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Insights and Implications for State Policy-Makers

By
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Using a range of data and analytic approaches, the articles in this volume offer insights for understanding how state policy can increase higher education attainment and close gaps in attainment across groups. This concluding article begins by addressing the relationships between public policy and performance that cut across the volume. We then offer recommendations for state policy leaders—concrete steps that governors, legislators, and other policy actors can take to improve college access and success in their states. Finally, we propose directions for future research that will advance knowledge and understanding of how state policy can most effectively improve the higher education attainment of all students.

Keywords: state policy; federal policy; policy leadership; college readiness; college affordability; research recommendations

Despite the many individual and public benefits of higher education, higher education attainment in the United States has stagnated. Between 2000 and 2011, the average annual increase in the share of the population age 25 to 64 with a college education was

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1.4 percent in the United States, compared with 3.3 percent for OECD countries (Organisation for Economic Co-operation and Development [OECD] 2013). With this below-average growth rate, the United States has fallen behind many countries in the educational attainment of its population, especially among younger adults. The United States ranks fourth among OECD countries in the college attainment of 25 to 64 year olds (42 percent), but is behind ten other countries and tied with two others (France and Sweden) in the college attainment of 25 to 34 year olds (43 percent).

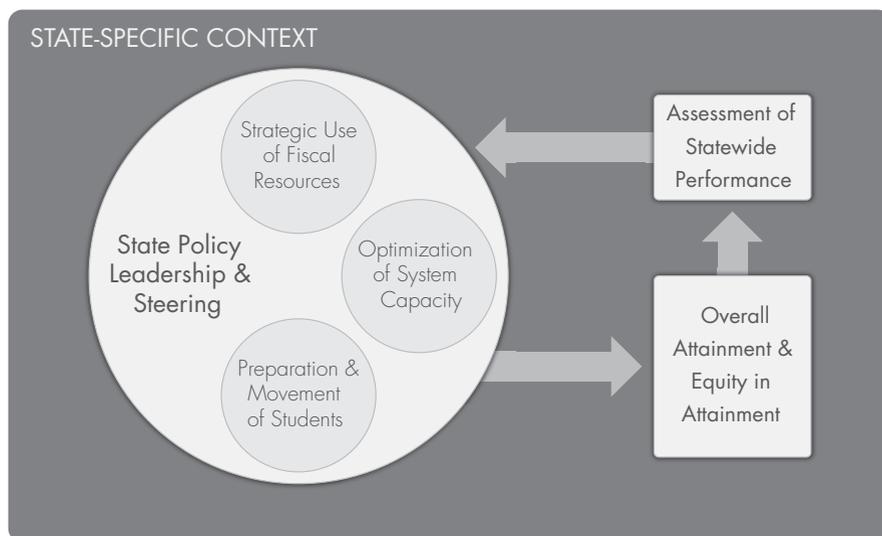
Educational attainment in the United States also varies dramatically across demographic groups, with lower attainment for those from lower-income than higher-income families; those whose parents have not completed college than for those with college-educated parents; and blacks and Hispanics than for whites and Asians (Baum, Ma, and Payea 2010). The United States cannot reach the levels of educational attainment required for workforce readiness or international competitiveness without closing the gaps in attainment that persist across groups (Jones 2009).

State policy-makers bear the primary responsibility for implementing policies that enable colleges and universities to raise their state's higher education attainment. In many ways, promoting and sustaining effective public policy is both more important (given the many public and private benefits of increased attainment) and more difficult than ever before. State funding for higher education has declined in recent years in the wake of the Great Recession (as described in this volume by Delaney; Doyle and Zumeta) and will likely continue to be constrained into the future, as states grapple with structural budget deficits (Boyd 2009) and continued competition for available funds (Doyle and Zumeta; McLendon et al., this volume).

The demographic characteristics of many states are also changing, with some states experiencing declining populations and others, dramatic growth. Many states are experiencing tremendous rates of increase in their Hispanic populations (Western Interstate Commission for Higher Education 2012)—the racial/ethnic group that averages the lowest levels of higher education readiness and attainment in many states. Public policy is the mechanism that states use to raise attainment and close gaps, but what are the most effective public policies for leveraging finite resources to achieve these goals?

Drawing from a range of disciplinary perspectives and using different sources of data and methodological approaches, the authors in this volume offer many theoretical, empirical, and policy-related insights for addressing this important question. We begin by discussing insights for understanding the relationship between public policy and performance that cut across the volume. Then we offer recommendations for state policy leaders—concrete steps that governors, legislators, and other policy actors can take to improve college access and success in their states. We end by proposing directions for future research that will further advance our understanding of how state policy may most effectively increase the higher education attainment of all students.

FIGURE 1
Conceptual Model of the Relationship between State Policy and Higher Education Attainment



SOURCE: Perna and Finney (2014).

Understanding the Relationship between Public Policy and Higher Education Attainment

Identifying lessons that apply across states about the most effective public policies for improving higher education attainment is complicated, but it is aided by the vast differences across the fifty states. As we observe in the volume's opening article, states vary in countless dimensions, with variations in their historical, demographic, economic, and political characteristics, as well as in the structure and governance of their higher education systems. Given this variation, it is tempting to conclude that each state's uniqueness means that knowledge of the public policies that promote and limit higher education attainment in one state may have little relevance in others. At the same time, however, in-depth analyses of particular states and cross-case analyses of multiple states can produce important insights (McLendon, Heller, and Lee 2009; Perna and Finney 2014; Richardson et al. 1999; Richardson and Martinez 2009).

Drawing on data collected from case studies of five states, Perna and Finney (2014) generated a conceptual model for understanding how state policy can improve higher education attainment. The findings and conclusions from the articles in this volume illustrate the appropriateness of the five tenets of the proposed conceptual model (shown in Figure 1).

The context of the state

First, at its foundation, the Perna and Finney (2014) model assumes that the relationship between public policy and a state's higher education attainment depends on the state-specific context. The state context includes its historical, demographic, economic, and political characteristics, as well as the characteristics of its higher education system and structures.

The authors in this volume illustrate numerous contextual distinctions across states, including current levels of educational attainment and projected levels of education required for their workforce, as well as wealth, politics regarding the preferred role of government, social welfare and taxation policies, leadership and political patterns, and more. States also have varying higher education "systems," as reflected by differences in the missions and purposes of various institutions, the distribution of students across different sectors, and the mechanisms used to govern and coordinate the state's colleges and universities. As McLendon and colleagues (this volume) find in their analysis of state investment in different types of financial subsidies for higher education, factors such as tuition levels at campuses, party control of the governorship and the legislature, legislative design, the competitiveness of state elections, and a state's approach to governance can exert significant influence on the financial context for college attainment in the states.

The articles in this volume show that states already have in place a range of public policies and approaches that influence higher education attainment; these policies are another important dimension of the state context. For instance, most states have, or once had, an entity charged with K–12 and higher education policy (Perna and Armijo, this volume), but these entities differ in the roles played by the state's governor and legislature, organizational membership, frequency of meetings, and so on. All states have some type of state-supported financial aid program, but states differ in the magnitude of aid awarded through these programs and the extent to which the aid is allocated based on a student's financial need or other criteria (Delaney; McLendon et al., this volume).

Because of the many differences across and within states, a "one-size-fits-all" approach to policy is unlikely to effectively improve higher education attainment for all students (Perna and Finney 2014).

State policy leadership and steering

The second tenet of the conceptual model that Perna and Finney (2014) propose is that improving attainment requires state policy leadership and steering. To improve higher education attainment, a state must have a public agenda that is shared among state leaders and is designed to ensure that the state's higher education system achieves the state's attainment goals. In the absence of state policy leadership and steering, individual colleges and universities will act rationally to achieve their own institution-specific goals; these actions may be counter to actions that advance the public purposes of higher education, assuming of course that a state has adopted this type of public agenda (Perna and Finney 2014).

In their categorization of state responses to the economic downturn, Doyle and Zumeta (this volume) illustrate sharp variations in state policy leadership and steering of higher education. The absence of policy leadership and steering is most obvious in the “hunker down and wait” and “fall apart” states. But Doyle and Zumeta’s three other categories of responses (controlling costs; buying degrees; and “the grand bargain”) also raise questions about how states are—and are not—steering higher education institutions to increase higher educational attainment. All five of these possible responses can work against achieving state-wide goals and priorities.

The need for effective state policy leadership and steering is particularly great in the area of academic readiness for college. The high rates of participation in remedial or developmental education (described by Kurlaender, this volume) and the low rates of college success for students who require remedial education (Bailey, Jeong, and Choo 2010) underscore the importance of improving the alignment of K–12 and higher education. Yet establishing organizational structures that span these systems (P–20 entities) has not resulted in P–20 policy reform (Perna and Armijo, this volume; Perna and Finney 2014).

State policies to improve attainment and close gaps in attainment

The third tenet of the proposed conceptual model is that public policies can improve higher education by increasing the supply and demand of higher education (Perna and Finney 2014). But, as the fourth tenet argues, these public policies must be oriented toward reducing gaps in higher education attainment (Perna and Finney 2014). Because of the need to consider the state-specific context, Perna and Finney do not recommend particular public policies but instead identify three categories of policies for raising overall attainment and closing gaps in attainment across groups. These policies pertain to: (1) the use of fiscal resources to improve college affordability; (2) the smooth movement of students across educational levels (e.g., K–12 and higher education) and sectors (e.g., two-year to four-year institutions); and (3) the adequacy of postsecondary educational options available in the state to achieve attainment goals.

The articles in this volume provide insights into how four related policies contribute to higher education attainment: (1) policies that align K–12 and college academic expectations (Perna and Armijo; Kurlaender); (2) policies that improve knowledge of academic readiness for college (Kurlaender); (3) policies that determine college affordability (Delaney; Doyle and Zumeta; Flores and Shepherd; McLendon et al.; Monks); and (4) policies that encourage higher education institutions to improve student outcomes (Doyle and Zumeta; Dougherty et al.; Rutherford and Rabovsky).

State policies must be monitored and adjusted

The final tenet of the Perna and Finney (2014) conceptual model is that, to achieve its higher education attainment goals, a state must monitor the effectiveness of its policies and adjust the policies as necessary. In a changing world,

measuring the progress of statewide goals to ensure that the right policies are in place is essential. What is particularly important is recognizing implications of changes in the availability of state fiscal resources (as discussed by Doyle and Zumeta, this volume) and student demographic characteristics (as discussed by Flores and Shepherd, this volume). Policy-makers must keep up with these changes to ensure their initiatives remain effective.

Monitoring policy effectiveness is also important to ensure the efficient use of finite fiscal and other resources. This volume demonstrates that public policies often fall short of their goals and objectives. For instance, many states have adopted some form of a P-20 council, but, as Perna and Armijo (this volume) discuss, these councils can be credited with few P-20 policy reforms. The success of these councils has been limited by many forces, including the failure to appoint members and convene regular meetings, the dearth of incentives for member organizations and individuals to produce results, insufficient data to fully identify and solve problems, the lack of staff and other resources to support the P-20 work, and the absence of formal authority to create policy change (Perna and Armijo, this volume). Similarly, performance funding policies have been considered by many states and are being recommended by nongovernment, foundation-supported organizations, including Complete College America. Yet available data and research suggest that these policies—or at least the earlier wave of these policies—have not improved student outcomes (Dougherty et al.; Rutherford and Rabovsky, this volume).

Implications for Public Policy

Higher education attainment is the result of a longitudinal, multistep, and often a nonlinear process in which any number of individuals and organizations may influence a student's movement along the pathway (Perna 2006). For instance, the college outcomes of students are influenced by the educational attainment and involvement of their parents, as well as the characteristics and resources of the high schools and colleges that the students attend. Although the onus for improving higher educational attainment falls primarily on states, other forces also influence higher education attainment, including programs sponsored by local civic groups and businesses, foundations, and the federal government (Perna and Jones 2013; Perna and Finney 2014). The research presented in this volume collectively offers a number of recommendations for state policy-makers seeking to improve attainment.

Address the need for state policy leadership and steering

This collection of work argues that state policy leaders must develop a shared agenda that advances the statewide need to raise higher education attainment. Among state leaders, the governor often is the most important (Beyle 2001). Governors can exert substantial sway over public opinion, set the policy agenda

of their state, exercise meaningful influence over budgets, make appointments to public boards, and shape the priorities and effectiveness of public agencies (Christakis 2009). Perna and Armijo (this volume) discuss the role of the governor in the adoption and outcomes of P-20 councils. Doyle and Zumeta (this volume) mention the important role of Governor Jerry Brown in the passage of Proposition 30 in 2012 in California to reform taxes and preserve funding for K-12 and higher education. Dougherty et al. (this volume) describe four policy recommendations that ultimately depend on gubernatorial support: sharply increase the proportion of performance-based state funding; provide financial and technical support to improve institutional research systems; establish competitive institutional aid programs dedicated to program innovations to improve student outcomes; and define different performance indicators for community colleges, mass-access public universities, and research universities.

In the 1980s, the chief executives of several states were known as pioneering “education governors” because of their innovative K-12 and higher education policies aimed at improving their respective state’s economic development and competitiveness. These leaders, from both the Republican and Democratic parties, included Lamar Alexander in Tennessee, Jim Hunt in North Carolina, Tom Kean in New Jersey, and Dick Riley of South Carolina (Finn 2011). This type of focused leadership is needed again if states are to confront the challenges associated with improving college preparedness and addressing workforce needs. Echoing the policy implications of the articles in this volume, a manuscript (Guillory 2005) commissioned by the James B. Hunt Jr. Institute for Educational Leadership and Policy lists four characteristics of education governors for the twenty-first century: being thoroughly informed by current research and best practices; formulating data-driven priorities for an education agenda; building public support by forging coalitions and developing a persuasive message; and engaging stakeholders to design and implement the governor’s agenda.

Improve students’ academic readiness for college

Academic preparation is among the most important predictors of college access and completion (Perna 2005). But for many students there is too little academic preparation. The lack of adequate academic preparation during high school (as measured by the need for remedial coursework) has considerable costs for both students and society (as discussed by Kurlaender, this volume). Improving students’ readiness for college requires renewed attention by state policy-makers to aligning academic expectations and requirements between K-12 and higher education.

Some states have taken steps to address this alignment. Kentucky’s Postsecondary Education Improvement Act of 1997 established an accountability system that collects data such as the percentage of incoming Kentucky high school graduates not requiring remediation in math and English. Suggesting the effectiveness of this approach, the six-year graduation rate at public universities increased from 37 percent in 1998 to 44 percent in 2004 (Callan et al. 2006). Florida has linked two data systems that allow it to track students through the

state's K–12 system, public higher education, and the state's workforce, helping to determine how some curriculum requirements—such as taking Algebra I—affect future educational attainment (Callan et al. 2006). Ultimately, “each state's responses to these [K–12 and postsecondary education alignment] challenges will be unique, tempered by historical context, political culture, and the educational and other resources that are available” (Callan et al. 2006, 20).

Recognize that P–20 entities have not been effective

The finding by Perna and Armijo (this volume) that P–20 councils have been disappointingly ineffective provides important lessons for states. First, governance and advisory structures need attention and nurturing. Governors and legislators must keep their commitments to bridging P–12 and higher education and establish policies and procedures that ensure that what they put in place to improve college readiness endures beyond their time in office.

Second, states must identify the problems that they need to address. To identify key education-related challenges, states must have comprehensive up-to-date data and the staff to analyze them. As Perna and Armijo note in this volume, the absence of unit-record data on students as they progress from prekindergarten through high school and beyond “limits understanding of the problems that must be addressed as well as monitoring of progress toward achieving a P–20 council's goals.” Recognizing this need, the Lumina Foundation provided \$900,000 to the National Governors Association's Center for Best Practices in part to help states “integrate education and workforce data and policies” between July 1, 2012, and June 30, 2014 (Lumina Foundation 2012).

Implement Common Core State Standards

The implementation of the Common Core State Standards illustrates how continuity and change in patterns of state political leadership can shape the effectiveness of policies designed to increase college attainment. Conservative and liberal critics nationally and in many states are expressing concerns over the Common Core standards, including that they create, in effect, a national curriculum; take a one-size-fits-all approach that stifles creativity; overemphasize standardized tests; and undercut teacher autonomy (Westervelt 2014). By late 2013, Republican governors in Mississippi, Georgia, and South Carolina were questioning or reviewing the standards, and legislators in Ohio, Indiana, Oklahoma, Florida, Michigan, and North Carolina were pursuing proposals to delay implementation of the Common Core (Wilson 2013). Pulling out of the Common Core at this point may have negative implications for teacher training and preparations of new standardized tests (Bloom 2013). Articles in this volume suggest that progress in improving the curricular alignment between K–12 and higher education has been limited by vagaries in political leadership (Perna and Armijo, this volume) and indicate that policy adoption is related to political party affiliation (Dougherty et al., this volume). While ineffective policies should be refined or

ended, abandoning recently implemented policies simply because of a change in administration or political majority may undermine policy effectiveness. The Common Core could improve students' college readiness and reduce remediation, but if the policy is dropped before it has a chance to take hold or be evaluated, we will never know.

Determine college readiness during high school

Kurlaender's (this volume) analysis of California's Early Assessment Program indicates the importance of informing high school students about their readiness for college-level academic work in time for them to take action while still in high school. Her analyses show that community-college students who took the English EAP enrolled in fewer nondegree programs, more courses that are transferable to California State University institutions, and fewer English Basic Skills courses than other students. Kurlaender assumes that students who take the English EAP during high school use that information to enhance their academic readiness for college-level work before enrolling in college.

Akin to California's EAP are efforts to strengthen high school graduation standards to ensure graduates are college ready or career ready. New Jersey, for example, toughened its high school graduation requirements in 2009 to include three years of math, three years of lab science, and a half-year of economics and financial literacy (New Jersey Department of Education 2009). In addition, New Jersey joined the Partnership for Assessment of Readiness for College and Careers (PARCC) in 2010 and is helping to develop a new college-ready assessment system. Nine public colleges and universities and six private institutions in New Jersey are working with PARCC to help develop and use college-ready assessments to indicate whether a student is ready for entry-level, credit-bearing courses (PARCC, n.d.).

Improve college affordability

College affordability has declined substantially in recent years (Delaney, this volume), as state appropriations per student have declined (Delaney; Doyle and Zumeta, this volume) and tuition increases have exceeded increases in family income and state grants (Delaney; Flores and Shepherd, this volume). Students now bear more of the responsibility for paying college costs than they have in the past (Delaney, this volume), and increasingly students are borrowing to pay these costs (Monks, this volume). In states where financial aid is allocated based on criteria other than financial need, the burden on students from lower economic means is greater than ever before (McLendon et al., this volume).

Reverse the decline in state appropriations

State governments will likely continue to face constraints on fiscal resources (Doyle and Zumeta this volume). David Gergen, the director of the Center for

Public Leadership at Harvard University, has called this situation the “new normal” for higher education (Yakoboski 2010). Nonetheless, some level of state support for higher education is essential, especially at public institutions whose mission is to provide an accessible, affordable college education. Public and private institutions provide many societal benefits, directly through research and to their local communities, and through the lives of their graduates (Perna and Finney 2014).

The federal government has begun to pressure state governments to preserve a steady level of appropriations for higher education through maintenance of effort provisions in programs such as the College Access Challenge Grant Program under the Higher Education Opportunity Act of 2008 and the State Fiscal Stabilization Fund in the American Recovery and Reinvestment Act of 2009 (ARRA). These provisions require states to provide minimum funding levels for public higher education to receive specified federal funds (Alexander et al. 2010). These requirements can be effective (see Delaney, this volume).

Despite the success of maintenance of effort provisions, college and university leaders—who want predictable levels of funding each year from their states to mitigate tuition increases—are at odds with governors and legislators, who resent federal influence over their spending priorities (Alexander et al. 2010). This tension played out in a hearing before the U.S. Senate’s Committee on Health, Education, Labor and Pensions on September 13, 2012, when Muriel Howard, president of the American Association of State Colleges and Universities, suggested that Congress strengthen maintenance of effort requirements. Senator Lamar Alexander, a former governor of Tennessee (and former president of the University of Tennessee) responded that burdensome cost-sharing requirements under Medicaid had caused states to decrease support for higher education, and “[t]his has gotten higher education into the mess it’s in today” (Kelderman 2012). This debate indicates that institutions of higher education cannot count on Congress to continue including maintenance of effort provisions in laws pertaining to higher education; other ways to maintain and increase funding for higher education must be found.

In January 2014, the American Association of State Colleges and Universities (AASCU) proposed a federal matching grant program to incentivize states to fund higher education (Hurley, Harnisch, and Nassirian 2014). Under the proposed Federal-State College Affordability Partnership, states that provide funding for public higher education operating support of between 50 percent and 150 percent of the maximum Pell Grant award on a per FTE student basis (currently \$5,550) would receive an annual federal block grant. Plugging data for FY2012 into the proposed five-tier formula shows that Texas (\$1.32 billion), California (\$1.21 billion), and North Carolina (\$834 million) would reap the largest grants (Hurley, Harnisch, and Nassirian 2014). The report, funded by the Bill and Melinda Gates Foundation’s Reimagining Aid Design and Delivery project, declared the need for a “joint commitment” between the states and the federal government to address college affordability, college completion, and workforce competitiveness and to maintain the nation’s economic standing (Hurley, Harnisch, and Nassirian 2014).

The Center for American Progress also proposed in January 2014 that the federal government create a competitive grant program, matched with state funds, to lower the cost of a public college education (Baylor and Bergeron 2014). To receive the funds, states would need to enter the Public College Quality Compact, which would require states to, among other initiatives, contact low-income students early in their K–12 education to ensure they are enrolled in classes that prepare them for college; dedicate a funding stream for higher education appropriations; raise graduation rates and measure the economic outcomes of their graduates through mechanisms such as performance-based funding; standardize transfer and admissions requirements; and align high school graduation requirements with college-readiness standards by, for example, adopting the Common Core State Standards. The proposal concluded by stating, “The three-legged stool of Pell Grants, state support, and federal matching funds would enable students with the greatest need to have access to education without debt, broadening their economic and social mobility” (Baylor and Bergeron 2014, 6).

Consider links among state finance levers

A number of policies contribute to college affordability, including state appropriations, tuition, and financial aid from many sources. Nonetheless, as others have noted (Delaney, this volume; Perna and Finney 2014), too often these policy levers are considered in isolation from one another and without consideration of students’ family income.

States need a strategy for dealing with constrained resources that is more than “hunker down and wait for things to get better” or “fall apart”—two approaches that Doyle and Zumeta (this volume) observed. One alternative may be to pursue a “grand bargain.” Under a grand bargain, as Doyle and Zumeta describe, state governments agree to relax certain regulatory controls over public colleges and universities, such as tuition setting, procurement, and construction, in exchange for more accountability measures and reports ensuring that institutions meet state policy priorities. Such experiments in autonomy can succeed. For example, New Jersey granted its state colleges and universities the autonomy to set tuition and fees and to conduct academic and business affairs with significantly less state involvement under statutory changes in 1986 and 1994 (Greer 1998; Greer and Klein 2010). Since then, New Jersey’s state colleges and universities have become among the nation’s most productive public institutions of higher education, ranking first in the United States in the number of bachelor degrees produced relative to the state’s total funding per FTE; third in six-year graduation rates relative to total funding per FTE; and the third overall “most productive” set of public baccalaureate and master’s institutions in the country (Kelly and Jones 2007).

Findings by Flores and Shepherd (this volume) regarding tuition deregulation in Texas suggest the need for state oversight of institutional decisions. In New Jersey, for example, the Higher Education Restructuring Act of 1994 required public colleges and universities to prepare and make public an annual report that includes information such as graduation rates, the percentage of New Jersey residents in the student body, the ratio of full-time to part-time faculty, and “an

accounting of demonstrable efficiency and quality improvements” (N.J. STAT. ANN. § 18A:3B-35). In Virginia, the 2005 restructuring law imposed audits to measure how institutions were meeting twelve state goals, including providing access to higher education for all citizens, especially underrepresented populations, and ensuring that higher education remains affordable regardless of individual or family income (Restructured Higher Education Financial and Administrative Operations Act of 2005).

While the autonomy granted to state colleges and universities in New Jersey could be considered a success based on their productivity (Kelly and Jones 2007), the experience with restructuring in Virginia continues to unfold. In 2011, Virginia Governor Bob McDonnell acknowledged that, “we must increase access and ensure that we are adequately preparing our students for the jobs of tomorrow when they graduate,” and “we must do better in providing an affordable quality education in Virginia” (*Alexandria News* 2011). Virginia’s Higher Education Opportunity Act of 2011 aimed to address these concerns through changes in funding policies for institutional appropriations and need-based aid, targeted economic and innovation incentives, adoption of six-year institutional plans, limits on tuition and fee increases, creation of a STEM public-private partnership, and establishment of a Higher Education Advisory Committee (Chapter 38.87, Title 23 of the Code of Virginia). Given the difference in results emerging from New Jersey and Virginia, other states should conduct in-depth studies and deliberations before implementing a Grand Bargain with their public colleges and universities.

One state-imposed restriction on institutional autonomy with potential unintended consequences is tuition caps. Bond-rating agencies such as Moody’s and Standard and Poor’s warn that institutions need flexibility to raise revenue, especially during times when appropriations are on the chopping block and philanthropic donations dwindle (Keller 2007). If a state imposes a tuition cap, bond-rating agencies may lower the credit rating of the state’s public colleges and universities, increasing their cost of borrowing by raising the interest rate they must pay on bonds issued to pay for construction projects (Keller 2007).

Target available financial aid to reduce financial barriers

States should heed a key finding from Monks (this volume): the proportion of need-based state aid to undergraduates is unrelated to student debt levels among both borrowers and all students. This finding indicates that increases in grant aid cannot paper over deep holes in state appropriations to institutions and corresponding increases in tuition. According to the most recent data available, the percentage of full-time, full-year undergraduates at public institutions receiving nonfederal grants increased from 44.3 percent in 2003–2004 to 49.6 percent in 2007–2008 (Snyder and Dillow 2013). The dollar amount of grants to those students during that time increased 31 percent, from \$3,090 to \$4,060, while average in-state undergraduate tuition and required fees increased 30 percent, from \$3,319 to \$4,291. The gap between grant awards and tuition requires many students to borrow. The cumulative amount borrowed by full-time, full-year

students at public institutions for undergraduate education increased from \$10,560 to \$13,150—\$2,590 or 24.5 percent—between 2003–2004 and 2007–2008 (Snyder and Dillow 2013).

States can take steps to ensure that the aid dollars they provide are going to students who need them most, thereby mitigating those students' need to borrow. Studies already indicate that students from low-income families are less willing to borrow (Perna 2008). Other studies show the risks of borrowing, especially for those who do not complete their degrees (Gladieux and Perna 2005). Following these findings and the findings in Delaney (this volume), states should award financial aid based on financial need rather than nonneed, or merit, criteria. Indeed, awarding aid based on financial need is particularly important in light of the findings in McLendon, Tandberg, and Hillman (this volume) that show trade-offs between state funding of need- and merit-based student financial aid; as states invest more in the latter, they tend to reduce spending on the former.

States that allow undocumented students to pay in-state tuition at public institutions should consider extending state-provided financial aid to those students as well. Flores and Shepherd (this volume) found that following tuition deregulation in Texas, Hispanic first-time enrollments declined, indicating that the increase in price may deter this population from enrolling. A portion of these students is likely to be undocumented, as 71 percent of the foreign-born residents of Texas (which includes unauthorized migrants as well as legal permanent residents, temporary migrants, and humanitarian migrants) come from Mexico or other Latin American countries (Strayhorn 2006). As of December 2013, eighteen states allowed undocumented students to pay in-state tuition through laws or policies (Jordan 2014; Morse 2013), but only three (California, New Mexico, and Texas) permit these students to receive state-provided financial aid (Semple 2013). In late January 2014, legislation was progressing in the State of Washington that would enable undocumented college students to qualify for state financial aid (Jordan 2014).

The politics over the issue of providing financial aid to undocumented students is complicated, as demonstrated in New Jersey. At the end of 2013, the Democratic-controlled legislature passed legislation that would have made undocumented students eligible for both in-state tuition and state-provided financial aid, but the Republican governor conditionally vetoed the bill to delete the provision regarding financial aid (Semple 2013).

A finding by Monks (this volume) may give state policy-makers reason to reevaluate the effectiveness of aid provided to students at private institutions. Monks found that state grant aid appears to ameliorate total average student debt levels at public institutions, but its impact is much more modest at private institutions. If this is the case, policy-makers may want to cap or reduce the aid provided to students at private institutions to make more funding available to students at public institutions, with the aim of reducing the debt burden on students at these institutions. Such a choice is admittedly difficult, fueled by strong opinions about the value of public versus private institutions (Glater 2006).

Incentivize higher institutions to improve student outcomes by reducing obstacles that limit the benefits of performance funding

As observed by others, colleges and universities increasingly are required to collect and report data on many student outcomes. Yet the capacity of states and institutions to collect, analyze, and use these data to improve student outcomes varies widely across states (Perna and Finney 2014). Some states (e.g., Florida, Ohio) have developed unit-record student data systems, while others possess little state-level capacity. The extent to which states hold institutions accountable for their performance on these indicators also varies. Flores and Shepherd (this volume) indicate that the Texas “Closing the Gaps” master plan has been effective in encouraging institutional improvement in key student outcomes.

Typically, discussions about incentivizing institutional improvements in student success focus on allocating some portion of state funding to institutions on the basis of student outcomes. Nonetheless, available research suggests that performance funding programs have not resulted in better outcomes (see Dougherty et al.; Rutherford and Rabovsky, this volume; McLendon and Hearn 2013; Tandberg and Hillman, forthcoming). Dougherty and colleagues (this volume) offer a number of suggestions for promoting the effectiveness of performance funding. Research suggests the importance of tying performance to larger amounts of funding and providing state funding to encourage programmatic innovations that may improve performance. More attention is also needed to improving institutional capacity to collect, analyze, and use performance data and to addressing institutional resistance to performance funding by training and involving faculty and staff.

Performance measures must also be tailored to institutional missions. Doyle and Zumeta (this volume) describe how state policy-makers in Tennessee and Ohio have tailored the performance measures used in those states to account for meaningful differences in institutional characteristics. As a study by the National Center for Higher Education Management Systems (2011) argued, “The fundamental principle is to reward institutions for fulfilling their missions and not encourage/allow them to benefit by altering their mission. The largest bone of contention almost always arises when teaching institutions are discouraged from benefitting from engaging in research” (pp. 2–3).

Attention is also required to minimize the unintended consequences that may arise from performance funding, including weakened academic standards on one hand and restricted access for less-prepared students on the other hand (Dougherty et al., this volume). Academic standards could go down if enrollment of low-income students is a performance metric, or access to such students could be restricted if graduation rates are rewarded.

State policy-makers should also understand the limitation of graduation rates as a performance metric under its current calculation. The IPEDS Graduation Rate survey includes only first-time, full-time, degree-seeking students, thereby excluding students who started their first semester part time or who transferred from another postsecondary education institution. Moreover, students who enroll midsemester or in the winter/spring semester are often excluded (Cook and

Pullaro 2010). As a result, the federal calculation of graduation rates fails to recognize the diversity among higher education institutions, changes in demographics, and the reality of students' attendance patterns (American Association of State Colleges and Universities 2006). The U.S. Department of Education announced in April 2012 that it will soon include part-time and transfer students in its graduation rate calculation, a welcome change for community colleges and less selective comprehensive institutions that enroll many of the students excluded from the current calculation (González 2012).

States should also beware of measuring institutional quality on the basis of graduates' salaries. Even though students may consider expected returns on their investment in their choice of college (Monks, this volume), graduates from institutions that specialize in lucrative fields, such as science and engineering, skew these findings, which also overlook the fuller picture that salaries 20 years after graduation might give (Kaminer 2013).

Implications for Future Research

Although the articles presented in this volume offer a number of useful insights for state policy-makers, additional research is also needed. Further understanding of the contributions of state public policy to college preparation, affordability, participation, and completion will enable policy-makers to further improve not only overall higher education attainment but also equity in outcomes across groups, and to maximize the countless benefits of higher education to individuals and society.

Many challenges limit the ability of researchers to establish the relationship between particular policies and various outcomes relating to college attainment. One challenge is the extent to which the analyses can take into account alternative explanations for the observed relationship between public policy and student outcomes. Dougherty et al. offer the failure to account for alternative explanations as a potential reason why research shows performance funding to be unrelated to improved student outcomes. Flores and Shepherd (this volume) examine the effects of tuition deregulation in Texas on enrollment, but acknowledge that at least two other important changes also occurred during the same period: the number of Hispanics grew considerably and the state adopted other policies relevant to college enrollment (including the Texas Top Ten Percent Plan).

While the articles in this volume do not resolve these challenges, collectively they provide guidance for other researchers seeking to understand the relationship between public policy and higher education attainment. What is important is that the articles demonstrate the utility of using theoretical perspectives drawn from political science (Perna and Armijo; McLendon et al.; Rutherford and Rabovsky), organizational behavior (Dougherty et al.), and economics (Flores and Shepherd; Monks). Incorporation of appropriate theoretical frameworks is essential for understanding the underlying causal mechanisms—the reasons why a policy will result in a particular outcome.

The articles also illustrate the value of using a range of methodological approaches. The articles in this volume draw on many sources of data, including data drawn from selected states (Perna and Armijo; Doyle and Zumeta); student-level state administrative data (Kurlaender); panel data of institutions (Delaney; Rutherford and Rabovsky); and panel data of states (McLendon et al.). The researchers use case study analyses (Perna and Armijo); descriptive and regression analyses (Kurlaender); generalized method of moments regression models (McLendon et al.); weighted least squares regression using institution- and state-level data (Monks); and quasi-experimental methods (difference-in-differences model; Flores and Shepherd). Future research on the relationship between state policies and college attainment would benefit from greater use of mixed-methods, enabling researchers to glean insights into policy antecedents, policy design, and policy impacts both across and within states.

Topics for future research

Additional research is needed to address current knowledge gaps as well as to assess the implications of continual changes in policies and the contexts in which policies are implemented. As Dougherty et al. (this volume) note, for example, most available research considers only the first wave of performance funding programs. The continued relevance of findings from these studies is not clear, given the dynamic changes in public policy states have experienced over the past decade. The articles also highlight the need for attention to the intended and unintended consequences of policies (as discussed in Dougherty et al.'s article on performance funding). Together the articles also point to several fruitful areas of future research.

Policy origins, implementation, and sustainability. Additional research is required to better understand the political, economic, and other forces that contribute to the successful origin, implementation, and sustainability of public policies designed to improve higher education attainment. McLendon et al. (this volume) demonstrate how demographic factors, economic conditions, patterns in political leadership, and organizational facets of higher education itself can facilitate (or hinder) financial aid policy climates in the states that are conducive to college attainment.

Articles in this volume also highlight the difficulties in fully implementing and sustaining over time policies related to P-20 councils (Perna and Armijo) and performance funding (Dougherty et al.). Dougherty and colleagues speculate that a number of forces have led to the discontinuation of about two-thirds of the performance funding programs that have been adopted, including opposition from higher education institutions, loss of political champions, and an economic downturn. Greater understanding of the forces that contribute to adoption, implementation, and sustainability of particular policies may generate insights that can be used to improve the effectiveness of other policies.

Variation in effects of policies across groups. Additional research is required to more completely understand variations in the effects of policies across different demographic groups. In this volume, Flores and Shepherd demonstrate, for example, that the effects of tuition deregulation at public research universities in Texas had a negative effect on the enrollment of Hispanic students but did not reduce the likelihood of enrollment among black students or Pell Grant recipients.

Future research should also probe differences in effects of policies based on the type of institutions attended. Flores and Shepherd consider the effects of tuition deregulation for enrollment at public research universities, while Rutherford and Rabovsky limit their examination to the effects of performance funding on outcomes for students attending public four-year institutions. Further research should consider how various policies influence outcomes at other institutions, including community colleges and less selective public four-year institutions (that is, institutions that enroll disproportionate shares of students from racial/ethnic minority groups and low-income families).

Most appropriate measures of college readiness. Adequate academic preparation is a critical predictor of college enrollment and completion (Perna 2005), but the most appropriate measure of college (and career) readiness has not been clearly and consistently defined (Perna 2012). Additional research is required to identify the ideal measures of “college readiness.”

The challenges of defining college readiness are suggested by Kurlaender (this volume). She reports that the California EAP has reduced the need for remedial education. But she also shows that very few students enter the state’s community colleges “ready” as indicated by the eleventh grade EAP. Moreover, many California community colleges have not yet adopted EAP, suggesting that these institutions prefer instead to use a different examination to assess readiness to enter college-level courses.

The Common Core State Standards movement may address the need for better measures of college readiness. The forty-five states that have adopted the Common Core (Wilson 2013) will provide data over the next several years that scholars should examine to determine the effectiveness of these policies to prepare students for college.

Interactions between federal and state policy. As others (e.g., Perna and Finney 2014) have also noted, future research should consider the ways that federal policies interact with state policies to influence college-related outcomes. Delaney’s examination of the effects of the federal matching funds provided through the federal ARRA of 2009 on state appropriations for higher education illustrates that such interactions may have important consequences for student enrollment and persistence; her analyses show that states responded to ARRA by maintaining state appropriations for higher education (consistent with ARRA’s maintenance of effort provision) but reducing state financial aid (a category of state spending not mentioned in the ARRA legislation).

The Pell Grant program provides fertile ground for future researchers. Monks (this volume) found that a higher share of Pell Grant recipients is associated with lower debt. Perhaps Pell grants are replacing loans for low-income students or institutions that attract more Pell recipients are limiting loan levels (Monks, this volume). Alternatively, this finding may reflect that Pell grants cover a substantial portion of the cost of community colleges, and a large proportion of Pell Grant recipients attend these institutions. In 2007–2008, 31 percent of all FTE students in the United States attended a community college, and they received 30 percent of Pell Grant funds (Baum, Payea, and Steele 2009). The average Pell Grant per recipient in 2008–2009 was \$2,973 (Baum, Payea, and Steele 2009), when the cost of tuition and required fees at public two-year institutions that year was \$2,618 (Snyder and Dillow 2013).

Interactions between public policy and institutional actions. Additional research is also required to better understand the effects of public policies on institutional practices (Perna and Finney 2014). Flores and Shepherd's (this volume) examination of the effects on enrollment of tuition deregulation in Texas raises questions about institutional responses to tuition deregulation (in addition to raising tuition). Their results suggest that the actions Texas public research universities took may have mitigated the negative effects of tuition deregulation on the enrollment of blacks and low-income students, but failed to buffer Hispanics from the adverse consequences of higher tuition. Further research is required to understand whether the differences across groups in the effects of tuition deregulation are attributable to institutional actions or to other factors such as differences in college choice patterns across groups, including actual and preferred geographic proximity to public research universities.

Future research should also consider how institutional mission, goals, and other characteristics mediate the effects of public policies. In his article, Monks identifies the admissions and financial aid policies that colleges and universities adopt in their efforts to achieve their own institutional goals, including greater institutional prestige. His analyses show that student debt is related to state-level policies (including state financial aid) as well as institutional admissions and financial aid practices and other institutional characteristics.

The articles by Dougherty et al. and Rutherford and Rabovksy assume that institutional action mediates the effects of a state performance funding program on student outcomes. Dougherty and colleagues conclude from their review of prior research that performance funding encourages colleges and universities to make changes in academic programs and support services to improve performance. Despite these changes, however, performance funding is not associated with improved student outcomes (see Dougherty et al. and Rutherford and Rabovksy, this volume). These findings highlight the need to better understand the linkages among state policy, institutional practice, and student outcomes.

Future research should also consider the implications of President Obama's college-rating proposal (White House 2013). Announced in August 2013, the rating system would measure college performance based on measures of access (e.g., the percentage of students receiving Pell grants); affordability (e.g., average

tuition and loan debt); and outcomes (e.g., graduation and transfer rates, graduate earnings, and advanced degrees of graduates). Aiming to have the ratings in place by the 2015 academic year, the administration plans to seek legislation allocating financial aid based on them by 2018. Many faculty and college officials and some higher education associations have raised concerns that the proposed system would be based on missing or incomplete data and would create “perverse incentives” that would cause institutions to discriminate against the kinds of students the ratings intend to help (Field 2013). The Association for Public and Land-Grant Universities proposed an alternative system that would assess colleges based on retention and graduation rates, employment and continuing-education rates, and loan-repayment and default rates (Field 2014). The characteristics of an institutional rating system, and its implementation, deserve close attention from researchers.

Finally, future research should examine the results of the work funded by the Lumina Foundation through the National Governors Association’s Center for Best Practices to help states combine education and workforce data and policies between 2012 and 2014 (Lumina Foundation 2012). Research is required to understand whether these grants promoted better data collection and policymaking, which in turn informed state policies that improved college attainment.

Conclusion

Although states have adopted many policies designed to promote higher education attainment, much about this policy activity is poorly understood. In addressing the crucial need for greater evidence, this volume offers useful insights into the types of policies that may effectively improve higher education attainment, and fruitful approaches for future research on this topic. One fact remains clear: all states must do more to raise the educational attainment of their populations, even as researchers accelerate their efforts to understand the policy conditions and designs that best promote increased college attainment in the states.

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