

Converging Paths: Public and Private Research Universities in the 21st Century

Introduction

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The American research university has been celebrated as “the greatest system of knowledge production and higher learning that the world has ever known” (Cole 2010, 13). As measured by any number of factors – international rankings, Nobel Laureates, publications in peer review journals, or impact on industrial innovation – the American research university has had a disproportionate impact on national and international welfare. The success of the American research university has led other countries, with varying degrees of success, to emulate the model.

Jonathan Cole, one of the leading experts on the American research university, has traced its preeminence to several factors, including its singular fusion of research, education, and service; the premium it places on free inquiry and discovery; and the high levels of research funding that the federal government provides to faculty on a competitive and meritocratic basis (Ibid). But surely another distinctive feature that explains the success of the American research university is its institutional heterogeneity. Unlike in most OECD nations, where state-owned research universities have constituted the dominant (although not exclusive) organizational structure, the U.S. system is more diverse, with private and public universities populating the landscape. This diversity in organizational forms undoubtedly has helped to fuel the innovative and responsive character of the American system, with divergent approaches to the educational, research and service challenges of our time.

However, as many have observed, America’s public research universities now find themselves under enormous strain. Far and away the principal source of this stress has been a marked withdrawal of state financial support to higher education across the last two decades. Public research universities have become more dependent on revenue sources other than state appropriations—including tuition, philanthropy and grants—and more focused, like their private peers, on strategies focused on those sources. A byproduct has been a negative impact on affordability and access, which are traditional benchmark objectives of public

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higher education. These responses have taken a predictable toll on the mission and the standing of the public university. The events of recent years have led a wide range of commentators to lament the privatization of public higher education in the United States, and to question whether – and how – the American public university can survive in its present form (Duderstadt 2011; Lyall and Sell 2006; Priest and St. John 2006).

Although the privatization of the public university is a much discussed phenomenon, less appreciated is the opposite but equally significant trend in the United States – the “publicization” of private universities. In response to a variety of external forces, American private research universities have come to take on many new roles and responsibilities long associated with the mission of public research universities: enhanced socioeconomic diversity, local social policy goals, regional industrial policy, and, most recently, mass online education. Taken together, the privatization of the public research university and the publicization of the private research university suggest a marked convergence of these institutions. Indeed, we argue that there is now ample evidence of movement toward a single model of higher education in the United States that blends elements of two previously distinct institutions: a model that one might call the public-regarding private (“PRP”).

The emerging landscape of higher education presents challenges for private and public research universities alike. The convergence of public and private research universities has been driven by a confluence of forces including the role of the federal government in supporting universities, the emergence of the innovation economy, the rise of third-party intermediaries that monitor university performance, shifting societal expectations regarding the role and responsibilities of elite institutions, and significantly decreased state funding of public institutions. These forces have contributed to an integration of the distinct markets in which public and private research universities have traditionally operated. The question for public research universities is how they will compete with privates for faculty, students, and research support in this newly converged world. And as these forces evolve and new ones emerge, the question for private research universities is whether they will be able to commit to a public-regarding approach, and develop a comfort with new partnerships and relationships with sometimes unfamiliar stakeholders outside their campus walls.

However, public research universities are at a disadvantage relative to their private peers in adapting to this newly

competitive landscape. Specifically, public research universities must reckon with the structural encumbrances of public ownership and operation. They must contend with anachronistic bureaucratic regimes that have impaired their ability to adapt to emerging challenges. They must devote countless time and resources to defensive maneuvers against political intervention in the operation, finances, and even academic decisions of the university. And in extreme cases, public research universities have been embroiled in wrenching and detrimental governance conflicts that have pitted university boards aligned with state political overseers against university leaders.

Given the number of areas in which private nonprofit research universities have begun to successfully serve public goals and interests with a much less burdensome governance model, the question for policy-makers is whether they are capable of conferring greater scope on public research universities to adopt aspects of the governance and regulatory regime adopted by private universities, which would enhance their capacity to compete on a more level playing field with privates. Specifically, we recommend a number of reforms to empower public research universities to continue their essential and celebrated role, among them not-for-profit boards, structural autonomy measures, and multi-year funding. We also urge ongoing experimentation with creative options to provide public research universities with a path to financial sustainability.

Our argument will focus where possible on the public and private research universities that are members of the Association of American Universities, as these are the institutions where the convergence has been the greatest, and where the public universities are in the strongest financial position to persevere through forward-leaning structural reforms. We develop this argument in several stages. In Part I, we discuss the separate mission-oriented and structural attributes of the modern public and private research university. Next, in Part II, we map the origins and the evolution of public and private research universities in the United States. In Parts III and IV, we discuss the recent trend towards convergence of these two institutions, and the forces that are driving this trend. The legacy of state ownership and operation has created structural impediments that impair the ability of public research universities to compete in this new converging world, a point we discuss in Part V. Finally, in Part VI, we argue that there needs to be a convergence in the structure of public and private research universities that mirrors the convergence we have seen in the mission of these universities, and we propose a series of possible reforms to accomplish this goal.

I. Defining Public and Private Universities

Public and private universities are often discussed in the popular press, but they are rarely defined. What does it mean precisely for a university to be public or private in the United States, especially as those lines have increasingly blurred? Although the precise nature and purpose of the public and private university have changed over time, one can point at the same time to a distinct set of *structures* and *missions* that define the public university. We will consider both categories of traits, as we chart the convergence of public and private research universities in this Article.

A. Structure

We start with the defining structural features that traditionally have distinguished the public university and the private not-for-profit university models in the United States. Robert Lowry has identified four such features, which we summarize briefly below (Lowry 2009):

Ownership. The assets of a public university are owned by a state agency or publicly chartered corporation. By contrast, the private not-for-profit university is a private corporation, which owns all of its land and buildings.

Funding. Public and private research universities alike rely on revenue from a range of sources, including tuition dollars, philanthropy, federal research funding, and state and local government. What distinguishes public and private universities is the mix of these categories, with public research universities having received a larger percentage of their funding from state and local sources, and private research universities relying to a greater degree over the years on private philanthropy, tuition, and auxiliary enterprises (Delta Cost Project).

Discretion. Public research universities traditionally are subject to a comprehensive system of state laws and regulations that specifically shape its conduct, as well as an array of other restrictions that apply to all state entities, such as freedom of information or sunshine laws and procurement rules. By contrast, the private university usually operates under laws of general applicability.

Governance. Public and private universities can also be distinguished in the design of their governing boards. The public university board is usually appointed by political officials (or in a few cases elected). The private not-for-profit university, on the other hand, is most often governed by boards that are self-perpetuating or elected by alumni – organizational theorists have described how such boards, aligned with various constituencies affected by the conduct

of the institution, are essential in ensuring fidelity to the mission of the private not-for-profit institution and preventing erosion of quality of services.

It is important to emphasize that public and private universities do not operate in a world of absolutes, and the above categories are not necessarily binary. For example, with regard to discretion, some public research universities have obtained a greater degree of flexibility from state control in a variety of ways, and private universities are often subject to extensive regulatory oversight as a condition of funding. Even so, these four categories provide a useful construct for evaluating what it means for a university to be structured as a public or private institution.

B. Mission

At the same time, such a construct is not entirely complete. Traditionally, at least, public research universities have embodied not only a distinct organizational form, but also a particular set of civic-oriented objectives that they were understood to be in a unique position to advance.

One could distill that singular mission into four separate goals: First, public universities provide a guarantee of *affordability*, delivering education to those who would otherwise find it beyond their means. Second, public universities have been committed to the goal of accessibility, or making the benefits of higher education available broadly, especially to underrepresented populations. Third, these universities have been singularly mindful of *community*, with their public character making them attentive and devoted to the particular economic and social needs of the citizens of their state. And finally, it has been argued that public universities enjoy greater *independence* than private universities from the distortions and biases that can be introduced by outside interests, and therefore that they are specially positioned to maintain a high commitment to the academic process and the common good.

Of course, notwithstanding these differences, public and private research universities have shared many of the same objectives over the years. Both have made it their mission to transfer knowledge to the next generation through education, to create entirely new knowledge through research and discovery, to inspire creative thinking and a love of learning among students, and to serve as a sanctuary for independent scholarship and thought. And yet, the celebrated position that the public research university has occupied in American society is due in no small measure to its success in achieving the distinct set of goals discussed above through much of its history.

II. Separate Paths

Public and private universities in the United States have followed very different trajectories to arrive at the institutions we have come to know in modern day.

The earliest colleges in the United States were modest endeavors, often with deep religious affiliations and a degree of colonial sponsorship in the form of land, funding, representation on the board, and a charter that gave the college monopoly rights in the colony. The explicit goal of these new institutions was to educate the next generation of legal and sectarian leaders in the colony: Yale, for instance, was founded by ministers to educate students “for public employment both in Church & Civil State” (*Yale University*). There is a lively historical debate as to whether the structure of these colleges made them “private” or “public” in form, and the best answer is likely that they were neither private nor public in nature as we would understand them today, but rather institutions uniquely of their time (Cole 2010; Whitehead and Herbst 1986).

Even so, there is no doubt that the nation was witnessing the birth of what would become not-for-profit private universities. In the decades following the American Revolution, colleges in the United States broadly underwent four changes: First, they took on a far more secular character, providing a broad arts and science and eventual professional education to the young country’s elite and professional classes. Second, the states allowed other colleges and universities to educate students in their borders, severing the unique relationship between the government and the monopoly it had previously conferred on a single college within its borders. Third, the colleges came to rely more prominently on private parties for their financing and governance, with tuition and private benefactors quickly displacing the state as the source of funding for the colleges, and alumni and other private parties taking the place of public officials on the boards. Finally, as the nation neared the end of the 19th century, the colleges started to combine an emphasis on the creation of knowledge along with the traditional collegiate focus on teaching to forge a new hybrid model, the modern research university (Brubacher and Ruby 1958; Kerr 2001; Cole 2010).

The emergence of private parties in the governance and funding of higher education did not mean that public bodies would be inattentive to these universities. The states would remain involved in higher education over the years, providing funding and other forms of support for educational and

research initiatives, and becoming more involved in oversight through accreditation and other forms of regulation. And particularly in the 20th century, the federal government would become a close and engaged partner with higher education, offering billions of dollars in competitive research grants to faculty at colleges and universities; embarking on a major investment in portable college financing to expand access to postsecondary education across the nation through programs such as the GI Bill and Pell Grants; and playing a more robust role themselves in regulation and oversight. Even so, private universities largely retained their private character, with private boards exercising substantial scope over their own academic and operational decisions (Brubacher and Ruby 1958; Hight 1976; Goldin and Katz 1998).

The public university, at least as we would recognize it today, followed an altogether different path. By the early nineteenth century, a handful of states had launched government-owned and operated universities, especially in southern and mid-western states where private universities were slower to appear. But a comprehensive, wide-ranging network of state-run public universities had yet to take root. That changed with the Morrill Land Grant Act of 1862, through which the federal government provided land to the states to establish colleges with programs in “useful arts” such as agriculture, mechanics, and military instruction. This unprecedented act of federal largesse sought to achieve several goals: meet the need for technical education at a moment when private colleges were focusing on a liberal arts education for a liberal elite; train a labor force in numbers capable of fueling the industrial revolution in a rapidly expanding nation; and serve as beachheads to spur the development of western lands. Congress would later expand the Morrill Act several times, and the initiative spawned over 70 state-run universities, located in every state in the nation (Cross II 1999; Veysey 1970).

The first half of the 20th century witnessed the emergence of state governments as additional, major players in the funding and growth of the public universities. States used tax revenues to grow their own universities to tens of thousands of students, yielding a nationwide network of public research institutions that drew on state subsidies to serve a larger segment of the state’s population at a lower price than their private peers. As the nation entered the second half of the century, a rising birth rate, migration west, and the return of soldiers from the war led to dramatic surges in enrollment. And the greater attention to the importance of education and research on the part of the

states and the federal government alike led to the expansion and multiplication of public universities, particularly in the areas of multi-campus systems, community colleges, and vocational institutions (Wahquist and Thornton 1964; Veysey 1970).

The second half of the 20th century marked the vast expansion of state regulation over its public universities. This development was driven by a range of factors, among them the growing complexity and size of state systems of higher education, rising concern over issues of affordability, the emergence of social unrest on these campuses in the 1960s, and infighting within ever more complex and sprawling public university systems. By the end of the 20th century, most aspects of the operation of public universities had come under at least some state control and oversight, and even the small handful of public universities that had obtained constitutional autonomy from public influence (e.g., Michigan, Minnesota, and California) still found themselves subject to various forms of management and intervention from state capitols (Wahquist and Thornton 1964; McLendon 2003; University of Washington 2011).

III. Converging Trajectories

Although private and public universities arose in response to different imperatives and followed different paths, their trajectories have started to converge in recent years. In this Part, we discuss this convergence through two lenses: the privatization of public universities and the publicization of private universities.

A. The Privatization of the Publics

The single most important catalyst of transformation in the public research university in recent years has been a profound decline in state funding. Between 1992 and 2010, the percentage of public research universities' total revenue from state funding dropped from 38 percent to 23 percent (NSF 2012). From 2002 to 2010 alone, state funding per student at major public research universities in the United States declined by 20 percent in constant dollars, reaching a 30-year low (NSF 2012; Jackson 2012). The Great Recession was an especially harmful episode in this regard, one from which public universities have not fully

recovered: Between 2008 and 2013, state support for public higher education per student declined by 26.3 percent at the median public research university (AAAS 2015a).

A number of large public research universities now receive less than 10 percent of their revenue from state funds (UW 2011; AAAS 2015b). As of 2014, 49 states were spending less money per student on higher education than before the recession. Of course, some of these states have cut funding heavily, while others have done less so. But more than half of the states have cut spending by at least 25 percent. (Hiltonsmith and Draut 2014) And the impulse to divest shows no signs of abating. In 2015, Louisiana, Illinois and Wisconsin announced plans to slash funding to higher education even further by roughly \$600 million, \$400 million and \$300 million respectively leading to pitched political battles that are still playing themselves out in each state.

This decline in state funding has produced a number of consequences for public research universities, each marking a retreat from the traditional distinctive *mission* of a public university – providing an *affordable* education that is *available* broadly to the populace, tailored to the needs of the *community*, and *independent* from influence.

First, the withdrawal of state support has compelled public research universities to increase their reliance on other revenue sources, including tuition. From 2001 to 2011 alone, tuition as a proportion of total operating revenue at public research universities has risen from 16 percent to 23 percent (Delta Cost Project 2014). Those universities have tried to limit the impact of the withdrawal of state funds on the neediest students, seeking to support investments in financial aid through a renewed emphasis on philanthropic support¹ and on auxiliary enterprises such as academic medical centers. Nonetheless, the decline of state funds has produced a considerable impact on the *affordability* mission of public universities. Average net tuition at four-year public universities – that is, the average price to those students on financial aid after removing the amount of aid they received – has risen by 136 percent in constant dollars since 2000 (College Board 2016).

Indeed, when one considers that these price increases were imposed at a time when families were reacting to other

1. A number of state universities have relied upon high levels of philanthropy to support their missions for many years (Michigan, Virginia, UNC), but these are by and large the exception. Most public universities have been forced to contend with widely and deeply held views that, given the high levels of state support funded from general tax revenues, it was neither appropriate nor necessary for alumni to contribute their own additional funds. (Duncan 2004). But as public understanding of the plight of public universities has shifted, and institutions have increased their investments in development activities, the reliance on philanthropic funding has grown significantly. (Jackson 2012). Today, of the top 20 fundraising universities in the United States in 2014, seven are public research universities. (Mulhere 2015)

economic shocks – unemployment, a real estate meltdown, and a stock market correction – it is not surprising that many have highlighted the affordability issue as one of the principal areas in which public universities have seen their public character diminish. The cost of attendance for a public four-year institution, including tuition, fees, and room and board, increased from 32 percent of a state resident's disposable income in 2000 to 40 percent in 2009 (NSF 2012). And although net tuition is still lower at public than private research universities in most cases, that is no longer always the case: There are now several private research universities, such as Harvard and Emory, that cost less after financial aid than many of their public peers.²

Predictably, the decline in state funding has also affected the *accessibility* of higher education. Higher net prices are placing a public research university education out of reach for underprivileged populations. The share of financial aid received by low-income students at public colleges and universities has dropped from 34 percent in 1996 to 25 percent in 2012, while the share received by higher income students has risen from 16 percent to 23 percent (Wang 2013). Beset by budget shortfalls, more than half of four-year public doctoral universities in one recent survey have said that they are actively taking steps to attract students who will pay the full tuition. And at other public research universities, the enrollment of underrepresented minorities has fallen in recent years, sometimes by 10 percent or more (Kiley 2013).³

If one looks at students who received Pell Grants (direct federal grants to students from low-income families), public research universities in California such as the University of California-Los Angeles (39 percent of the student body) or the University of California-Berkeley (35 percent) enroll far more of these students than private research universities in the state such as Stanford University (15 percent) or the California Institution of Technology (11 percent). However, a number of other leading public research universities now hover alongside their private counterparts: in recent years, publics such as the University of Virginia and the University of Wisconsin-Madison, and privates such as Northwestern University and Duke University, have all enrolled 13 to 15 percent of their student body as Pell recipients.

Another repercussion of the withdrawal of state funding for public research universities has been a shift in the composition of incoming classes from in-state to out-of-state students. Impeded by state regulations from raising in-state tuition, public universities have looked to increase the number of out-of-state students (to whom they can charge higher prices) and international students (who are often excluded from university financial aid policies altogether) in a bid for tuition dollars. According to one analysis, the average public research university increased its nonresident freshmen enrollment from 20.4 percent in 2002-03 to 24.7 percent in 2012-13 (Jaquette 2015). This is yet another way in which public research universities have been compelled to drift away from an objective that traditionally had distinguished them from their private peers – providing an education that is targeted to the particular *community* in which they live.

There is one final dimension in which public research universities have come to lose an element of their public character. While a reliance on public funding might once have been seen as affording public universities greater *independence* from undue external influence, it has become apparent that patronage by state officials is a double-edged sword. Today, we are witnessing a change in the climate surrounding public education such that public universities are the subject of ever greater political debate, scrutiny, and intervention by public actors (or their agents). This in turn has led in recent years to a number of wrenching clashes between state political leaders and university leadership on a wide range of topics, including not only their budgets but also the day-to-day operation and even the academic decisions of their universities. Although the boards of any organization, public or private, can overreach at times, and certainly private research universities are not immune from this phenomenon, there is simply no parallel among private research universities to the recent, persistent pattern of obtrusive interference into the core academic mission of their public counterparts.

2. Data from the Integrated Postsecondary Education Data System (IPEDS), National Center for Educational Statistics, US Department of Education. Available at: <http://nces.ed.gov/ipeds/Home/UseTheData>.

3. <https://www.insidehighered.com/news/2013/04/30/out-state-enrollment-decreases-minority-low-income-student-enrollment>. One paper attributed these decreases in part to an increase in out of state enrollment at these universities, and noted that the decrease is statistically significant even when you account for changes in state policies on affirmative action (Jaquette 2015).

A few recent examples of the nature and magnitude of these incidents in the case of public research universities are illustrative:

- **Wisconsin.** Governor Scott Walker of Wisconsin this year proposed cutting \$300 million in state funds for public universities, and introduced legislation to make changes to faculty tenure protections and shared governance rules. Faculty members in the University of Wisconsin system rallied against the proposal, stressing that its passage would lead to a number of deleterious outcomes including a lower quality of education and a chilling effect on speech.
- **Oregon.** Several years ago, University of Oregon President Richard Lariviere and the State Board of Higher Education had clashed over salary increases for faculty and administrators, overtime policies for employees, and his proposals to move to an independent board and a sustainable financial plan based on a new bond model. Although fall enrollment numbers had set a new record for the university, the incoming freshman class had the highest test scores in history, and he enjoyed faculty support, the Board voted unanimously to fire the president.
- **Texas.** The University of Texas has been embroiled in a years-long feud between the President of the university and the Governor and the Board of Regents over a range of topics including admissions policy, academic research, and the university's curriculum. The state legislature backed the president and initiated impeachment proceedings against a member of the Board of Regents who had attacked him. The faculty council for the university also came to the President's defense. Ultimately, the dispute led to a plan for the President to step down from his post this year.
- **North Carolina.** The President of the University of North Carolina recently came under withering criticism from lawmakers and others over academic programs and financial aid. These clashes ultimately led to the ouster of the president by the university Board of Governors, most of whom had been newly appointed by a legislature that had changed political parties since the president had taken office.

- **Virginia.** In 2012, the University of Virginia Board of Visitors forced the president of the university to resign a mere two years into her first term, reportedly for failing to consider program cuts or move quickly enough in the area of distance learning. After two weeks of turmoil on campus, a faculty senate vote of no confidence in the Board, and protests and condemnation by students and alumni, the Board voted unanimously to reinstate the president.

Whatever else might be said for these disputes, it is far more difficult to say that public universities find themselves free to pursue their mission independent of outside pressure or influence. Moreover, as the number and intensity of these conflicts have increased, so too has the frequency of senior executive turnover, which itself can compromise institutional effectiveness. One analysis of executive turnover at American Association of University research institutions revealed that on average, 14 percent of member public research university presidents are replaced each year, compared to only 6 percent of their private counterparts.⁴

This discussion should not be taken as a criticism of public research universities, which continue to play a critical role in higher education, research, and service in the United States, even in the face of extensive budgetary and political pressures. We intend only to depict how the trajectory of public research universities has shifted over time in response to those pressures, and in particular how these institutions have been pushed away from their core public mission in significant ways.

B. Publicization of the Private Universities

At the same time that public research universities have seen their public mission compromised, private (nonprofit) research universities have been becoming more public in nature. The capacity of private research universities to show fidelity to the public interest should not be surprising – it is, in fact, hard-wired into their nonprofit stakeholder model of governance, and reflected in their founding documents, as well as their mission to create and disseminate knowledge. What is striking, however, is how dramatically nonprofit privates have moved in the last two decades in particular to subsume so many of the distinct goals that were previously regarded as the predominant preserve of the publics. As

4. Current AAU private university presidents have served an average of 8.3 years, while public universities have served an average of 4.8 years. Data on file with author.

we shall argue below, the fact that nonprofit privates are capable of demonstrating fidelity to these goals, but without many of the burdens associated with public universities, calls into question whether a strong normative case in favor of the traditional public model still exists today.

One area in which private research universities have moved towards once distinctively public goals is *affordability*. Over the last fifteen years, private research universities have raised philanthropy, tapped their endowments, and otherwise made a new institutional commitment to financial aid. According to one study, the average discount rate at private research universities – that is, institutional grant aid as a percentage of tuition and fees – rose from 32 percent to 43 percent from 2000 to 2012 (NACUBO 2014). As a result, tuition and fees net of financial aid increased by only 17 percent at private nonprofit universities in constant dollars since 2000, compared to an increase of 136 percent at public four-year universities during the same period (College Board 2016).⁵ According to the American Association of Universities, the percentage of students graduating with no debt from AAU private research universities rose from 51 to 54 percent from 2003 to 2009, a figure that is higher than that for students at AAU public research universities (49 percent) or all universities (42 percent) (AAU 2012). Although most public research universities are still less expensive than private research universities, the convergence of their prices has reached the point where the cost of attendance net of financial aid of certain private research universities (such as Harvard, Duke and Stanford) is now less expensive than some of their public counterparts.

Next, private research universities have acted to augment the *accessibility* of higher education in recent years, by entering the domain of mass education. Clearly, most public research universities enroll far more students than their private counterparts, and in point of fact, mass education has not traditionally been a strength of private research universities (Delta Cost Project). But the revolution in technology in higher education and a willingness to make their courses available more broadly to the public have carried these institutions into engagements with non-traditional constituencies. For example, private research universities are now among the major investors and

participants in leading MOOC platforms such as Coursera and EdX. As of 2013, seven of the top ten courses on Coursera by lifetime enrollment were offered by faculty at private research universities in the United States, and each of those courses had reached more than 100,000 students. These courses often are reaching students who might not otherwise have realistic access to education at an American research university: About one-third of their students are from the developing world.

It was also a private research university (MIT) that launched OpenCourseWare, an initiative to make course materials free and available widely around the world – 2,180 courses are now available online. And as of 2012, more than 18 percent of students at four-year private nonprofit colleges and universities took at least some courses online, a number only slightly less than that at public universities (22 percent) (IES 2014).⁶ Of course, there is still considerable uncertainty about the role that digital technologies will play in the future of higher education. And yet, it is notable that at least in these early days, private universities are embracing rather than shying away from the ways in which new digital media can expand the reach of education – another sign that they are assuming a role that was once the reserve of their public peers.

Finally, private research universities have also shown more attention over the years to traditionally public objectives through a renewed commitment to the welfare of the *communities* in which they live. Judith Rodin's *The University and Urban Renewal* describes the University of Pennsylvania's recent groundbreaking investment in comprehensive reforms to support the revitalization of its West Philadelphia neighborhood, including employee housing programs, commercial development efforts, and a local purchasing initiative through which they increased spending in the area from \$2 million to over \$90 million across 20 years. Other private universities have taken up similar efforts in recent years, including the University of Chicago's programs to transform surrounding neighborhoods through workforce, commercial, and residential development and an initiative to support businesses and residents in the city's South Side, and Johns Hopkins's commitment of more than \$60 million to two separate areas surrounding its campuses, including the opening of the first new school in

5. Using a different set of data, the Delta Cost Project found that net tuition (without fees) at private *research* universities increased by 13 percent between 2003 to 2011, while net tuition at public research universities rose by 48 percent (Delta Cost Project 2014).

6. The number is slightly higher for public universities, at 22 percent (Institute of Education Sciences 2014).

East Baltimore in 25 years. To be certain, public universities have undertaken these same activities in recent years as well. The point here is to highlight that the upsurge in participation of the privates in these initiatives – emerging from dawning sense that their fate is inseparable from that of the communities in which they are rooted – is yet another instance in which the trajectory of the publics and privates are converging.

Quite apart from efforts in community building, private universities have also paid far greater heed in recent years to licensing and entrepreneurial activities, which can have a salutary impact of their own on the surrounding region. With few exceptions, private research universities have not traditionally been seen as engines of regional economic development. And yet in recent years, these universities have assumed a far more active role as licensors of technologies and therapeutics to existing companies, as well as incubators for new start-ups based on faculty research. Of the 20 universities with the most revenue from the licensing of research in 2013, a majority are private research universities. These activities have not only delivered a variety of new therapeutics and technologies to the world, but also contributed to significant economic development and job growth, with universities at the center of clusters of economic activity in emerging industries.

One representative study concluded that the increase in university connections to industry in the last three decades produced a rapid growth in long-term employment and earnings per worker in areas surrounding universities, and the impact of these activities increased in geographic proximity to the university (Hausman 2012). A separate study examined 11 regions abundant with the talent and resources that might have led to a thriving regional ecosystem in the life sciences. Although firms in the biomedical sector were once scattered around the nation, today roughly half of these firms have gravitated to only three of these regions (the San Francisco Bay Area, Cambridge-Boston, and North San Diego County). What explains the emergence of these three areas as life sciences clusters? Although there is no single cause, the authors did underscore that each of the regions had benefited from the presence of research universities and academic medical centers that had served as incubators and conduits for the intellectual capital that can pollinate these new economies.

IV. Drivers of Convergence

The previous Part discussed several of the ways in which public research universities have been ‘privatized’ and private research universities have been ‘publicized’ in the last several decades. These changes are upending some of our assumptions about the nature of higher education in the United States, and the reasons for this evolution include a set of powerful market, social and political forces that are unmooring public and private universities from the traditional roles they have occupied in the sector. We discuss these forces below.

A. Contraction of State Funding

One leading driver of convergence was referenced earlier: the massive shift of state governments away from maintaining their historic levels of financial support for public higher education (which, of course, is bitterly ironic given the marked shift of the American economy to one in which human capital is the principal source of economic wealth and education continues to stand as the great equalizer for citizens from diverse socio-economic backgrounds). Although the reduction in state funding has been under way for some time, the most dramatic cuts have occurred as a consequence of the Great Recession and the resulting decline in tax revenue experienced by state governments. And yet, even with a return to fiscal health, states have failed to restore historic levels of funding for public universities. One report describes how state and local funding in 2014 remained well below even pre-recession levels, a trend it says may represent a “new normal,” where one “no longer expects to see a recovery of state support for higher education such as occurred repeatedly in the last half of the 20th century” (SHEEOA).

What explains the reluctance of state governments to support their public universities? One central explanation is that the politics of state budgets favor the protection of spending for groups who are better organized and more likely to vote than the young adults who benefit immediately from higher education. A related explanation is that investment in higher education is crowded out by the press of the spiraling growth in the costs of health care. The evidence bears this out: From 1995 to 2014, the percentage of state general funds committed to Medicaid rose from 14.4 to 19.1, while the percentage committed to higher education declined from 12.9 to 9.4. (NASBO 2014; Orszag & Kane 2003; Hovey 1999).

Also contributing to the persistent reduction in state funding is the tendency on the part of politicians and others to see higher education as a private rather than public good, whose value is only viewed in narrow economic terms (namely as an investment that yields returns to graduates in the form of increased lifetime earnings). If higher education is viewed solely in these terms, then it is easy to argue that students, rather than the state, should bear responsibility for tuition. It is, of course, true that higher education increases lifelong earnings and reduces the risks of unemployment, and provides a host of other non-monetary personal benefits to graduating students such as increased life expectancy, health outcomes, and civic involvement. However, conceiving higher education solely as a private benefit that redounds to graduates overlooks the many benefits (positive externalities) that accrue to society from such investment, and which justify the normative case for public support (Daniels and Trebilcock 2005). These benefits come in the form of strengthened democratic institutions and habits, healthier children and families, and reduced crime, among others. Further, even if these positive externalities are ignored, there is still a strong rationale for public subsidization of higher education that is tied to the existence of human capital markets (the inability of students to borrow against future earnings) and questions of access for low-income families (Ibid).

B. Expansion of Federal Funding

The increase in federal funding for public and private research universities is another factor that has driven a convergence of publics and privates. Through an assortment of grant and loan programs – including Pell Grants, Stafford and PLUS loans, the Ford Direct Loan Program, and others – the federal government has dramatically expanded its role in supporting financial aid through the last two decades. Over the last decade, federal aid per student has increased in constant dollars from about \$4,500 (in 1993-94) to about \$11,000 in (2013-14) (College Board 2014b).⁷ This federal investment has led to the integration of the markets in which public and private universities operate in at least two

ways: First, it has endowed students and their families with funding that is not tied to their states of residence, which has increased their capacity to enroll in universities outside their state. In this manner, enhanced mobility fosters a more deeply integrated national market for higher education that includes public and private institutions. Second, since federal financial aid programs are more frequently awarded according to students' ability to pay, the influx of federal funds has empowered students from both low and middle income families to seek the private or public education of their choosing (Akers 2013).

The federal government has also contributed to the integration of markets through its enhancement of research funding allocated to faculty in public and private research universities on a competitive and meritocratic basis. The amount of federal research funding for universities has grown from \$15.7 billion in 1990 to \$40.11 billion in 2012 in constant dollars, and the federal government now accounts for about 60 percent of research and development undertaken by academic institutions (NSF 2014). This increase in funding has created an arena in which the faculty of public and private universities have competed alongside one another for funding, and public and private universities have competed in turn to recruit those faculty who are most successful in attracting research dollars: From 1990 to 2009, the amount of federal research funding increased by 57 percent at the leading private research universities and by 77 percent at the leading public research universities (Lombardi 2011; NSF 2012). So significant is the expansion of the federal role that some private research universities (such as Johns Hopkins and MIT) now receive more government funding from all public sources (including federal, state and local funds) as a percentage of their total operating budget than some of their public peers (such as University of Michigan-Ann Arbor and the University of Oregon).⁸ The fact that private institutions are more dependent than public universities on public investment underscores the blurring of the lines that have traditionally demarcated public and private universities.⁹

7. There is a debate in the literature about the extent to which these federal student aid programs themselves have led to an increase in tuition at American universities (Lucca et al 2015; Cellini & Goldin 2012).

8. This data can be found in the Delta Cost Project's Trends in College Spending online database, available at <http://tcs-online.org/Home.aspx>.

9. Although it may not have driven the convergence of publics and privates to quite the same extent, it is noteworthy that the federal government also plays a sizable role in the support of higher education through tax exemptions. Most American universities benefit enormously from their tax exemptions: investment incomes, tuition fees, charitable contributions, ancillary revenue from sporting events, book sales, royalties, and other material, and endowment funds are all exempt from federal capital gains and corporate income taxes (Hirsch 2011). For example, in fiscal year 2011 alone, Northeastern University's exemptions from federal taxes on its net operating revenues and investment income was \$32.8 million (Tellus 2012). The federal government also contributes to the growth of university endowments by allowing universities to use tax exempt debt to finance capital expenditures, allowing them to keep other assets fully invested in endowments in pursuit of higher rates of return (CSP & Tellus 2010).

C. Markets and Intermediaries

Over time, public and private research universities have found themselves to be competing in integrating markets in a range of other respects as well. As noted earlier, in their search for incremental tuition dollars, public research universities have moved out of state and entered new geographic markets where previously they were less prominent, and where there are a host of private universities with which they newly compete.¹⁰ As the price of public universities has increased relative to their private counterparts, the publics are compelled to justify the value of their offerings – in areas such as instructional quality, extra-curricular experience and facilities – against the privates, leading to a convergence in the bundle of academic and extra-academic experiences they offer prospective students. And as the gap in parental income between public and private universities students has closed, so, too, has there has been a convergence in the demographics of students and their families,¹¹ and the reinforcement of the formation of a truly national market for higher education (Pryor 2006).

Amplifying the integration of these markets has been the rise of third-party intermediaries that facilitate the flow of information between universities and prospective students. For example, a number of testing and other companies now offer data sets and matching services to public and private universities to help them identify and communicate with potential students with greater accuracy at low cost. At the same time, a number of other entities – including the federal government, *U.S. News and World Report*, the *Times of London* and Shanghai Jiao Tong University of China – have developed prominent rankings and other data sets that evaluate public and private universities across a range of criteria. All of these intermediaries – whether by providing information in common for public and private universities about students, or information in common for students about public and private universities – are accelerating the development of a single national market and inevitably, through the influence of market forces, drawing the public and private research universities in closer alignment (Duderstadt and Womack 2003; IHEP 2007; Hazelkorn 2007; Meredith 2004).

10. See supra at 11.

11. See supra at 10-11.

V. Barriers to Adaptation

And yet, even as public and private research universities have converged, they have not been identically situated to adapt effectively to this emerging landscape. Rather, the legacy of state ownership and significant regulatory control over public universities has left these institutions vulnerable as they seek to compete alongside their private peers in this newly integrated environment (Duderstadt and Womack 2003). We discuss several of these barriers to adaptation in this section.

One of the leading obstacles facing public universities has been discussed already: the profound decline in state funding over the last decade. Of course, the withdrawal of state funding subverts the traditional academic mission of the research university. But it also has the collateral consequence of weakening the ability of these universities to pursue other public goals (such as investment in regional social and economic goals) because of a lack of available funds. Also, wholly apart from reductions in the amount of state funding, the vagaries of this funding – due to the unreliability of the state appropriations process, the rise and fall of state tax revenues, and the sometimes convulsive shifts in political control from one party to another – further undermine the academic mission. For instance, the difficulty of predicting the amount of even the next year's funding from the state – let alone the amount several years later – frustrates the ability of public universities to engage in the strategic planning that is essential to advancing their mission.

A number of other encumbrances affect the work of public research universities. For one, these universities are burdened by a “tight web of state government rules, regulations and bureaucracy.” (Duderstadt and Womack 2003, 155). This regulatory regime extends to areas as far reaching as contracting, tuition setting, admissions standards, and teaching assignments, to name only a few. Many states “still require prior approval for purchasing, dictate line-item funding in silos, and maintain fund management requirements that perpetuate bad habits such as year-end spending sprees rather than building prudent contingency reserves” (Wellman and Reed 2011). In all of these areas, the state bureaucratic process can slow the activity, distort the decision-making, and erode the authority of academic leadership in ways that simply are not felt by their private peers (Duderstadt and Womack 2003).

Next, there are the political entanglements that accompany state ownership of universities. As U.S. politics has become more ideologically polarized, and the salience of concerns over the future of higher education has become more acute, the propensity of state politicians to focus their energies on highly symbolic (and we would argue, unproductive) attacks on the conduct and mission of state universities has increased markedly. This phenomenon is reflected in the litany of high-profile political clashes and crises involving public research universities, the rapid turnover in the presidents of these institutions, and the swings in public policy directly affecting state universities in recent years.¹² The role played by the governing boards of public research universities – principally appointed by state elected officials – in exposing state universities to political influence or external agendas cannot be overstated, and it is another way in which public universities are disadvantaged relative to their private peers (Ibid).

Finally, public universities are burdened by the time and energy that leadership must commit to government relations and lobbying activities directed at state political officials. When public universities enjoyed high levels of financial support (relative to their operating budgets) and protection from competition with other institutions, the costs of managerial investment in these activities were frustrating but tolerable. But with increased competition, these activities come at a much greater cost to the institution. Leadership is forced to commit increasing amounts of time at the state capitol currying favor with public officials and their representatives and taking defensive actions aimed at forestalling unwarranted and dysfunctional state interference in their activities or protecting an ever-shrinking allocation of the state budget – rather than on forward-looking academic strategies designed to strengthen their research, education, and service contributions. Again, this distinguishes public research university presidents from private research university presidents: One recent study found that 77 percent of presidents of public doctoral universities named legislators and policymakers as one of three constituent groups who pose the greatest challenge to their operation of the university, compared to 30 percent of presidents of private doctoral universities. And 23 percent of presidents of public doctoral universities identified government relations as one of their three most time-consuming duties, while only three percent of presidents of private doctoral universities said the same (Song and Hartley 2012).

These problems should not come as a surprise.

Organizational theory tells us that public ownership can be vulnerable to substantial accountability issues, rent-seeking, and politicization. This is not an argument for public bodies to remove themselves from involvement in higher education. Indeed, government intervention in the market for higher education is justified by factors as varied as the presence of human capital market failures, information asymmetries, and externalities related to investments in basic research and education. It is only to say that the choice of how the government should intervene in a particular industry – through ownership, investment, or regulation, and the particulars of how to advance each – demands a careful weighing of considerations, and that the ownership problem is especially susceptible to much that we have seen play out in recent years in higher education.

To be certain, several public research universities have succeeded in securing a greater degree of structural independence from the state. For example, some institutions such as the University of Michigan and the University of California enjoy substantial autonomy as a matter of the state constitution (Duderstadt and Womack 2003). Others such as the University of Virginia and the University of Florida have struck deals that allow them to operate with fewer restrictions on tuition and related decisions, often in exchange for funding cuts or an agreement to meet various performance targets. However, even these universities are still subject to ongoing state influence and interference in areas such as appropriations, auditing, and health and safety (UW 2011). As a result, the disparities between private research universities and even the most independent public research universities continue to grow in areas such as faculty pay or expenditures per enrolled students (Duderstadt and Womack 2003).

VI. A Path Forward

We began this Article by sketching the characteristics that define a public or private research university, and divided them into two categories: *structural* attributes such as ownership, discretion, governance, and funding, and *mission-oriented* attributes such as affordability, accessibility, community focus, and independence. One way of viewing the analysis that followed is that there has been a substantial convergence in the mission of public and private research universities, without an accompanying convergence in the structural attributes. Specifically, Part III discussed the

¹². See *supra* at 12-13.

ways in which public universities have lost aspects of their public orientation when it comes to mission, and how private universities have gained much of that same character. And Part IV addressed how the structural attributes of public research universities nonetheless persist, in ways that are detrimental to their functioning in a converging world.

One might very well conclude that the convergence in mission of these two institutions signals the emergence of a new form for U.S. higher education. We could call this form the public-regarding private (“PRP”), a university that combines the uniquely civic-minded mission that was traditionally associated with the public research university and the not-for-profit structure of the private counterpart. And one might go farther yet, and argue that policy-makers should take action to speed our public research universities on their way to this new model, and end entirely the public ownership, funding, governance, and operation of public research universities. The premise of this view would be that the nonprofit governance model – coupled perhaps with light-handed regulation and earmarked state subsidies for students and research – has proven to be a superior approach to the present mix of ever expanding state interference and ever shrinking state funding now endured by public research universities.

Although we are struck by the capacity of the PRP to vindicate the goals of public higher education, we are not at the point of arguing for across-the-board privatization of public research universities for a number of different reasons. First, as noted earlier, the heterogeneity of our system of higher education has been one of its great and abiding strengths, allowing privates and publics the freedom to compete and influence each other even as they innovated and adapted in different directions within their separate organizational forms. This feature of the U.S. system is not one that should be discarded lightly. Second, public universities were created for very important reasons, they have provided unique contributions over time, and they are deeply embedded in the economic and cultural fabric of their states, and policymakers should take care before denuding them of this historic status.

Third, although there has been a remarkable convergence to date in mission between public and private research universities, that convergence is not complete – we are still at a moment where public institutions continue to occupy a distinct role in the landscape of higher education. For

instance, with regard to the goal of accessibility, although private research universities have expanded their reach considerably, their reliance on online media is still in its infancy, and public research universities continue to enroll nearly four times as many students as their private counterparts (Delta Cost Project). The same can be said for affordability: Although there has been a meaningful narrowing of the gap on average between publics and privates, public research universities still maintain a significant price advantage.¹³ These enduring features of the public research university still demand protection. And finally, even those who do favor the privatization of public research universities would do well to advocate for an orderly transition to that world, one that phases those changes incrementally over time to mitigate the impact on key stakeholders, test the assumptions behind the change, and modulate the final end state as needed over time (Trebilcock 2014).

For all of these reasons, we do not believe that the optimal result is to usher in a complete convergence of private and public research universities. Our argument instead is that just as there has been a substantial convergence over time in the mission of the public and private research universities, so too should there be a substantial convergence in the structure of these universities, one that provides the public research universities with the autonomy and flexibility to adapt to this newly competitive environment alongside their private peers. Specifically, we are advocating for a sustained period of focused and thoughtful experimentation with the structure of their public research universities, to identify over time the right combination of structural changes that will empower them to advance their distinctively public mission in the coming years.

There are a number of mechanisms available to a state that would seek to unshackle public universities in this fashion. One option is to shift the governance boards of public universities to the not-for-profit model, in which members are selected largely outside of political channels and the effectiveness of the board is seen as a key criterion of institutional accreditation. Another set of reforms involves new modes of providing public research universities with greater autonomy in areas such as tuition-setting, personnel, capital construction, and purchasing, in exchange for agreements to reach certain benchmarks. As noted earlier, these initiatives have been adopted in certain states, and

13. The average net tuition at public research universities is less than half of the average net tuition at private research universities (Delta Cost Project).

the challenge is to refine these efforts to ensure that the structural changes provide independent not only in form, but in practice. A third area of reform would be for states to provide guarantees of multi-year funding, in an effort to provide their public universities a modicum of the stability and predictability now enjoyed by their private peers (Duderstadt and Womack 2003; Lyall and Sell 2006).

A more aggressive option yet would seek to create a financial exit ramp for interested public research universities from the current path of ever-shrinking state support and expanding state politicization. One example of this approach is provided by the University of Oregon, which several years ago proposed that the state could use its roughly \$65 million annual appropriation to the university to finance \$800 million in new bonds over the next 30 years. The university would then match the bond with its own fundraising to create a new \$1.6 billion endowment, payouts from which it estimated would soon exceed the expected state appropriation to the university, and possibly rise to as much as \$235 million per year. The need for state support would end entirely after the payments ended on the bond.

The proposal failed for reasons far closer to politics than substance. Of course, the precise model proposed by the University of Oregon may not be feasible for each public research universities. The philanthropic component in particular could be too far a climb for larger universities with more significant funding streams by the state. But we offer it as an example of the sort of innovative policy idea that may be needed if we hope to provide public universities with an exit ramp from a status quo of declining and unstable funding. And in fact, the proposal could be viable even for the largest schools if an outside party such as the federal government (where ideas on how best to support struggling public research universities are now very much at play) were able to intervene and provide financial support for the scheme. At any rate, our principal point is that we are at a moment that demands active exploration of new and creative policy proposals that can represent a break from an increasingly untenable status quo.

We underscore that the argument for a greater structural convergence between public and private universities should not be understood to abrogate the responsibility of state governments (and, equally, the federal government) to

invest in public higher education. As discussed earlier, both levels of government have a clear and compelling responsibility founded on a range of rationales to support higher education. That role can and should manifest itself in part through financial support. Assistance in building an endowment as in the Oregon plan is certainly one possible approach, but no matter the specifics, states should take steps to ensure that public research universities have the financial capacity to advance their public mission. Put differently, the dramatic decline in state funding of recent years should not be seen as one element of the structural convergence of privates and publics. A true convergence in this regard would require action on the part of states to provide public research universities with the same sort of financial independence and sustainability that are enjoyed by their private counterparts.

One final note is that – for a number of reasons – we would recommend that the most substantial structural reforms be confined in the first instance to the universities with the largest and most active research portfolios, as determined perhaps by Carnegie classification as a research university with very high research activity (RU/VH), or membership in the Association of American Universities (AAU). These are the schools where the convergence with private universities already tends to be the greatest. They are the schools with the most similar portfolios of funding sources and research activities, and in particular the schools with the greatest capacity to sustain themselves through a period of structural change with their own sources of external funding. Moreover, our public colleges and universities represent over 70 percent of the students enrolled in institutions of higher education in this country, but the public research universities in the AAU represent a small subset of those (less than six percent) (Delta Cost Project; Crow and Dabars 2015).¹⁴ An attempt to steer public universities away from the current model should start modestly, to avoid any unintended harm to the capacity of our public institutions to meet the needs of students in their state. A collateral benefit of this approach is that if a path to financial independence for flagship universities is successful, it could free states over time to shift support to the financial and other needs of the remaining public colleges and universities.

14. All public research universities represent 24 percent of the students enrolled in institutions of higher education in the United States.

VII. A Pressing Need for Action

The convergence described in this Article presents untold opportunities for public research universities in the United States, which are well-positioned to excel in the evolving landscape of higher education if given the structural freedom to act. However, they will need assistance to play this role, and the sin of inaction here is a grave one. There is every reason to believe that in the absence of corrective steps, the prospects for public research universities will be grim: they will continue to be buffeted by declining financial


support and increased political entanglement, all while suffering the disadvantages of state regulation, at a moment when the competitive environment is heightened due to convergence towards the PRP model. We urge swift reforms to provide our public research universities with the structural independence, flexibility, and sustainability they need to continue to advance their emphatically public missions.

Bibliography

- Akers, Beth (2013). *States' Merit-Based Aid Undermines the Aim of the Federal Pell Grant Program*. The Brookings Institution. Sept. 25, 2013. Available online at <http://www.brookings.edu/research/papers/2013/09/25-state-merit-based-aid-federal-pell-grant-akers>.
- American Academy of Arts & Sciences. 2015a. *Public Research Universities: Changes in State Funding*. Available online at https://www.amacad.org/multimedia/pdfs/publications/researchpapersmonographs/PublicResearchUniv_ChangesInStateFunding.pdf.
- American Academy of Arts & Sciences. 2015b. *Public Research Universities: Why They Matter*. Available online at https://www.amacad.org/multimedia/pdfs/publications/researchpapersmonographs/PublicResearchUniv_WhyTheyMatter.pdf.
- American Association of Universities (2012). *Looking More Closely at Student Debt*. Available online at <https://www.aau.edu/WorkArea/DownloadAsset.aspx?id=13624>.
- Brubacher, John S. and Rudy, Willis. 1958. *Higher Education in Transition: An American History: 1636-1956*. New York: Harper & Brothers.
- Center for Social Philanthropy & Tellus Institute (2010). *Education Endowments and the Financial Crisis: Social Costs and Systemic Risks in the Shadow Banking System*. Available online at https://www.insidehighered.com/sites/default/server_files/files/Tellusendowmentcrisis.pdf
- Cole, Jonathan. 2010. *The Great American University: Its Rise to Preeminence, Its Indispensable National Role, Why It Must Be Protected*. New York: PublicAffairs.
- College Board (2014a). *Trends in College Pricing 2014*. Trends in Higher Education. Available online at <https://secure-media.collegeboard.org/digitalServices/misc/trends/2014-trends-college-pricing-report-final.pdf>
- College Board (2014b). *Trends in Student Aid 2014*. Trends in Higher Education. Available online at <https://secure-media.collegeboard.org/digitalServices/misc/trends/2014-trends-student-aid-report-final.pdf>.
- College Board (2016). "Average Net Price over Time for Full-Time Students at Private Nonprofit Four-Year Institutions" Trends in Higher Education. Available online at <http://trends.collegeboard.org/college-pricing/figures-tables/average-net-price-time-full-time-students-private-nonprofit-four-year-institutions>.
- Cross II, Coy F. 1999. *Justin Smith Morrill: Father of the Land-Grant Colleges*. East Lansing: Michigan State University Press.
- Crow, Michael M. and Dabars, William B. 2015. "A New Model for the American Research University." *Issues in Science and Technology*. 31(3).
- Daniels, Ronald J. and Trebilcock, Michael J. (2005). *Rethinking the Welfare State: The Prospects for Government by Voucher*. London: Routledge.
- Delta Cost Project. *Trends in College Spending Online*. Available online at <http://tcs-online.org/Home.aspx>.
- Delta Cost Project (2014). *Trends in College Spending: 2001-2011: A Delta Data Update*. Available online at http://www.deltacostproject.org/sites/default/files/products/Delta%20Cost_Trends%20College%20Spending%202001-2011_071414_rev.pdf
- Duderstadt, James J. 2011. *Creating the Future: The Promise of Public Research Universities for America*. Prepared for APLU Volume Celebrating the 150th Anniversary of Morrill Act.
- Duderstadt, James J. and Womack, Farris W. 2003. *The Future of the Public University in America: Beyond the Crossroads*. Baltimore, MD: The Johns Hopkins University Press.
- Duncan, Brian. 2004. "A Theory of Impact Philanthropy." *Journal of Public Economics*. 88(9): 2159-80.

- Goldin, Claudia and Katz, Lawrence F. 1998. *The Shaping of Higher Education: The Formative Years in the United States, 1890 to 1940*. NBER Working Paper No. 6537. National Bureau of Economic Research. Available online at <http://www.nber.org/papers/w6537.pdf>.
- Hausman, Naomi. 2012. *University Innovation, Local Economic Growth and Entrepreneurship*. Available online at <http://www2.census.gov/ces/wp/2012/CES-WP-12-10.pdf>.
- Hazelkorn, Ellen (2007). "The Impact of League Tables and Ranking Systems on Higher Education Decision Making." *Higher Education Management and Policy*. Vol. 19/2.
- Hight, Joseph E. 1976. "The Demand for Higher Education in the U.S. 1927–72; The Public and Private Institutions." *Journal of Human Resources*. X.
- Hiltonsmith, Robert and Draut, Tamara. 2014. "The Great Cost Shift Continues: State Higher Education Funding After the Recession." Demos. Available online at <http://www.demos.org/publication/great-cost-shift-continues-state-higher-education-funding-after-recession>.
- Hirsch, Michelle (2011). "The Rich University: The Mother of All Tax Breaks." *The Fiscal Times*. October 7, 2011. Available online at <http://www.thefiscaltimes.com/Articles/2011/10/07/The-Rich-University-The-Mother-of-all-Tax-Breaks>
- Hovey, Harold A. (1999). *State Spending for Higher Education in the Next Decade: The Battle to Sustain Current Support*. The National Center for Public Policy and Higher Education.
- Institute for Higher Education Policy (2007). *College and University Ranking Systems: Global Perspectives and American Challenges*. Available online at <http://www.ihep.org/sites/default/files/uploads/docs/pubs/collegerankingsystems.pdf>.
- Institute of Education Sciences. 2014. "Enrollment in Distance Education Courses, by State: Fall 2012." National Center for Education Statistics. US Department of Education. Available online at <http://nces.ed.gov/pubs2014/2014023.pdf>.
- Jackson, Robert L. 2012. *The American Public Comprehensive University: An Exploratory Study of the President's Role in Fundraising*. Dissertations. Paper 18. Western Kentucky University. Available online at <http://digitalcommons.wku.edu/diss/18>.
- Jaquette, Ozan. 2015. "Tuition Rich, Mission Poor: Nonresident Enrollment Growth and the Socioeconomic and Racial Composition of Public Research Universities." *The Journal of Higher Education*. Forthcoming.
- Kerr, Clark. 2001. *The Uses of the University*. Cambridge, MA: Harvard University Press.
- Kiley, Kevin. 2013. "Crowded Out." *Inside Higher Ed*. April 30, 2013. Available online at <https://www.insidehighered.com/news/2013/04/30/out-state-enrollment-decreases-minority-low-income-student-enrollment>.
- Lombardi, John et al. (2011). *The Top American Research Universities: 2011 Annual Report*. The Center for Measuring University Performance. Available online at <http://mup.asu.edu/research2011.pdf>.
- Lowry, Robert C. 2009. 'Incomplete Contracts and the Political Economy of Privatization.' In *Privatizing the Public University: Perspectives Across the Academy*, ed. Christopher C. Morpew and Peter D. Eckel. Baltimore, MD: The Johns Hopkins University Press, 33-59.
- Lyall, Katherine C. and Sell, Kathleen R. 2006. *The True Genius of American at Risk: Are We Losing Our Public Universities to De Facto Privatization*. Westport, CT: Praeger.
- McLendon, Michael K. 2003. "State Governance Reform of Higher Education: Patterns, Trends and Theories of the Public Policy Process." *Higher Education: Handbook of Theory and Research* 18: 57-143.
- Meredith, Marc (2004). "Why Do Universities Compete in the Ratings Game? An Empirical Analysis of the Effects of the U.S. News and World Report College Rankings." *Research in Higher Education*. Vol. 45, No. 5.
- Mulhere, Kaitlin. 2015. "Deep-Pocket Donors." *Inside Higher Ed*. Jan. 28, 2015. Available online at <https://www.insidehighered.com/news/2015/01/28/2014-record-year-higher-ed-donations>.

- National Association of College and University Business Officers. 2014. *2013 Tuition Discounting Study*.
- National Association of State Budget Officers (2014). *State Expenditure Report: Examining Fiscal year 2012-2014 State Spending*. Available online at <http://www.nasbo.org/sites/default/files/State%20Expenditure%20Report%20%28Fiscal%202012-2014%29S.pdf>.
- National Science Foundation. 2012. *Diminishing Funding and Rising Expectations: Trends and Challenges for Public Research Universities*. Available online at <https://www.nsf.gov/nsb/publications/2012/nsb1245.pdf>.
- National Science Foundation (2014). *Science and Engineering Indicators 2014*. Available online at <http://www.nsf.gov/statistics/seind14/index.cfm/chapter-5/c5h.htm>.
- Orszag, Peter R. & Kane, Thomas J. (2003). *Higher Education Spending: The Role of Medicaid and the Business Cycle*. Brookings Policy Brief #124. Available online at <http://www.brookings.edu/~media/research/files/papers/2003/9/useconomics-kane/pb124.pdf>.
- Priest, Douglas M. and St. John, Edward P. eds. 2006. *Privatization and Public Universities*. Bloomington, IN: Indiana University Press.
- State Higher Education Executive Officers Association (SHEEOA). "State Higher Education Finance." Available online at <http://www.sheeo.org/projects/shef-%E2%80%94state-higher-education-finance>.
- Song, Wei and Hartley III, Harold V. 2012. *A Study of Presidents of Independent Colleges and Universities*. The Council of Independent Colleges. Available online at http://www.cic.edu/research-and-data/research-studies/documents/cic_pressurvey2012.pdf.
- Tellus Institute (2012). *Public Investment in Private Higher Education: Estimating the Value of Nonprofit College and University Tax Exemptions*. Available online at https://www.insidehighered.com/sites/default/server_files/files/TellusCollegeTaxExemption.pdf
- Trebilcock, Michael J. 2014. *Dealing with Losers: the Political Economy of Policy Transitions*. Oxford: Oxford University Press.



University of Washington (2011). "Planning & Budgeting Brief." Available online at https://opb.washington.edu/sites/default/files/opb/Policy/Autonomy%20Brief_Updated_Oct2011.pdf.

Veysey, Laurence R. 1970. *The Emergence of the American University*. Chicago: The University of Chicago Press.

Wahlquist, John T. and Thornton, James W. (1964). *State colleges and universities*. Center for Applied Research and Education.

Wang, Marian. 2013. "Public Universities Ramp Up Aid for the Wealthy, Leaving the Poor Behind." *ProPublica*. September 11, 2013. Available online at <http://www.propublica.org/article/how-state-schools-ramp-up-aid-for-the-wealthy-leaving-the-poor-behind>.

Wellman, Jane and Reed, Charles. 2011. "Mend, Don't End, State Systems." *Inside Higher Ed*. Mar. 28, 2011. Available online at https://www.insidehighered.com/views/2011/03/28/wellman_reed_don_t_let_flagship_universities_leave_state_college_systems_wisconsin_oregon.

Whitehead, John S. and Herbst, Jurgen. 1986. "How to Think About the Dartmouth College Case." *History of Education Quarterly* 26(3): 333-349.

Yale University. "University Charter." Available online at <http://www.yale.edu/sites/default/files/files/University-Charter.pdf>.