneurial patenting and licensing, and over the very nature of the university itself through its role as a public sphere for intellectual thought and critique (Marginson 2007, 2011; Pusser 2006, 2011).

The University and the State

The state can be understood as "the web of relations between individuals and among social groups in a given societal arrangement shaped by historical traditions, culture, economic development and political processes" (Ordorika and Pusser 2007, p. 191). The state is a fluid concept, subject to social, political, economic and individual shifts in understanding both of its purposes and of how best to implement those purposes. The concepts of the university as a political institution of the state, and of an institutional role in shaping state purposes (Ordorika and Pusser 2007), underscore the need for attention in the literature of higher education to a broader array of forces contesting the vision of higher education in the state (Pusser 2008). An early conceptual map was presented in Burton Clark's (1983) triangle of authority relations, which posed the state in tension with market forces and an institutional oligarchy. A great deal of subsequent work has pursued the market/institution relationship, with little direct attention to the state (Ehrenberg 2000; Kirp 2003; Weisbrod et al. 2008), and there is a considerable literature on the role of policy in shaping higher education, work that indirectly links the state and higher education. In contrast, models of academic capitalism have focused primarily on state/market relations and on interactions between the state, market, and postsecondary institutions (Slaughter and Leslie 1997; Slaughter and Rhoades 2004). What has been most notably underdeveloped in the scholarship of higher education is the role of the civil society (Alexander 2006), and the contest over higher education between the state and the civil society (Pusser 2014). In addition, there has been relatively little attention turned to subjects and actors that emerge beyond the formal conceptual boundaries of state, market, institutions or the civil society as part of a fluid and dynamic process of social and political alignment.

To fully understand the rise of academic capitalism and alternatives to its practices it is essential to begin with a model of the political economy of higher

education, one composed of two levels of forces in tension (Pusser 2014). At the meta-level, postsecondary institutions are shaped by, and in turn shape, a national and global contest between the state, market, civil society and actors outside of those spheres. At the institutional and system-wide level, public and private colleges and universities are sites and instruments of contest over the alignment of state goals and university missions, purposes, and activities. The contest is shaped by demands from elements of the state, markets, civil society, and the institutions themselves, as well as the efforts of those who exist outside of the formal political economy of higher education. This suggests that an understanding of the contemporary political economy of higher education, and the trends that are likely to emerge in response, calls for an assessment of the shifting nature of the alignments between the state, the civil society, market forces and postsecondary institutions, as well as the influence of movements outside of formal social, cultural, economic and political spheres (Pusser 2014).

The Neoliberal Context

The model of academic capitalism must also be considered in light of neoliberal ideology and policy (Pusser et al. 2012). In theory and practice, neoliberalism is a political, economic and ideological paradigm that privileges free markets and the private sphere, in part through reshaping the role of the state (Harvey 2005; Rhoads and Torres 2006). Neoliberal policies endeavor to redirect state resources away from traditional social welfare, public sector, and nonprofit functions, including higher education, in favor of the private, for-profit arena (Ball 2012; Levin 2001). As a consequence, state efforts to use education as a mechanism for increasing social mobility and redressing inequalities generated by other state-supported practices have been constrained. The notable increase in income inequality in the United States (Piketty 2014) and the growing income stratification in selective higher education over recent decades (Astin and Oseguera 2004; Carnevale and Strohl 2010) have renewed interest in the role of higher education as a factor in shaping social and economic inequality (Mettler 2014) and as a site for individual social mobility and the redress of inequality (Carnoy and Levin 1985). Academic capitalism reflects the state turn to market relations, as well as the shift of postsecondary institutions to the market (Slaughter 2014b). While most often discussed as forces shaping research universities, both neoliberal policies and academic capitalism have a profound influence on an array of institutional types and practices in higher education in the United States and globally (Cantwell and Kauppinen 2014; Levin 2001).

The State and Institutional Forms

Since the relationship between the state and higher education in the U.S. has changed over time, and for most of its history been complex and multi-faceted, it is more useful to think in terms of state priorities than to attempt to establish one "role" in a fluid process. The higher education system in the U.S. is notable for the diversity of institutional types and forms, and, since the nineteenth century, for the dominance in degree granting by public nonprofit institutions. Public 2-year and 4-year institutions are the most "state-centered" institutions, created, chartered and highly subsidized by the state. Public institutions have had distinctly different origins, and unique missions, when compared with institutions that emerged from the civil society (private nonprofit colleges and universities) or through market relations (for-profit colleges). Thus, the state in the U.S. has been a direct provider of higher education through public institutions, a regulator of all institutional types, and a source of subsidies for all institutional types, through direct allocations, tax policies, research funding and portable financial aid (Mettler 2014; Pusser 2014). As a provider of higher education, the state has supported postsecondary activities that can be seen as essentially public goods, such as broad, affordable access, basic research, knowledge creation and dissemination, and research in support of national security. The state has supported the creation of what are fundamentally private goods through higher education, such as personal human capital development, individual social mobility and status networks. It also supports activities which can be thought of as hybrids of public and private goods, leadership, professional credentialing, engagement, and local and national economic development. In its regulatory role, and as a source of subsidies, the state has supported these functions and more, including the creation of considerable profit for privately held and publicly traded proprietary institutions.

Despite the diverse array of organizations and missions in higher education, a number of scholars have argued that postsecondary providers of all types are increasingly operating like those institutions dedicated to market provision and surplus revenue generation (Kirp 2003; Weisbrod et al. 2008). That is, the state, through neoliberal resource allocation and finance policies, primarily reductions in direct funding of institutions, changes in tax policy (Mettler 2014) and tuition policies (Ehrenberg 2000), shifts in intellectual property practices and policies (Rooksby and Pusser 2014), and research funding priorities (Slaughter and Rhoades 2004) is increasingly privileging a model of higher education as a private good.

The State, the University and Civil Society

While one does not need to look far to see attention to the state/market relationship in the research and scholarship of higher education, finding the way in which the state, the civil society and the university come together in the research and

scholarship of higher education is considerably more difficult (Pusser 2014). In contemplating this relationship it is useful to consider the emergence of different postsecondary institutional types, those that were born out of the civil society (nonprofit private institutions), those created by the state (public), and those that grow out of market relations (private for-profits). The lines are not entirely distinct, as professional associations and other civil society organizations have done much to foster the creation and persistence of public institutions, and market forces promoted the creation and support of vocational and professional training through 2-year and 4-year colleges.

Universities have built sustained relationships with civil society organizations in many arenas, particularly public health and public service (Ehrlich 2000). Universities in the U.S. have built much less robust alliances with such key civil society organizations as political parties and unions. Most public and private nonprofit universities operate under a banner of political neutrality, in deference to the diverse political interests of their constituencies. Postsecondary institutions in general and research universities in particular have a complex and multi-layered relationship with organized labor, traditionally a key arena of civil society organization. This has resulted in varying approaches, shaped in part by broader political contests and currents, to collective bargaining for faculty and students (Rhoades 1998).

It is also the case that many activities that universities themselves consider engagement with the civil society, such as service by leading administrators on local, state and national governing boards and associations, is also oriented to economic development and market. At the same time, institutions that emerged directly from the state and that have continued to receive direct state support (public institutions) may position themselves differently in relation to the civil society than do nonprofit privates, whose formation, in some cases, precedes the founding of the modern state. As Roger Geiger (2005) noted, "Harvard, William and Mary, and Yale were established as adjuncts of their respective churches, which in turn were integrally related to their respective civil governments," (p. 39). Somewhat later, colonial colleges "balanced duties to both church and province," while after independence individual states began to create colleges of their own (p. 42).

In contemporary higher education, the role of the state is enacted through political, social and economic contest at both the state and federal levels. State goals for higher education, such as the creation of professional expertise and applied research through the land grant colleges, the creation of educational opportunities for veterans through the GI Bill, or the advancement of scientific discovery through research universities, have evolved over time. As this has occurred, state purposes, along with state resources and policies, have consistently re-shaped postsecondary institutions in the United States. As influential institutions within the state, universities have also shaped the state itself. They have been at the center of numerous highly visible moments of political contest, including struggles over human rights, freedom of speech and access to education and social mobility (Ordorika and Pusser 2007).

The State, Higher Education and Beyond

In many of the historical contests over the purposes of higher education, dominant policies and practices can be attributed to political actions, resources or mobilization by interests that can be reasonably aligned to market structures and forces, to organizations in the civil society, or to institutional interests. Thus, when we speak of academic capitalism, we allude to policies and practices in higher education supported by the state and market forces that privilege capital formation and wealth accumulation. Similarly, demands for increases in financial aid to offset the cost of rising tuition may emanate from civil society organizations, such as foundations or nonprofit research groups dedicated to student access and college affordability. Institutions themselves lobby for greater influence over resources and policies controlled by the state. Interests are not monolithic. There is contest within the market arena over postsecondary policy, as there is in the civil society and in postsecondary institutions. Interests may also transcend these analytical boundaries, as when community-based organizations align with postsecondary institutions and commercial entities to create new forms of professional training and employment opportunities.

While it is essential to demarcate interests and to identify dominant forces over time, analyses of political organization and policy making in higher education are often limited by their essentially pluralist approaches. That is, the policies that we point to when thinking about tuition setting and other forms of resource allocation, that govern university patents and licensing, that shape admissions policies, that allocate research funding through national institutes, and so forth, gain their legitimacy through pluralist action: legislative votes, the election of political leaders, the appointment of judges, and the decisions of governing boards, administrative leaders and professionals whose actions are shaped by laws, policies, regulations and oversight agencies that are also created and preserved through essentially pluralist action.

Yet there are myriad examples of laws, policies, regulations, appointments and institutions that were created with visions and actions emerging from outside of pluralist processes. Much of this activity, in the research and scholarship of higher education, is understood as part of social movements (Rhoads and Mina 2001; Rojas 2012). Such activities as campaigns for living wages on campuses and efforts to secure college access and affordability for undocumented students are key examples. There have also been less tangible shifts, acts of imagination, or changing beliefs and attitudes, such as perceptions of a decline in the value of a college education, or demands for the expansion of a right to higher education, that shift the balance of the political economy and create space for opposition to existing norms.

Challenges to the Market and Academic Capitalism in the University

From a state-theoretical perspective, higher education is nested in the broader political economy of the state. This suggests that indicators of potential challenges to state alignments in higher education would be shifts in discourse, formal and informal associations, and essential beliefs about the role of the state, the civil society, and market relations in the broader political economy, and within the political economy of higher education. These indicators might include efforts to challenge increased stratification in college access, to alter the balance of public and private goods produced through higher education, to shift norms of postsecondary finance, or to empower groups traditionally marginalized in higher education. Such efforts might emerge from outside of the university or from within. They might be supported by coalitions in the civil society comprised of those who feel marginalized by the current process, or by those committed to market approaches who believe that more effective processes can be had through reframing current alignments. Actions that counter contemporary norms and trends may also take strength from actors and organizations outside of the formal boundaries of state, civil society and market relations, seeking to achieve inclusion and more equitable outcomes through higher education.

Political Economic Contest

Given the influence of dominant social and political interests on the role of the state in shaping the production of public and private goods in the United States, one might hesitate to predict new structures or policies on the horizon. However, challenges to neoliberal approaches to taxation and resource allocation, the persistent political confrontations over national health care and other social welfare policies, and frequent disputes over the mission and role of the state itself, all point to the intensity and magnitude of contest in contemporary society, and the belief in the possibility of change. In the aftermath of the global economic crisis of 2008, a number of visible and persistent conflicts have emerged. Arguably the most prominent have been the contest over the passage and implementation of the Affordable Care Act, and the challenges to national economic and social welfare policies evidenced in the Occupy movement. Decades of increasingly stratified wealth creation and income inequality (Krugman 2013; Piketty 2014) accompanied by slowing rates of economic and educational mobility (Beller and Hout 2006) have created space for new demands, discourses, and forms of collective action. These emerging norms of resistance were evident in the degree of opposition from across the political spectrum to the Troubled Asset Relief Program (TARP) (Krugman 2014a). The changing discourse was exemplified in the ubiquitous meme that captured the summer of 2012, the "one percent and the ninety-nine percent," which reified a growing

awareness of disparities in wealth and privilege (Gitlin 2012; Krugman 2014b). The political, social and economic turmoil over wealth, redistribution and stratification took on even greater importance in the discourse surrounding the presidential campaign of 2012, through the symbolic construction of a nation divided between "makers" and "takers." The publication of *Capital in the Twenty-first Century*, Thomas Piketty's (2014) landmark empirical treatise on historical changes in wealth creation and income inequality, and the contemporary implications of those changes, made it one of the most widely discussed intellectual works of the early twenty-first century.

Academic Capitalism and Neoliberal Policies in Higher Education

The contest over distribution and redistribution, rights and entitlements, can also be found in contemporary higher education, in state and national policy debates, institutional practices, and among students whose efforts to access colleges and universities, and to succeed in them, have been directly shaped by the policies and practices emerging from the wider political economy. This is particularly evident in four areas of contest and resistance to political and economic norms: student loan debt, the regulation of for-profit colleges, efforts by a group of student athletes to unionize, and the efforts of the coalition in support of the Development, Relief, and Education for Alien Minors (DREAM) Act. Each of these serves as an example of opposition to some of the core tenets shaping academic capitalism and neoliberal policies in higher education, with significant implications for state alignments and policies going forward.

Resistance to Student Loan Debt

The system of student lending in the United States has entailed a significant state role for some five decades. It has been contested on a number of levels for most of that time. It began with a fundamental focus on increasing student access and college affordability, and has preserved that focus over time, despite political disagreement over myriad aspects of the process, including the appropriate state role, the impact of various levels of debt on student borrowers, the role of private markets in student lending, and the efficacy of alternatives to existing repayment systems.

In the fall of 2011, Occupy Wall Street emerged as one of the most visible protests in the United States in the twenty-first century. Todd Gitlin (2012) noted the impact of the broader Occupy movement this way: "Whatever imprint the movement leaves (or fails to leave) on national life, this spectacular uprising, within a

bare few months, accomplished one of the prime objectives of any social movement: It upturned millions of people's sense of the possible" (p. 51). Given its focus on stratification and inequality, it is not surprising that the Occupy movement included actions organized by student groups concerned about the growing levels of student debt. Occupy Student Debt drew attention to the total amount of student indebtedness. It helped organize a nationwide day of protest when the estimate of student debt in the United States reached 1 trillion dollars, and requested that all student loans be forgiven (Best and Best 2014). Students also rallied in Zuccotti Park in New York City in support of a national "campaign of student-debt refusal," an effort to encourage students to sign a pledge to cease paying student loans once a million students had signed (Hoover 2011).

Despite the Congress and the Department of Education under both President Bush and President Obama enacting changes designed to reduce the cost of borrowing and the impact of the student-lending system, the amount of student loan debt, and student loan defaults on that debt, continued to gain attention and generate opposition. At the time of the Occupy protests, borrowing to pay for educational expenditures, in constant dollars, had more than quadrupled since the 1990s (Avery and Turner 2012), and some 20 % of U.S. adults had student loan debt (Ratcliffe and McKernan 2013). Widespread media attention was devoted to the rising total of student debt, the increasing rates of default, and the problems of paying for college loans in the midst of a weak economy.

The conflict over student lending in recent years has encompassed both grass roots activism and mainstream political action. President Obama, on the occasion of signing an executive memorandum in 2014 designed to assist student borrowers, highlighted several aspects of the challenge. He alluded to rapid increases in tuition at public colleges and pointed to the importance of collective public action to keep college affordable, and to constrain profit seeking in the student lending system. The President's remarks, as part of a larger effort to reduce college costs and student debt, reflected a new emphasis on challenging the norms of the state/market alignment in the finance of higher education, a challenge that had gained initial visibility from student resistance and protest (White House 2014).

Student Debt and Uncertainty

According to a 2012 national survey, over 50 % of those with student loans were concerned about their ability to repay them (Ratcliffe and McKernan 2013). This is a striking finding in light of research that suggests an average return to college completion at 4-year non profit colleges through lifetime earnings that is significantly higher than the average individual student loan debt accrued in nonprofit postsecondary education (Carroll and Higgins 2014; Leonhardt 2014). As Avery and Turner (2012) note, "The claim that student borrowing is 'too high' across the board can--with the possible exception of for-profit colleges--clearly be rejected," (p. 189).

Yet the continuing of concern over student loan debt points to an inherent challenge in preserving support for tuition and finance policies that have the effect of shifting the burden of paying for higher education from the state to individual students, at a time when students are anxious about the future. It may be that such symbolic memes as "one trillion dollars of student-loan debt," or "more student loan debt than credit card debt," are shaping a growing perception that the primary responsibility for paying for higher education belongs to the state, not individuals.

For-Profit Higher Education and Market Failures

Another arena in which the structure of the state/market relationship in higher education has been called into question over the past decade is in the regulation and finance of for-profit colleges and universities. Initially envisioned as entrepreneurial, competitive and efficient alternatives to direct state provision of higher education (Ruch 2001), many for-profits now stand as symbols of the political economic problems that can emerge from state efforts to support institutions that seek to profit from the provision of higher education. The proprietary sector constitutes a powerful state-market alignment, in which for-profit institutions' revenues are primarily garnered from tuition paid with student loans guaranteed by the federal government, and where the risk of loan default is borne by student borrowers. Among the many aspects of for-profit colleges that have been problematic in the political contest over their funding and regulation, student loan debt and defaults on that debt have loomed largest. Students in 2-year and 4-year for-profit colleges have higher rates of default, higher total indebtedness, and slower repayment rates than students in other sectors (Belfield 2013).

Over the past decade the political and economic struggle over for-profit colleges has been intense. The large amount of aid channeled into for-profits, the unusually high default rates of many students at for-profit institutions, and the scrutiny turned upon the sector by state authorities and through a U.S. Senate committee led by Senator Tom Harkin, have contributed to further awareness and consternation about the state/market alliance in higher education (United States Senate, Health Education, Labor and Pensions Committee 2012). Students and student organizations have played a role in working with political leaders to draft more stringent rules on for-profit colleges. Both student mobilization and student voices, through the narratives of student experiences in for-profit colleges, have contributed to efforts to limit the extent of state support of for-profit colleges (Hoover 2011).

Academic Capitalism and Patents

Another challenge to market models of higher education may emerge from the dawning realization that some predictions of postsecondary education as a center of revenue generation and profits may have been based on misunderstandings of the potentials of higher education in a competitive market. In the cases of university patenting, earlier optimism may need to be considerably tempered. Complex changes in patent commercialization practices and markets, and the emergence of well-capitalized firms as forces in patent litigation, have called into question universities' commitment and capacity to enforce their patents in court. These changes may begin to reshape the ways in which universities, and potential industry partners, think about the gains to be realized from applied research (Rooksby and Pusser 2014).

Challenges from the Civil Society: Unionization of Intercollegiate Athletics

Since nearly the earliest days of the higher education system in the United States, a significant portion of its legitimacy and its funding has come through an alliance between the state and elements of the civil society. Key manifestations of this have been state chartering and oversight of public universities, tax-funded allocations for institutional support and financial aid, and tax policies that benefit individuals and organizations in the civil society. Private, nonprofit institutions in the U.S. have also long had close ties to the civil society, through alignments with religious denominations, organized affinity groups, and from philanthropic support from individuals and civil society organizations. The civil society also remains a key site for challenges to privatization and stratification in higher education and in the broader political economy (Pusser 2014).

A 2014 ruling by Peter Sung Ohr, a Regional Director of the National Labor Relations Board (NLRB) Region 13 office that eligible student athletes participating in football at Northwestern University could vote on whether or not to form a union (Ohr 2014) was a demonstration of the potential for student resistance to dominant norms of academic labor and economic bargaining. Over the past few decades, college football has grown to become a highly visible, highly marketed, and highly commercialized arena of higher education. The total revenue generated as a result of intercollegiate athletics places it as a multi-billion-dollar enterprise, with the most successful athletics departments generating over $100 million in annual revenue, and top coaching salaries exceeding $5 million per year (Clotfelter 2011). Those figures stand in contrast to the constraints on compensation for student athletes, which has been generally limited to an academic scholarship, insurance and the coverage of relatively minor expenses. Student athletes share many things in common with students who are not participating in intercollegiate athletics. However,

student athletes face a number of constraints unique to their roles as scholarship athletes. Student athletes find obstacles to establishing competitive eligibility when changing schools, in their ability to move freely into positions in professional sports while preserving eligibility for college competition, in accessing a full range of majors due to time and other constraints, and, perhaps most important, in their ability to access a portion of the revenue generated by their talents (Clotfelter 2011).

Despite efforts to collectively bargain and organize unions by graduate students for several decades (Ehrenberg et al. 2004), resistance to the powerful norms in revenue-generating intercollegiate sports by predominantly undergraduate student athletes gained little traction until quite recently. In concert with organized labor, the ongoing graduate student unionization movement in various universities established a model for contests to follow. In many ways, student athletes faced a higher bar, given the extremely market-driven and competitive arena in which they sought to organize, and the powerful influence of the National Collegiate Athletics Association (NCAA) in preserving its mandate of amateurism in intercollegiate athletics.

As was the case in the mobilization for reconsideration of student loan debt, student athletes gained visibility and assistance from political actors through hearings on the conduct of intercollegiate athletes. Congressman George Miller, the senior Democrat on the Committee on Education and the Workforce, in an open letter to college presidents concerning the conditions of adjunct faculty and student athletes, wrote, "Change must actually happen. You can't have it both ways; you can't insist that you are unable to make things better for athletes or adjuncts, and simultaneously insist that they should not try to make things better on their own, through collective bargaining" (Miller 2014).

As a result of a 2015 NLRB ruling, student athletes at Northwestern and elsewhere will not be able to collectively bargain or unionize in the near term (Strauss 2015). However, student athletes may still have the potential to alter the political economy of higher education. The initial ruling by Regional Director Ohr that Northwestern's football players should be considered employees of the university opened critical space for reconsidering the organization and compensation of other student activities, such as graduate student assignments and student internships, where it remains unclear to what degree the individuals should garner the status of employees and the norms of compensation, benefits, and bargaining that accompany employment status. The demand for the right to attempt to form a union emerged from group of students highly regulated by the national governing body of intercollegiate athletics, operating under well-defined institutional and national regulations. That they sought to acquire additional opportunities by forming an organization, a union, with roots in the civil society, and were initially granted the opportunity to vote on whether to unionize by a federal agency, points to the potential of new forms of alliances for transforming norms in higher education.

Resistance and Risk: The Dreamers

One of the most visible and persistent social movements in contemporary higher education in the United States is the mobilization in support of the DREAM Act. This legislation was enacted by the U.S. Senate in 2013 as part of a comprehensive immigration reform bill. The Senate version did not correspond to the version approved by the U.S. House of Representatives in 2010, which would have offered access to college and a path to citizenship status based on levels of college attendance or military service for undocumented young people who entered the country before the age of 16. The proposed legislative acts also contained residency standards, required that students be enrolled in college or hold a high school diploma or GED, and that the students have no criminal background (Olivas 2004; Palacios 2010). Under the proposed legislation, during a 6-year period of conditional residency the applicant must complete at least 2 years of college or serve 2 years in the armed forces in order to be eligible to apply for status as an alien lawfully admitted for permanent residence. The effort to pass the DREAM Act has been sustained by students and would-be students, often referred to as "DREAMers," along with individuals, professional associations, and immigrant rights organizations, in an effort devoted to improving access, affordability and success for undocumented students seeking postsecondary education (Nicholls 2013).

With about 65,000 undocumented individuals graduating from U.S. high schools each year, the potential direct beneficiaries of the Act would not constitute a particularly large portion of the college-going population (Palacios 2010). Yet they hold enormous symbolic importance in the national political contest over immigration and immigrant rights, both for the importance of their efforts to improve social mobility and wellbeing in the immigrant community, and for the personal risks many DREAMers face in pursuing their cause. Their efforts to access higher education demonstrate the force of persistent resistance in shaping state and federal debates and policies, and have drawn attention to dominant cultural norms, in this case, the American Dream itself, that continue to be beyond the reach of many (Anguiano and Chavez 2011).

As an effort to establish the right to legal status, social mobility, and community development through higher education and military service, the effort to pass the DREAM Act directly links higher education to distinctly public goods. Thus, a movement that incorporates individuals without documented status in the United States, at the center of an activist campaign entailing resistance and protest, acts in concert with various organizations in the civil society and as part of a broader movement for the rights of migrants, as it pushes back against norms of legal status, stratification and exclusivity. While progress is slow at the federal level, DREAMers and their advocates have made progress in several states, garnering legislative consideration of, and in some cases approval for, "domicilary-based residency tuition" for undocumented students (Olivas 2008, p. 1759, 2012).

Conclusion

The model of academic capitalism presented by Slaughter and Leslie (1997) opened space for further critical analysis of the ways in which contemporary research universities around the world increasingly privilege economic development, wealth creation, prestige hierarchies and close-to-the market disciplines through neoliberal policies and practices built in alignment with the state and market forces (Slaughter 2014a; Slaughter and Rhoades 2004). The conceptualization of academic capitalism is essentially a state-theoretical model. Its focus is on the ways in which states shape institutional action by legitimizing a web of subsidies, regulations, revenue-generating practices and policies that engender a predominantly private-goods orientation to higher education.

Over the past decade scholars have documented the growing evidence of increasing postsecondary stratification in its various forms: the growth of endowment wealth and competitive advantage in an elite tier of schools, the concentration of federal research funding, and the growing income inequalities in the student cohorts at selective institutions. At the same time, there remains considerably more work to be done within the state-theoretical approach advanced by the model of academic capitalism in order to illuminate the drivers of inequality, and the new paradigms, social movements and policies that would constrain stratification and open space for redress of historical inequities.

A central tenet of modern state theory is that states are sites of contest (Gramsci 1971). The structures, policies and practices of the state are mutable, subject to transformation by an array of cultural, social, economic and political actors and forces. While the dominance of neoliberal state policies may seem both embedded and timeless, in the United States they are actually relatively recent phenomena, and look very different from the regulatory state responses to the Great Depression of the 1930s or the social-welfare mission of the Great Society of the 1960s.

Contemporary scholars of higher education have an opportunity to document a particularly dynamic moment in the evolution of the relationship between states and higher education globally, and to seek out signs of contest and change. That these indicators have only recently risen to prominence in the scholarly literature on higher education is unsurprising given the power of dominant discourses, symbols and norms for instantiating a particular set of state relations. Yet signs are there, ranging from dissent at the centers of authority and influence to resistance at the margins of power. They appear as new forms of contest that are emerging from the state itself, its institutions, the civil society, the market and beyond. They are evident in Congressional hearings over proprietary approaches to the provision of public and private higher education. They can be found in the tension between long-held beliefs about investments in human capital, social mobility through higher education, and student anxiety over unprecedented levels of loan debt. A desire for change in the regulation and employment status of student athletes is a driver of efforts by some in the civil society to forge new alignments through collective bargaining between the state, postsecondary institutions and students. Signals of contest resonate from the

polarizing political debates over citizenship and standing in postsecondary education, in which undocumented students appeal to a different vision of rights, justice and belonging, as they seek to collaborate with actors in the state, institutions of higher education and in the civil society to create a more secure and promising future.

In the state-centered model, contest leads to new and different contests. Initial efforts to provide universities with avenues to garner revenue from the patenting of research were challenged by those in the state and the civil society who saw the creation of new knowledge as a public good. A few decades later, institutions find themselves in competition with market forces for control of those patents and the revenue they might generate. The idea of contest is also at the heart of the concept of the university as a public sphere, a space where knowledge is created, where ideas and institutions, including universities themselves, can be debated, where the missions, cultures, norms and practices of the state, the market, the civil society, and actors outside of those formal realms, can be contested and critiqued in the public interest, ideally without any one force dominating the others (Pusser 2011).

Of course, at various historical moments, particular interests and institutions have dominated the political economy of postsecondary education, but not always the same interests or institutions. As the scholarship of academic capitalism in the contemporary university has made clear, the state-market alliance in higher education has been ascendant for several decades, facilitating competitive advantage for the wealthiest and most prestigious institutions, while shaping behaviors across the postsecondary system. Yet the current alignments that shape the provision of education are not forever. Despite the power of neoliberal policies, and their privileged position in contemporary postsecondary organizations, there are alternatives emerging, new formations and collaborations at the center and at the margin of the political economy of higher education that offer a countervailing vision. Critical work from a state-theoretical perspective can further illuminate the ways in which new paradigms are emerging, the sources of their legitimacy, and the prospects for change through intellectual, social, political and economic contest. Such scholarship will also give visibility and inspiration to those working in the United States and globally, from a variety of standpoints, to realize the goal of creating new alignments in support of a more egalitarian and inclusive system of higher education.

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Chapter 18
Conclusion

Academic Capitalism, Stratification, and Resistance: Synthesis and Future Research

Sheila Slaughter and Barrett J. Taylor

Rapid changes in tertiary education began to gather force in the 1990s. These changes have proven complex and heterogeneous, with substantial variation by national system illustrated by the various chapters in this volume. Nonetheless, these changes share a general tendency toward less direct regulation/provision of education. In place of central controls, policymakers have tended to employ competition-based steering mechanisms that incent universities to behave in particular ways. Such mechanisms are familiar in the US, as documented in the several chapters that we authored or coauthored (Chaps. 4–6 and 8). Notably, the European Union (EU) has adopted somewhat similar initiatives, as Slaughter and Cantwell (2012) document with respect to research and as Karseth and Solbrekke (Chap. 11) elucidate with respect to instruction. Moreover, competition-based mechanisms are increasingly common within some European national systems, in which their adoption and effects are mediated by national traditions. Thus, for example, English university "imaginators" analyzed by Susan Wright (Chap. 7) could plot rapid, sweeping changes by repurposing existing administrative offices and governance structures. By contrast, German universities, in Jennifer Olson's account (Chap. 12), proceeded more slowly and with greater central planning in their efforts to secure advantage in competitions for international students. In both of these cases distinctive national histories, structures, and traditions shape policies. At the same time, however, the direction of policies appears much the same. Relative to their twentieth century forebears, policymakers appear less interested in centralization and direct governance, and more interested in competitions, incentives, and steering.

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As Romulo Pinheiro notes (Chap. 15), then, these shifts toward market-like policy mechanisms—even allowing for variation between national systems—represent substantial changes in traditional modes of providing higher education. The purpose of this concluding chapter is to use theory to develop insights about these broad trends. We cannot claim to hypothesize accurately about all national systems covered in this volume, much less the variety of national systems treated only in passing or ignored altogether. Instead, our hope is that these postulates will shape future research to explore and refine understandings of competition-based policies in a variety of national contexts. Put another way, we offer a general account, drawn both from theory and from the chapters included in this volume, of the nature and effects of policy that utilizes market-like mechanisms. Because of its very generality, however, this account constitutes an invitation to future research at least as much as the last word on the research reported within this volume.

Fields, Hierarchy, and Contestation

Our account draws upon several distinct but related bodies of social theory. We begin by conceptualizing higher education as a field of social activity. We understand a field as a social space shared by individuals and organizations that face similar opportunities and similar constraints (Fligstein and Dauter 2007). Fields are typically arranged hierarchically, with incumbents enjoying status and resources while challengers seek to improve their positions without overthrowing the rules of the field itself; in essence, the goal of a "striving" university is not to change the criteria by which excellence is evaluated, but is to be regarded as "excellent" itself. Challengers, accordingly, undertake strategic actions in an effort to secure prestige and resources within the field (Fligstein and McAdam 2011, 2012). However, field hierarchies prove powerful, and mobility is limited. Indeed, in the fields of US research universities, inequality has increased as competition has intensified over time (Taylor, Chap. 4). Upward mobility is therefore limited, as we see with respect to academic patenting in work that we contributed with Kelly Rosinger (Chap. 6). The result is often that strategic action nets limited returns. Even when they occur, gains associated with new initiatives may attenuate over time (Taylor and Cantwell 2015).

While intuitively apprehended, the concept of "field" can prove elusive in an empirical account because fields nest within and abut one another (Fligstein and McAdam 2011, 2012). For example, any national system of higher education can constitute a field whose universities draw funds, students, and faculty members from similar sources (e.g., government, local tuition-payers). In this way, the Massachusetts Institute of Technology (MIT) and Leiden University belong to the field of US and Dutch universities, respectively. Yet, as Simon Marginson details (Chap. 2), competition for resources and status often extends on a global scale, especially for research-focused universities such as MIT and Leiden. In this way, these universities also belong to the field of global research universities, which is

demarcated—and, in some sense, created (Cantwell and Taylor 2013a)—by global league tables such as the Times Higher Education Supplement and the Shanghai Jiao Tong ARWU rankings. A precise understanding of the operations of MIT or Leiden, then, requires some attention to the multiple fields in which they are embedded (Marginson and Rhoades 2002). Activities in one field can profoundly shape activities in another. For example, resources that state governments allocate to the support of US universities—funds that traditionally have been used to support instruction of residents—may be repurposed to enter new competitive arenas (Leslie et al. 2012). As competition for global research talent and R&D production heightens, for example, these funds may be expended in the pursuit of globally mobile skilled labor (Cantwell and Taylor 2013b; Taylor and Cantwell 2015). We do not mean to suggest that one or the other of these means of operating is preferred. What we suggest, rather, is that interactions between fields profoundly shape individuals, organizations, and fields themselves. Hierarchies can be transformed (Fligstein and McAdam 2012) and new fields born (Taylor 2015) as a result of these collisions.

Despite its inherent complexity and ambiguity, "field" is a crucial concept in both the social theory of Pierre Bourdieu (1977, 1984; Naidoo 2004) and in neo-institutional theory (DiMaggio and Powell 1983). Fields are important to our account because they allow scholars of higher education to consider similar universities and colleges, such as research universities, rather than broad groupings of tertiary institutions (e.g., public and private universities in the US) that have great internal variation. The concept of field also allows scholars to understand ways in which activities in one part of the field shape those in another. In Judith Walker's account of Canadian higher education (Chap. 13), for example, changes in the industrial sector of the national economy prompted changes in the funding and operations of Canadian universities even though the mechanism by which funds were allocated—the provincial governments—remained largely unchanged. Finally, because there are varied fields among tertiary education at national and global levels, this concept allows us to better understand persistent differences among groups of institutions as well as different outcomes for students (e.g., patterns of stratification). As in Simon Marginson's chapter two, then, the concept of field helps us to understand which universities are privileged both within national systems and globally.

Political movements/economies are crucial elements of fields because of their potential to disrupt existing field hierarchies and allocation systems (Fligstein and McAdam 2012). In some cases, successful social movements lead to changes in states and civil society that have consequences for higher education. Political movements have actors able to mobilize people to challenge incumbents. When such challenges appear, however, established political economies often enable incumbents to counter challenges raised by political movements. Rich theoretical accounts of these movements therefore offer explanations for how changes within fields occur. Throughout the 1960s and into the 1970s, social movements in the US and Europe challenged research university incumbents (Fraser et al. 1988; Gilcher-Holtey 2008; Rojas 2012). These social movements were predicated on the exogenous

shock of the Vietnam crisis and other post-colonial challenges to settlements within the higher education community that followed World War II. Massification of tertiary education, part of the post-war settlement in the US, made a powerful contribution (Schofer and Meyer 2005; Trow 2010). Greatly expanded student bodies made campuses potential sites for students to challenge incumbents within universities, such as faculty and senior administrators, and also in related outside fields, for example the US Department of Defense. Generally, student movements in the US and Europe sought a more democratic and egalitarian university and society.

As is typical within hierarchically differentiated fields (Fligstein and McAdam 2012), however, the challengers never became the incumbents. Rather, the incumbents were able to restore order. Even as student movements gained strength, the former incumbents began to return universities to the *status quo ante*. Indeed, with the ascent of "neoliberal" governing ideologies in the 1980s (Harvey 2005), coalitions of state and non-state actors became an effective counter-movement to the democratic social movements of the 1960s. Although neoliberalism in principle minimizes the role of the state, in practice state subsidies and oversight are merely shifted into new areas and allocated by new means. In particular, higher education subsidies shift from broad general appropriations for the public good (for example, free or low tuition) to user taxes and fees (for example, high tuition) that emphasize individual rather than social gains accrued as a result of higher education (Mettler 2011; Slaughter and Rhoades 2004). The result in the US has been the decline in direct per-student subsidies contributed by governments over time (Taylor and Morphew 2013). Indirect government subsidies ranging from competition-based research funding (Taylor, Chap. 4) to tax exemptions conferred on accumulated financial assets (Cantwell, Chap. 9) have come to occupy ever-more-prominent roles in financing higher education. The net effect in the US has not been a reduction in public costs, but rather the redistribution of subsidies away from certain institutions and activities and toward others. As a result, stratification between US universities has increased as policies have changed.

This broad political (counter)movement shifted many of the nations included in this volume from Keynesian approaches, in which universities were funded and regulated centrally, toward more neoliberal postures in which resources were allocated via competitions and in which performance was assessed by professional managers. In our analyses of the US (Chaps. 4–6 and 8), we echo Suzanne Mettler (2011) in describing this arrangement as a "submerged state" which operates via competitions for largely government funded grants and contracts (e.g., research) and the allocation of nearly invisible subsidies (e.g. social tax expenditures that benefit research universities, such as bonding authority, and tax exemptions for many externally accrued monies). These shifts in the political economy to some degree frame the amount and distribution patterns of resources for higher education, constraining change in some areas, expanding it in others. For example, Susan Wright (Chap. 7) shows English "imaginators" simultaneously expanding their managerial warrant and restructuring the ways in which traditional educational

activities have been organized. The result is a university system that differs profoundly from its predecessors, though it is neither less expensive nor demonstrably more efficient.

Given that the vast majority of students in the nations covered in this volume attend public higher education, both national governments and political units within them (e.g., the *länder* in Germany, provinces in Canada, and the various states in the US) are conceptually significant because they respond to, temper and sometimes redefine political movements/economies. Nation states can initiate radical changes, as in England's recent and dramatic tuition rise for all fields outside of science and engineering (S&E), or make incremental changes that slowly shift the burden of tuition from the state (US Pell grants) to the student (federal and private loan programs). Supra-national entities (e.g., the European Union) also play an important role with regard to shaping nation-state options, as Karseth and Solbrekke outline in Chap. 11.

As support from governments became more unreliable, many universities turned toward actors from the private sector and government that promoted university-industry partnerships. For example, US research universities lobbied for passage of the Bayh-Dole Act (Berman 2012) in 1983, which allowed universities to hold patents discovered by faculty working on federal grants, sell them to interested industrial partners, or support start-up companies based on such patents. When the Cold War concluded, Department of Defense funding, for many years the mainstay of federally funded academic research, was sharply curtailed. US President Bill Clinton proposed using ensuing the "Peace Dividend," to support research to make America more economically competitive, and executive managers as well as a number of faculty at many research universities expanded into the field of entrepreneurial innovation, gaining access to new funding streams (Slaughter and Rhoades 1996). These are examples of how research universities are able to draw from contiguous fields in ways that many other tertiary institutions cannot. In many ways research universities were pioneers of public-private partnerships.

The preceding examples illustrate Fligstein and McAdam's (2012) point that incumbents are often able to restore order despite challenges because they hold material, cultural, and political advantages. This may be particularly important when—as in the case of US research universities—incumbents are able to consolidate resources from across many different fields. After challenges from (some) students and faculty during social movements in the 1960s and early 1970s, incumbents began moving toward a new "internal settlement," which we see as the beginning of the academic capitalist knowledge/learning regime and its characteristic circuits connecting academe to government, industry, and the nonprofit sector. It is important to note that we agree with Pinheiro, Kwiek, and Pusser (Chaps. 15–17) that the settlement itself is always precarious. To be glib, the settlement is never truly settled. Rather, as is the case with many such concords described by Fligstein and McAdam (2012), contestation over the "new" consensus is still on-going.

Contributions from Academic Capitalism

The theoretical endeavor of academic capitalism is to conceptualize how academic actors respond to these policy changes. While resistance is possible, as outlined above, much of this tradition highlights the ways in which universities position themselves to capture external revenues (Slaughter and Leslie 1997; Slaughter and Rhoades 2004). In other words, this theory highlights the specific strategies by which universities seek to improve their positions in the field, given the opportunities and constraints created by policymakers and other resource providers. Such research can illuminate the ways in which broad policy changes reshape daily academic life. For example, recent work in this tradition has highlighted the ways in which US universities reorient their patterns of degree offerings (Taylor et al. 2013), academic staffing (Cantwell and Taylor 2015), and organizational structures (Rosinger et al. in press) in order to capture resources.

The theory of academic capitalism is easily misunderstood as casting higher education as a "market." Yet authors in this tradition tend to shy away from the term due to the extensive state involvement in creating competition (Taylor et al. 2013), as outlined above. Instead, academic capitalism tends to cast higher education as a prestige economy. In this account, universities are equally concerned with competition over revenue generation and with the cultural practices and social status associated with said revenues. For example, success in winning research grants and contracts, attaining citations and prizes from research produced from said grants and contracts, and success in endowment expansion are often associated with prestige. Such funds tend to be associated with position in global rankings systems that, often explicitly, measure these activities (Cantwell and Taylor 2013a). By contrast, revenues secured from instruction—while often robust and stable—are, in the US, associated with lower status, and tend to be disfavored by campus decision-makers (Rosinger et al. in press). The result is that universities compete not on the basis of efficient operations, but on the ability to secure favor from providers of certain, status-conferring resources (e.g., research support, donations) rather than other resources (Taylor et al. 2013).

The resulting competitive system is complex and multifaceted. Competition—(allegedly) the key to capitalism—is intense, but the bulk of the resources that support university research derive from various state bodies or from non-profit organizations (non-governmental organizations), not from the private sector (National Science Board 2014). Institutional money for "start up" expenses is necessary to succeed in these competitions (Stephan 2012), as is demonstrated by the very large expansion of grant and contract support staff, fund raisers and endowment managers, and the salaries paid to star faculty. However, not any money will do; the source of funds matters. Unsurprisingly, research related funds and endowment monies are most highly valued by officials at US research universities. Other money—from rising tuition (Taylor and Morphew 2014) or savings from hiring contingent labor (Schuster and Finkelstein 2006)—is essential, but is often redirected internally to enable incumbents to better compete in areas that confer status

(Leslie et al. 2012; Rosinger et al. in press). One likely purpose of this reallocation is the substitution of money from one source for money from another, more prestigious provider. In part, this reflects the longstanding norms of US higher education, which have valorized research—and the few universities with sufficient resources to pursue it extensively—since the late nineteenth century (Geiger 1986). At the same time, however, this arrangement reflects the emergence of research as the primary currency of global status—as Simon Marginson outlines in Chap. 2.

Unlike business firms, then, campus decision-makers do not pursue profits and efficiencies. To be sure, they seek revenues, but they also pursue national and, increasingly, world-class status. Such activities likely raise costs at least as rapidly as they increase revenues (e.g., Rosinger et al. in press). Gaye Tuchman's (2009; see also Chap. 10 in this volume) account of growing administrative authority at "Wannabe U" gives ample testimony to the relationship of a prestige economy to other academic capitalist trends such as an expanding managerial warrant. What is more, the concept of prestige economies allows us see how universities within a field are able to hold top positions by drawing on contiguous fields that create a broad array of resources, enabling them to target areas that garner status. This suggests in turn that a university's path to prestige may depend on its ability to marshal resources from different fields. It is perhaps not a coincidence that the most-connected global universities identified by Ilkka Kauppinen, Lindsay Coco, Hyejin Choi, and Lucia Brajkovic (Chap. 3) are all wealthy and prestigious institutions. Such mechanisms may serve to perpetuate or heighten stratification among universities.

These behaviors are both necessitated and intensified by universities' changing environments. We hasten to note, however, that movement toward "the market" is neither natural nor inevitable (Taylor et al. 2013). Rather, as outlined in the previous section, the adoption of market-like spaces depends on what actors (individual and organizational) do within various fields of higher education—how they mobilize, incent, discipline and reward, and, especially, how they relate to adjacent fields such as governments and industry (Slaughter and Leslie 1997; Slaughter and Rhoades 2004; Slaughter and Cantwell 2012). Fields and universities, in other words, are crucial components of the structures through which academic capitalist processes occur. However, it is individual actors—situated in more (or less) privileged locations within this space—that respond to structural incentives and cause social action. It is therefore crucial to understand the mechanisms—whether deployed by individuals and/or organizations—that instantiate and maintain academic capitalist knowledge/learning regimes (Cantwell 2015). The decline of the Keynesian state may be noted widely, but it occurs locally, in the daily actions of individuals and organizations.

Initially the theory of academic capitalism focused on four mechanisms: new circuits of knowledge (e.g., patenting, start-ups), interstitial bodies (e.g., technology transfer offices, research parks), intermediating organizations (e.g., the Business Higher Education Forum, IET) and expanded managerial capacity (Slaughter and Rhoades 2004). Currently, we argue that mechanisms promoting academic capitalism are proliferating and concomitantly intensifying competition. These shifts are charted closely in chapters that focus on the US. Gaye Tuchman (Chap. 10), for

example, charts the shifting role and influence of campus administrators and their deployment of (sub) mechanisms such as strategic planning that are generally aimed at making universities more competitive while simultaneously strengthening managerial authority. This perspective is complemented by Sondra Barringer and Sheila Slaughter's work (Chap. 8) on the heightened role of trustees who are closely connected to knowledge intensive industrial and financial firms. These trustees generally promote expansion of university offices that promote various forms of entrepreneurism. Similarly, Brendan Cantwell's essay (Chap. 9) illustrates the processes through which a group of elite US universities drew on non-profit foundations to develop a climate for new legislation. This new regulatory environment permitted the growth of high-risk endowment management practices by reimagining the "prudent man" rule, thereby repurposing endowment management and further expanding the remit of managers active in market related areas.

Over time, many organizations that emerged interstitially became institutionalized. These organizations also have tended to expand managerial capacity, allowing changes to be made more thoroughly and quickly, intensifying activity surrounding many mechanisms and developing new ones. New circuits of knowledge that go well beyond patenting, start-ups and electronic education continue to emerge, as Kauppinen and colleagues show in their analysis of networks of trustees and other managers who hold positions at global capitalist firms (Chap. 3). Membership in these networks allows universities to span national boundaries while providing some actors from the profit-making sector with close access to university operations. New funding streams developed to meet state, national and supra-national competitiveness agendas feed market related fields (e.g., translational research at the NIH, entrepreneurial research at the NSF, heavy investment in STEM related research funding in the EU). New discourse and narratives, often in the form of policy statements or position reports, incent actors to behave in certain ways, then justify and normalize the changes that are occurring. This process is exemplified by Karseth and Solbreke's (Chap. 11) account of the Tuning project in the EU's Bologna Process, which coordinates curricula in the direction of employability across countries while simultaneously creating new opportunity structures for experts and academics at the EU level (see also Slaughter and Cantwell 2012). Emerging social technologies measure, calibrate, and norm student, faculty and university performances, generating complex global ranking systems (Cantwell and Taylor 2013a), as addressed by Simon Marginson (Chap. 2).

Repurposing existing organizations is yet another mechanism for strengthening the academic capitalist knowledge/learning regime (see the discussion of endowment management, above) and the organizational authority of the managers who pursue status within it. For example, the bursar's office at US colleges and universities traditionally was, as McPherson and Schapiro (1998) famously put it, little more than a charitable organization directing limited institutional funds to needy and deserving students. Over time, however, this office has morphed into "enrollment management" enterprises, with multiple professional staff focused on "bringing in the class" that has the right mixture of high tuition paying students, high scoring students, and students representing targeted segments of the general population. So

too, the transition from high school to college, once handled by a modest number of guidance counselors, has been transformed by increasing competition for "seats" at elite private colleges and research universities. As Lois Weis (Chap. 14) points out in her study of an elite private preparatory school in the US, the transition is now marked by expansion of school staff who are closely connected to selective colleges and universities and work with students and parents, often aided and abetted by private counselors. In many ways the transition to a high status college or university has become the curricula of private college preparatory high schools, subordinating all academic and co-curricular activity to the creation of students with the right profile.

Where academic capitalist processes once occurred primarily in the peculiar US higher education system, growing evidence collected in this volume suggests that these trends are becoming more common in other countries. Indeed, a similar repurposing of existing organizations is underway in other national contexts, although the organizations are often different than those in the US. Susan Wright's (Chap. 7) account of the "imaginators" of the new English university highlights almost all of these mechanisms for transmitting academic capitalist processes. In her analysis, existing university charters and associations for vice chancellors facilitated—or, at least, offered little resistance to—sweeping changes in the structure and operations of English universities. Although less dramatic, Karseth and Solbrekke's (Chap. 11) account of changes in EU "steering" charts a similar course in which existing bodies and structures have been repurposed to serve new policy goals.

In sum, mechanisms for moving universities ever more deeply into competitive spaces are proliferating and deepening. These changes reinforce and accelerate academic capitalist processes. Examples include new funding streams, changing narratives and discourses, emerging social technologies, expanding managerial authority, and the repurposing of existing organizations. These mechanisms embody actors, organizations and opportunity structures, and have opened up large spaces that do not focus on the interaction of faculty and students in classrooms or research laboratories. Rather than focusing directly on educational activities—indeed, sometimes at the expense of operational efficiency and effectiveness—they often support competitions for external revenues. The standard practice of research universities in this new environment is to ratchet up competition in the areas that "count"—success in research, entrepreneurial engagement with industry, and finance and endowment management. Research universities accumulate these resources by deploying academic capitalist mechanisms early and often.

Alternatives and Conclusion

Currently, the incumbent academic capitalist knowledge/learning regime in research universities gives the impression of a secure settlement. However, as noted previously, all settlements are precarious and contested. Strategies designed to accumulate resources and prestige may instead create internal inefficiencies, thereby contributing to increased costs and escalating tuition. Public research universities,

which even in the US educate more students and many more low-income students than do private research universities, are now disadvantaged vis a vis privates. As Taylor (Chap. 4) notes, this disadvantage is manifest in the fall of many public research universities from the "middle class" and into the realm of "poor relations." The growing stratification among research universities to some degree mirrors the growing stratification of income and opportunity in many countries (Piketty 2014). These conditions may mobilize a variety of challengers with alternatives to the status quo.

Currently confronting academic capitalism are the "Nordic model" (Pinheiro, Chap. 15), a strengthened civil society (Pusser, Chap. 17), and change predicated on the end of enrollment expansion (Kwiek, Chap. 16). The "Nordic model" for higher education eschews competition and creation of the neoliberal ethos in favor of state commitment to free higher education for all and an emphasis on what knowledge can do for the citizenry as a whole. For Romulo Pinheiro, universities themselves may be repositories of these counter-competitive norms, and campus practices may continue to embody Humboldtian values. However, the Nordic countries may be exceptions with regard to higher education, in that they are relatively small countries with substantial wealth and a political tradition that supports income redistribution. These characteristics contribute to the Nordic countries' ability to sustain their national systems in the face of policy changes in other nations.

Brian Pusser's Chap. 17 calls for broad reconceptualization of the state and its role in higher education. Pusser argues that resistance to neoliberal trends may be rare in the official channels of policymaking, but is more common than might be expected in civil society organizations such as trade unions and political parties. Such bodies can change fields (Fligstein and McAdam 2012). Sites of resistance to competition-based policies often exist outside of dominant coalitions and interest groups. For example, students in the US are currently organizing to refuse to repay their student loans. While Pusser focuses on the US, the trends he identifies—like many others in this volume—might be found in slightly different forms in many other contexts.

Marek Kwiek suggests another source of challenge: inexorable demographic changes. Decline of college age population in Poland has undercut what was a flourishing, tuition-charging private higher education sector. For the most part, the decreasing numbers of students now enroll in state-funded, no-tuition public higher education, which has expanded in response to private decline. The effect has been to re-publicize tertiary education in Poland. Kwiek notes that much of Europe will face similar population decline in the next decade, creating space for change. In other words, given that the longstanding expansion of financial and human resources flowing into universities cannot extend indefinitely, Poland offers one glimpse into the possible futures of other higher education systems.

Each of these chapters on counter-trends outlines important ways in which the academic capitalist "settlement"—which seems increasingly hegemonic in the US and other sampled countries—is provisional and contested. We concur with these authors that current trends are neither inevitable nor irreversible. Nonetheless, the balance of evidence presented in this volume highlights important patterns in the

expansion and consolidation of academic capitalist processes. We believe that these trends are, at least in the national systems included in this volume, indicative of potential things to come. We have described these processes, identified mechanisms for their spread and perpetuation, and suggested potential changes in future higher education policy. While these patterns are neither universal nor uniform, they are dominant, and so merit further scholarly attention.

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