IMPROVING HIGHER EDUCATION THROUGH PERFORMANCE-BASED FUNDING:
AN ANALYSIS OF OUTCOMES AND PERCEPTIONS
OF THE OHIO 2012 PBF POLICY

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A DISSERTATION
in
Higher Education Management

Presented to the Faculties of the University of Pennsylvania
in Partial Fulfillment of the Requirements for the
Degree of Doctor of Education
2016

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DEDICATE

I dedicate this paper to Katherine, whose wonderful smile and wise spirit inspires me, and whose love and acceptance is absolute. I am lucky to have such a friend and partner. Although the pursuit of a doctorate would keep us apart and require enormous sacrifices, she was gracious and supportive throughout the effort. I am ever so grateful. . .

And to my daughters, Kel E. Lyle and Jesse Martel, who have been a source of joy and happiness always. . .

And to my younger siblings, Katie, Meg, Kim, and Christie, who are forgiving and loving despite my failings as a brother. Their good humor and irreverence makes me laugh. . .

And lastly, to my mother, who passed away suddenly just days after I started the doctoral program. I am lucky to have had such a loving and dedicated parent. She was happy for me in taking on this new endeavor and I know that she would have been pleased that I completed my dissertation.
ACKNOWLEDGMENTS

There are many who have helped me achieve this milestone, but I must start with the amazing faculty of the University of Pennsylvania Graduate School of Education. They have created an excellent program and educated with care. I am especially grateful to Peter Eckel for his classroom insights and dissertation advice.

The program included the use of a cohort model that made a huge difference for me. Not only was my cohort of 23 very smart people a source of intellectual support through a challenging program, they were also a source of important learning outside of the classroom. I have never felt closer to a group of people and I am grateful to every one of them. I must also acknowledge Ginger Stull as the best Program Coordinator ever!

I would like to thank Dr. Dottavio, President of Tarleton State University, who supported my pursuit of this degree, and all my colleagues at Tarleton, who were very encouraging. I am lucky to be working with what must be one of the finest administrative teams in the country.

I also want to thank the study participants from the public universities of Ohio who voluntarily gave their time and attention to help me as student and researcher. I am extremely grateful to these leaders and hope they find the results as interesting as I did.

And finally, I would like to acknowledge my father whose optimism, unquestionable moral integrity, and continued enthusiasm for lifelong learning have always inspired me to be my best.
ABSTRACT

IMPROVING HIGHER EDUCATION THROUGH PERFORMANCE-BASED FUNDING: AN ANALYSIS OF OUTCOMES AND PERCEPTIONS OF THE OHIO 2012 PBF POLICY

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Public universities face significant funding challenges as states continue to look for efficiencies or outright cuts. In addition, the call for accountability in higher education continues to grow as state lawmakers, policy analysts, and researchers voice concern that degree attainment has stagnated, is too low to support economic growth, and takes too long. Business and political leaders are also increasingly interested in developing higher education accountability in response to concerns by students and families over the rising cost of a degree. Together, these themes of accountability and cost control have resulted in dramatically different policy innovations in the form of performance-based funding in a growing number of states. However, these policies have thus far produced scant evidence of success. Furthermore, the potential unintended consequences of these policies seem large, including the risk of increased selectivity resulting in increased class-based inequality and the risk of decreased educational quality. Thus, the shift from basing state support on inputs to outputs could be much more than a simple accounting change. By stressing different priorities, the shift may ultimately alter the historic access mission of public higher education. Ohio created a new policy in 2012 that funds 100
percent of undergraduate higher education state appropriations to public universities on the basis of outcomes, the most aggressive policy of its kind in the nation. This study investigated the perceptions of 24 Ohio higher education leaders regarding this policy innovation and combined those responses with related performance metrics in order to synthesize a more comprehensive understanding of early impacts and implications, particularly as it pertains to outcomes, access, and education quality. The results of the investigation suggest that retention has improved, access has decreased, and quality has been unaffected. University leaders were largely in favor of the policy and supported increased selectivity even in the face of declining enrollments. Although concerns remain regarding at-risk student support, the study suggests that a 100 percent performance-based policy may have positive benefits and achieve the intended objectives. It may also alter our conception of the broad access mission of higher education as access is traded for student success.
# Table of Contents

ABSTRACT.................................................................................................................. v

List of Tables .............................................................................................................. ix

List of Illustrations ..................................................................................................... x

Chapter 1: INTRODUCTION ............................................................................ 1
   The funding and accountability challenges of public higher education ........ 1
   Higher education state policy accountability innovations and their risks ..... 3
   Ohio higher education PBF background and policy history ...................... 6
   A mixed methods analysis of outcomes and perceptions .......................... 9
   The research questions .............................................................................. 11
   Significance of the study ........................................................................ 12

Chapter 2: A REVIEW OF LITERATURE......................................................... 14
   The origins of PBF: accountability and attainment ................................ 15
   A short history of PBF: implementations and withdrawals ..................... 20
   PBF mechanisms and theoretical constructs: indicators and motivators ... 23
   PBF outcomes: policymaker exuberance and questionable results ............ 28
   Possible PBF unintended consequences: quality, access and more .......... 33
   PBF in Ohio: a notable change and specific literature .............................. 36
   Conclusion: the promise and the peril of PBF ........................................... 37

Chapter 3: METHODS.......................................................................................... 40
   The conceptual framework for the case study .......................................... 40
   The study design and site selections .......................................................... 45
   Data collection and analysis ..................................................................... 48
LIST OF TABLES

Table 1. Fall Retention Rates, 2011 to 2014, Ohio Main Campus Universities ........ 79
Table 2. Fall 2012 Retention Rate and Two-year Improvement in Retention Since 2012, Ohio Main Campus Public Universities ........................................... 80
Table 3. Admissions as a Percent of Applicants, 2010 to 2015, Ohio Main Campus Universities ........................................................................................................ 82
Table 4. 25th Percentile ACT Composite Scores, 2012 to 2015, Certain Ohio Public Universities ........................................................................................................ 85
Table 5. 75th Percentile ACT Composite Scores, 2012 to 2015, Certain Ohio Public Universities ........................................................................................................ 86
Table 6. Percent Pell Grant Recipients, 2011 to 2014, Ohio Main Campus Universities ................................................................. 88
Table 7. Change in the Total Number of Undergraduate, First-time Students by Race/Ethnicity, 2012 to 2014, Ohio Main Campus Universities ....................... 90
Table 8. Change in the Total Number of Undergraduate Students of Color, 2010 to 2012 and 2012 to 2014, Ohio Main Campus Universities ......................... 91
Table 9. Enrollment, 2011 to 2014, Ohio Main Campus Universities .................. 91
Table 10. UG FTSE Student to FTE Faculty Ratio, 2012 to 2014, Ohio Main Campus Universities ........................................................................................................ 94
Table 11. SSI per Undergraduate FTSE, 2012 to 2014, Ohio Main Campus Universities ........................................................................................................ 97
LIST OF ILLUSTRATIONS

Figure 1. Study concept map, simplified. ..........................................................44
Figure 2. Fall retention rates, 2011 to 2014, U.S., Region, Ohio. ......................79
Figure 3. Admission rates, 2011 to 2015, U.S., Region, Ohio. ..........................82
Figure 4. Correlation of Ohio 2014 degrees/FTSE and 2009 ACT 75th percentile
    composite scores. ....................................................................................83
Figure 5. ACT 25th percentile composite score (weighted), 2011 to 2015, U.S.,
    Region, Ohio..........................................................................................84
Figure 6. ACT 75th percentile composite score (weighted), 2011 to 2015, U.S.,
    Region, Ohio..........................................................................................84
Figure 7. Percent Pell Grant recipients, 2011 to 2014, U.S., Region, Ohio.........87
Figure 8. Change in percentage of undergraduate students by race/ethnicity, 2012 to
    2014, U.S., Region, Ohio .........................................................................89
Figure 9. FTIC enrollment percentage change from prior year, 2011 to 2014, U.S.,
    Region, Ohio..........................................................................................92
Figure 10. FTSE enrollment per FTE ranked faculty, 2012 to 2014, U.S., Region,
    Ohio......................................................................................................94
Figure 11. FTSE enrollment to FTE staff ratio, 2012 to 2014, U.S., Region, Ohio...95
Figure 12. State appropriations per total FTSE, 2010 to 2014, U.S., Region, Ohio...97
Figure 13. Correlation of percentage change in the 2014 full-time fall cohort
    retention and the percentage change in the 2013 applicants admitted, 12 Ohio
    main campus universities. .....................................................................98
Figure 14. Correlation of percentage change in Black student enrollment and
    percentage change in percent of applicants admitted, 2014, Ohio main campus
    universities ...........................................................................................100
Figure 15. Correlation of percentage change in undergraduate SSI/FTSE (2014) and
    selectivity (2012) across 12 Ohio main campus universities .....................102
The funding and accountability challenges of public higher education

Presidents of state universities lament that their annual appropriations from the state legislature are now inadequate. [However,] most accounts of the financing of higher education in 1910 indicate that state university presidents considered their governors and legislators to be both frugal and unpredictable (Thelin, 2011, loc. 326).

While much has changed since 1910, public universities across America still face substantial challenges obtaining adequate financial support. Indeed, inflation-adjusted state support has declined significantly in recent decades. The lofty objectives of higher education—serving the nation’s citizens by educating those willing and able to learn and researching new knowledge for the betterment of society—are increasingly burdened by the reality of escalating costs that states are less and less willing to underwrite. On average, states have reduced appropriations for their public institutions by 24 percent in real dollars over the past 25 years on a full-time student equivalent (FTSE) basis (SHEEO, 2014).

State statutory funding requirements for programs such as Medicare and K-12 education have exacerbated higher education’s funding challenges. An anti-tax movement arising from the neoliberal philosophy of “less government,” along with the human-capital studies of economist Milton Freidman and others in the 1980s, further intensified the appropriation declines (Bloom, Hartley, & Rosovsky, 2006). Policymakers have increasingly used Friedman’s argument that higher education is primarily a private benefit, one that helps the individual more than society at large, to justify reduced public support for higher education (Lambert, 2014).
Hikes in tuition and fees have historically covered decreases in state appropriations, but many states and universities are now starting to limit those increases in response to concerns over student debt and overall affordability. Although higher education has a long history of complaining about underfunding (Thelin, 2011), the tuition limits, combined with appropriation decreases, have brought a new urgency to the historic financial challenges.

Meanwhile, the call for greater accountability in higher education has grown. Lawmakers, policy analysts, and researchers alike are voicing concern that degree attainment has stagnated, is too low to support economic growth, takes too long, and is in general inefficient and therefore too costly (Harnisch, 2011; Perna, Klein, & McLendon, 2014). Furthermore, anxiety among students and families over the rising cost of a degree and the associated debt have further led business and political leaders to focus on higher education accountability and efficiency (Dougherty, Natow, Bork, Jones, & Vega, 2013; Leveille, 2013).

Universities feel this pressure not only at the state and local level but also at a national level. President Obama himself has spoken of the need for greater accountability in higher education through the establishment of performance metrics that help determine the value of a degree (Obama, 2013). Indeed, higher education accountability is part of a larger theme across the entire public sector that has gained momentum over the past three decades. That accountability theme has influenced not only state education systems and government agencies in the United States but also education systems and government agencies abroad (Habib, 2011; Huisman & Currie, 2004).
**Higher education state policy accountability innovations and their risks**

Against this backdrop, many states have been seeking new ways to improve performance and accountability in postsecondary education. One particular policy approach that is gaining traction nationally is known as “outcomes-based funding” or “performance-based funding (PBF).” PBF policies are now active or being introduced in 37 states for either two-year or four-year institutions or both; of those, 26 states currently have PBF policies for four-year institutions (NCSL, as of July 31, 2015).

Historically, states have typically allocated appropriations to higher education institutions according to access-driven formulas based on student enrollments. The enrollment-based input models reimburse the costs, when combined with tuition revenue, incurred by institutions to serve additional students and support the philosophy that expanding higher education creates societal benefits for everyone through improved social equity and economic opportunity (Lambert, 2014).

In contrast, performance-based outcome models are essentially market-driven and use formulas that identify particular output targets (Priest & Boon, 2006). PBF models incentivize universities to achieve specific policy objectives based on the percentage of state funding that is appropriated to accomplish those objectives. Most PBF policies tend to emphasize results such as graduation and retention rates but many different state-specific objectives are used (Harnisch, 2014).

For example, Ohio targets the number of degrees and course completions that students obtain at an institution and also provides extra weight to those who graduate with STEM degrees. The Pennsylvania State System of Higher Education uses metrics for student access, fundraising, and indicators that each university chooses as well as degree completions. Tennessee uses credit hour completion
metrics, six-year graduation rates, and degrees per 100 full-time equivalent students, among others.

The adoption of performance-based funding began slowly and has, until recently, represented only a small fraction of the total budget for any institution. In 1979, Tennessee was the first state to establish a PBF policy. That policy called for a 2 percent bonus fund in addition to base appropriations and identified five performance indicators tied to the bonus (Bogue & Johnson, 2010). Over the years, other states have implemented PBF policies with their own indicators and varying levels of financial incentive. In fact, Tennessee has modified its own PBF policy many times, both in terms of the indicators and the percentage of funding available for the bonus (Dougherty & Reddy, 2013).

The early PBF policies, often referred to as PF1.0, differed from the next policy iteration, PF2.0, in which performance incentives have become a part of the base appropriation rather than an addition to the base appropriation. The PF2.0 approach was initiated partly to offset concerns that bonus funding was difficult to maintain in state budgets during economic downturns (Dougherty & Reddy, 2013).

However, all of these policies, whether they are paying for outcomes within the base appropriation (PF2.0) or as a bonus fund outside of the base appropriation (PF1.0), have historically only represented between 3 and 8 percent of state appropriations. Because appropriation funding in the United States represents about 20 percent of total operating and non-operating institutional revenue (as of 2015), the resulting 0.5 percent to 1.5 percent budget incentives were probably not perceived as essential to the bottom line and would probably not have incentivized much of a difference in outcomes by themselves (Shin, 2010).
Indeed, whereas rewarding certain outcomes to improve performance may have a theoretical grounding, to date the effects of PBF have been mixed at best. Quantitative research on the policies that have been in place long enough to study has revealed a negative or minimal impact on improved graduation rates (Rutherford & Rabovsky, 2014; Sanford & Hunter, 2011; Shin, 2010; Tandberg & Hillman, 2014).

Although qualitative studies have indicated that certain intermediate processes, such as better student advising, have improved under PBF policies, the same studies have suggested that unintended consequences have also resulted. Those consequences include weaker grading standards, restrictions on student admissions, lower faculty morale, and reduced institutional cooperation (Dougherty & Reddy, 2013; Lahr et al., 2014). Ultimately, maintaining student access and education quality may be difficult under market-driven policies like performance-based funding (Cunha & Miller, 2014; Doyle & Zumeta, 2014; Lahr et al., 2014; Priest & Boon, 2006).

To be fair, access-driven policies, or those that focus on student enrollment, raise issues as well. Such issues include the ethics of bringing students to campus who are not prepared and not likely to complete a degree, the enrollment of students with capabilities and intentions that do not match the institution’s program, and the impracticality of state universities to address social equity through open-enrollment practices when funding is not adequate for the mission.

Nonetheless, as Bastedo and Gumport (2003) have noted, “Equality of opportunity for all students to attend public higher education in their state, without regard to their background or preparation, is a foundational principle of higher education policymaking in the Unites States” (p. 341). In a similar refrain, St. John (2005) suggested that consideration of equity and access in higher education funding
policies is a moral obligation that “relates to the fundamental precepts of a
democratic society” (p. 248).

Given the social equity and access missions of most public universities, the
restriction of student admissions under PBF polices is a particularly important
consequence to monitor. Because there is already a clear correlation between
selectivity and attainment as well as between selectivity and race, ethnicity, and
socioeconomic status (Bowen, Chingos, & McPherson, 2009; Carnevale & Strohl,
2013), if selective enrollment is used to improve attainment outcomes, class-based
inequality may increase. Education inequality is already a problem to some extent in
America (Blumenstyk, 2014; Carnevale & Strohl, 2013; Mortenson, 2015), so
restricting student access through PBF policies represents a potential negative
consequence. Therefore, the shift from basing state university funding on inputs
(i.e., enrollments) to outputs (i.e., graduates) could represent much more than a
simple accounting change. By stressing different priorities, PBF policies may
ultimately alter the historic mission of public higher education.

Ohio higher education PBF background and policy history

Despite the lack of evidence that PBF policies create the intended results and
the risk that they may have unintended consequences, Ohio adopted a new policy in
2012 that funds 50 percent of total higher education state appropriations to public
universities based on undergraduate degree completions and 30 percent on
undergraduate course completions, with the balance going to graduate and medical
program support. Therefore, all of undergraduate higher education appropriations in
Ohio are now based on outcomes with 62.5 percent of that total based on degree
completions (50%/80%). This policy represents the most aggressive performance-
based funding model in the country, although several other states are planning or phasing in large PBF percentage increases as well (NCSL, 2015).

Ohio started with a PF1.0 program in 1995 in response to state economic needs and a growing appreciation of the value of higher education. The program targeted job training, student access, degree completion, among other things, and led to increases in higher education funding in Ohio (Burke, 2002). Ohio also ran another program from 1997 to 2008 called the Success Challenge that awarded a bonus to universities using degree completion as the criteria (Dougherty & Reddy, 2013). University officials grew concerned as the PF1.0 programs gained support at the expense of base budgets (Burke, 2002).

Ohio replaced the PF1.0 programs with a new PF2.0 program in 2009, partly to resolve the competition between performance funding and base funding. The 2009 program allocated 80 percent of state higher education funding for universities based on course and degree completions with the latter ultimately representing 20 percent of the state total and the former 60 percent (Dougherty & Reddy, 2013). Funding course completions simply shifts the measure from enrollment counts early in the semester to the count of those that finish the course. Although course completions are an outcome measure, they are not the ultimate outcome of graduation.

Governor Kasich met with college and university leaders across the state in September of 2012 and set a November deadline for recommendations to revise the funding model yet again to emphasize student success and graduation along with economic growth. In addressing how to allocate state higher education appropriations, the Ohio Higher Education Funding Commission’s primary principles were to support degree completion and align funding for higher education with economic development goals. Additional guiding principles included raising the
participation rates among Ohio high school graduates; attracting the best and brightest students from Ohio and elsewhere; and encouraging universities to attract, prepare, and graduate non-traditional and at-risk students (Ohio Higher Education Funding Commission, 2012).

The first recommendation of the Commission was to award state funding based on the ability to graduate students. Also included in the recommendations was the elimination of earmarks and historical set-asides as well as the development of a new weighting system “for non-traditional and at-risk students to ensure that Ohio schools maintain their access mission,” (Ohio Higher Education Funding Commission, 2012, p. 6). The Commission, led by Gordon Gee, President of The Ohio State University, proposed the current funding model and the Governor accepted it (Ohio Higher Education Funding Commission, 2012). The new PBF model was formally adopted in July of 2013, which allowed one year (the 2013/14 academic year) for phasing in the new allocation method, including the at-risk weighting, and phasing out the stop-loss provisions.

The calculation of funding is complex given all the parameters involved, including the at-risk weighting for course and degree completions and the extra weighting given to certain degrees. The at-risk weighting includes 15 different cases developed for students based on age, race, financial, and academic risks and combinations thereof. Of note, Ohio did not find data to support placing first generation or veteran students in a risk category (Carey, 2014). The degree weighting focused on science, technology, engineering, and math programs (STEM) to align with economic goals. All of the funding is based on a rolling three-year average.
The 2012 policy also collapsed the funding for branch campuses into their respective main campus although results are still tracked separately. And, of particular note, as with many enrollment-driven models, the Ohio PBF model is a zero-sum game. That is, if the legislature does not increase funding or does not increase funding to match the growth of course and degree completions, then even a successful institution that increases course and degree completions can lose funding if other intuitions increase completions even more.

The Ohio public higher education system comprises 14 universities (including a medical university), 23 community colleges and many technical centers. The 14 universities also collectively have 24 regional branch campuses. The Ohio main campus universities (without the medical university or branch campuses) serve about 220,000 undergraduate students as of 2015 through Bowling Green State University, Central State University, Cleveland State University, Kent State University, Miami University, Ohio State University, Ohio University, Shawnee State University, University of Akron, University of Cincinnati, University of Toledo, Wright State University, and Youngstown State University. The entire system reports to a chancellor who in turn reports to the governor.

**A mixed methods analysis of outcomes and perceptions**

As a new policy innovation, the impact of a 100 percent performance-based appropriations program on undergraduate education has not been studied in depth. Additionally, much of the research on PBF has focused either on policy perceptions through general surveys or quantitative results through performance outcomes. This study combined the perceptions of campus leaders across certain Ohio main campus universities with related performance outcomes in order to synthesize a more
comprehensive understanding of the policy impacts and implications of an aggressive PBF model.

Linking the qualitative perceptions and reflections of key university leaders with the quantitative description of early policy impacts was important in order to validate findings and evaluate meanings. By using both qualitative and quantitative methods to analyze the various effects such as the change in outcomes, access, and quality, the findings were strengthened and the larger implications for higher education were explored.

A key part of the research entailed gathering university leader perceptions of the 2012 Ohio PBF policy through one-on-one interviews to understand how universities are responding to such a large funding emphasis on outcomes, particularly related to access and education quality. As such, the interview probe encompassed the perception of changes in institutional selectivity, faculty activities, student support, grading patterns, and other important reflections on the policy.

In addition, although it is too early to quantify the impact on graduation results from a 2012 policy change, this study sought to describe the various performance results to assess the PBF innovation at an early stage of implementation. The performance metrics in this study are retention, enrollment and selectivity, and staffing and appropriations, which represent outcomes, access, and education quality, respectively.

The 2012 Ohio PBF policy represents a significant shift in the way Ohio supports its universities and, if access or quality are reduced as a result, a change in the way that its public universities serve society. Because the potential consequences of such changes are antithetical to the historic mission of public universities and the goal of improving society, further research on the Ohio PBF phenomenon is essential.
The research questions

The purpose of this study was to analyze the implications of a 100 percent PBF model by exploring how Ohio universities have responded to the 2012 Ohio PBF policy and by describing the measurable impacts of the policy in terms of particular performance metrics. Thus, the research questions are:

1. According to the Ohio main campus university leaders in the study, in what ways have access and education quality changed at their universities in response to the 2012 Ohio PBF policy?
2. Based on publicly available metrics, how has the 2012 Ohio PBF phenomenon impacted the outcomes, access, and education quality of Ohio public four-year universities?
   a. How do the Ohio trends compare to national and regional trends?
   b. In what important ways has the impact of the 2012 Ohio PBF policy varied across each of the Ohio main campus public universities?
3. What other important benefits or challenges of the 2012 Ohio PBF policy are noted by the Ohio main campus university leaders beyond access and education quality?

Research Question 1 (RQ1) investigates the ways that institutions have responded to the policy change in terms of activities or actions as perceived by university leaders who are defined as university presidents, another leader recommended by the president, and faculty senate presidents. RQ1 provides multiple perspectives across multiple locations for a comprehensive narrative of the policy responses by Ohio universities.

Research Question 2 examines the evidence of policy impact through data available from U.S. Department of Education’s National Center for Education
Statistics (NCES) and the website Ohio.gov. The impact is analyzed in terms of: 1) the changes in retention, selectivity, enrollment, staffing, and appropriations in all Ohio public four-year universities in general, and 2) the specific ways in which those changes manifested in each of the Ohio main campus institutions. This study benchmarked those performance metrics against national and regional metrics to highlight the changes in Ohio. The metrics are important evidence in their own right but they also provide a validation of the university leaders’ responses in RQ1.

*Research Question 3* captures other potentially important benefits and challenges of the policy as noted by study participants. These reflections provide additional insights and a deeper understanding of the phenomenon beyond the university responses around access and quality.

Together the questions explore key dimensions of the potential benefits and consequences of a 100 percent performance-based undergraduate appropriation policy for public four-year institutions at an early stage of implementation.

**Significance of the study**

This is an important study given the need to fully understand the implications of a PBF policy that provides 100 percent of undergraduate appropriations to universities based on degree and course completions. The shift by states to funding outputs instead of inputs as represented in the 2012 Ohio PBF policy would appear to be a powerful approach to improving higher education performance. Yet funding based on outcomes could also result in limiting student access or have other negative consequences.

*For example, if the cost to graduate lower socioeconomic status (SES) students is greater than the revenue gained from a successful outcome, universities may elect to focus on enrolling students from higher socioeconomic backgrounds to*
the detriment of social equity. Although this result may be what Ohioans ultimately want in the name of economic progress or financial exigency, such consequences ought to be made transparent and the implications fully understood.

To that end, this study investigates the 2012 Ohio PBF policy implications through the perceptions of university leaders and observed performance impacts. Thus, the study may benefit Ohio policymakers and state leaders as a research-grounded third party perspective on the early impacts of the policy. The study also informs state and university leaders elsewhere as well as policy entrepreneurs and faculty members in general about the challenges and opportunities of an innovative PBF policy.

Because this type of higher education funding policy may have significant social consequences and may ultimately represent a new priority for higher education, the broader access and social equity policy implications should be of interest to higher education researchers in particular.
CHAPTER 2: A REVIEW OF LITERATURE

The performance improvement goals and cost-management concerns in higher education that have stimulated performance-based funding (PBF) in many states have philosophical origins in a broad accountability movement to improve bureaucratic efficiency in government entities. That movement has gained significant momentum over the last three decades in the United States and elsewhere (Burke, 2002; Dougherty et al., 2014; Huisman & Currie, 2004; McLendon & Hearn, 2013).

The private benefit concept, introduced through the human capital studies of economist Milton Freidman and others, has also influenced how states fund colleges and universities (Bloom, Hartley, & Rosovsky, 2006). Increasingly, students and economic policymakers are associating a college degree with getting a job and with economic development resulting in a conceptual shift regarding the connection of higher education to the economy.

The themes of accountability, cost control, and economic benefit are interrelated and intersect for many states through higher education PBF policies. Such policies focus on quantified outcomes such as graduation rates and graduate employment rates as metrics on which to base allocations of state appropriations to public universities and colleges.

In order to investigate the benefits and the risks of PBF policies, this review of literature traces the origin of PBF policies, briefly describes the history of state PBF implementations, and explores the mechanisms and theories that underpin current practices. The review continues with an account of the results of, and concerns about, current policies, and it concludes with a summary of the promise and peril of performance-based funding.
The origins of PBF: accountability and attainment

Performance-based funding is a broad concept that refers to a method of funding a governmental institution based on the achievement of certain results or outcomes—in contrast to the traditional practice of funding the actual costs or incremental cost increases (Burke, 2002). For higher education, that might mean that funding is based on the number of graduates produced, for example, as opposed to the number of students enrolled. The concept has been in use for many decades at public two-year and four-year higher education institutions across various states (Dougherty et al., 2014).

PBF policy has roots in the accountability movement of the last quarter century that impacted businesses as well as government entities (Bruneau & Savage, 2002; Burke, 2002). Ronald Reagan articulated the shift towards accountability in government when he declared in his 1981 inaugural address that “government is not the solution to our problem; government is the problem.” That political shift was partly a response to the globalization of markets during that period and a neoliberal agenda that saw unfettered markets as the solution to increased competitive pressure throughout the economy (Lambert, 2014). The belief that government in general (including higher education) was inefficient, yet could be made more efficient through reduction or proper incentives, helped spur that change in mindset.

The accountability movement also coincided with the rising cost of federal entitlement programs and a growing anti-tax bias. The push for accountability was not limited to the United States nor to public higher education institutions, although impacts and trends have varied by nation (Bruneau & Savage, 2002; Gaither, 1994; Habib, 2011; Herbst, 2007; Huisman & Currie, 2004).
On the state level, the call for accountability partially resulted from the large increase in higher education enrollment over the previous three decades, which added enormous pressure on state budgets already struggling with the statutory support required for Medicaid, K-12 education, criminal justice, and other growing entitlements (Zumeta, Breneman, Callan, & Finney, 2012). In addition to such cost pressures, the Freidman human-capital model supported a sociological shift. It saw the college degree as more of a private benefit for the individual than a public benefit for society and more of a jobs program than a formative experience (Bloom, Hartley, & Rosovsky, 2006; Huisman & Currie, 2004; Lambert, 2014).

Thus, it became politically feasible to reduce state support for higher education. Furthermore, some states limited the tax revenue available to fund higher education through initiatives such as proposition 13 in California (Lambert, 2014; Leveille, 2013). Those state budget pressures, along with the move towards an accountability mindset, encouraged certain state policymakers to develop links between performance and funding with the goal of improving efficiency and controlling costs within higher education (Burke, 2002; Dougherty, Natow, Bork, Jones, & Vega, 2011).

The general disinvestment by states in higher education on a per-student basis in turn caused tuition rates to increase and student debt to soar to unprecedented levels as universities sought to compensate for the state reductions (Baylor, 2014; Mortenson, 2014). To slow those tuition increases and help control student debt levels, many state legislatures and coordinating boards then began to push for policies that linked funding to performance (Dougherty et al., 2014).

Ultimately, the funding crisis and the calls for greater accountability seem to have been inevitable for public institutions, given the labor intensity of higher
education that can make it more difficult to show productivity improvements (Baumol & Bowen, 1966; Jenkins & Rodriguez, 2013). Despite some scholars’ dismissal of performance-based funding techniques as just another management fad (Birnbaum, 2001; Bruneau & Savage, 2002), education policymakers, leaders and researchers across the country have suggested that improvements are needed in the efficiency and effectiveness of higher education through some form of increased accountability (Jones, 2013; Perna & Finney, 2014). Support for linking funding to institutional performance in order to increase accountability also comes from such notable institutions as the Lumina Foundation, Complete College America, the National Governors Association, and the Gates Foundation (Harnisch, 2011).

Irrespective of funding concerns, the calls for performance accountability have also grown because graduation rates have stagnated at the same time that economic forecasts have suggested an increased need for educated workers (Carnevale, Smith, & Strohl, 2010; Hoffman, Reindl, & Bearer-Friend, 2011). Higher education leaders, at both the state and national level, are troubled by the fact that the United States is falling behind other Organization of Economic Cooperation and Development (OECD) countries in terms of the number of college graduates (Finney, 2014; McLendon & Perna, 2014). Global competition and economic forecasts have fueled the pervasive agreement among policy and education leaders that states need to increase their output of college graduates in order to remain economically competitive. Many policymakers now believe that expanding higher education output in terms of degree attainment is an essential requirement for economic growth and a strong society (Perna & Finney, 2014). In other words, accountability in higher education is not just about the cost per degree, but also the total number of degrees produced.
From the institutional perspective, the expectation of increased funding through the bonus mechanism of a PBF policy motivated some education leaders to explore accountability models. A number of leaders had hoped to gain increased institutional autonomy in exchange for greater accountability, as well (Leveille, 2013).

The adoption of PBF in higher education can also be explored through three political concepts: advocacy coalitions, policy entrepreneurship, and policy diffusion (Dougherty et al., 2013). These three perspectives together provide another lens through which to understand the development of PBF and policy differences across states and demonstrate a decision complexity beyond simple budget or effectiveness pressures.

Advocacy coalitions that have formed around promoting PBF in those states and that have been studied share common beliefs and act in concert (Sabatier & Weible, 2007). They are frequently organized by policy entrepreneurs, often members of state coordinating boards, who find ideological common ground among different political groups in order to develop policy (Kingdon, 1995). The ideas for PBF policies have often come from prior state experiences as well as external sources such as other states, professional associations, and consultants as understood through policy diffusion theory (Dougherty et al., 2011). Note that in some states the advocacy coalition and policy entrepreneurship for PBF was based on the idea of securing new funding through PBF policy in the face of stagnant appropriations, as opposed to a direct response for accountability (Dougherty et al., 2013).

Other conditions that influence a state to adopt a new higher education accountability method include its particular political environment and organizational structures, as well as the likelihood of state policy innovation, among other factors.
For example, research has suggested that partisan politics, through greater Republican representation in various state legislatures, have increased PBF adoption; coordinating board structures have been more susceptible to influence than centralized governing boards regarding PBF adoption; and intensive electoral competition has been more likely to move political leaders to appeal to voters through education quality assurance, which can take the form of a PBF policy (McLendon & Hearn, 2013). In fact, McLendon, Hearn and Deaton (2006) have suggested that state PBF policy implementations may not be based on good research findings as much as party strength and political beliefs.

Regardless of attainment concerns, financial pressures, or political environment, not all states have responded with the establishment of PBF policies. Possible reasons for not implementing a PBF policy have included the expectation of appropriations to return to past levels or a lack of concern about attainment rates (Doyle & Zumeta, 2014). Or, because PBF accountability can be viewed as just a different type of performance measurement—based on graduates (outputs) instead of enrollment (inputs), for example—a focus on access and enrollment may be perceived as a form of performance funding, which some leaders may see as preferable to the PBF alternatives (Shulock, 2011). There have also been concerns that PBF is a method to reduce state appropriations, directly or indirectly, as the proposals are strongly linked to Republican bills (McLendon & Hearn, 2013; Dougherty et al., 2011).

Given the many threads involved in the origins of PBF policies, it is perhaps not surprising that states have implemented those policies in different ways. For various reasons, many states have withdrawn from PBF policies, as well. Yet despite the uneven history, the trend favors greater use of PBF programs (McLendon &
Hearn, 2013). The next section examines the status of PBF programs in the United States and provides historical context for program implementations and retractions over the past 30 years.

**A short history of PBF: implementations and withdrawals**

A state must consider many issues when deciding whether to implement a higher education accountability policy including: (a) the extent to which it will achieve the intended purpose, (b) whether it might interfere with efforts to improve social equity through access, (c) the potential for unintended consequences, and (d) how to structure the mechanism for maximum effect (Dougherty et al., 2013).

But the historical context for higher education PBF implementations is even more complicated, given that many states have started and then dropped PBF programs, with some restarting them later. Furthermore, states exhibit markedly different approaches to PBF including some states that only involve one sector, such as community colleges. In addition, several states have modified their programs over time, with some programs now described as “PF2.0” because of the integration of the performance outcomes into the base funding for the institution. “PF1.0” typically refers to programs that award funding for the metrics achieved from a bonus pool that is set up by the state above the base university appropriations (Dougherty, Natow, & Vega, 2012).

Adding to the historical complexity are two other efforts to increase accountability in higher education that were developed essentially concurrently with PBF: performance reporting and performance budgeting (Burke, 2002). Performance reporting became a popular legislative mandate in the 1990s in response to rising costs of attending college, growing enrollments and decreasing state resources. By 1998, 32 states required some form of performance reporting, although those
reports had no link with funding (Burke, 2002). The performance reports focused on outcome indicators such as graduation rates, transfer rates, degrees awarded, total student credit hours, and the like. It is not clear if anyone ever used the reports (Burke, 2002).

Performance budgeting was used interchangeably with performance reporting until 1997. At that point, the State Higher Education Finance Officers began using the term more specifically in surveys to refer to efforts by states to “consider” institutional performance in budgeting although the link was discretionary. By 2001, 27 states were claiming to use performance budgeting for higher education. Again, however, data on actual impacts are limited (Burke, 2002).

The first example of a higher education PBF policy in the United States occurred in Tennessee in 1979 (Bogue & Johnson, 2010). The Tennessee program has been modified many times over the years, and it is now considered a PF2.0 program. Other states emulated Tennessee’s early effort in a first wave of adoptions through the 1990s and early 2000s until the 2001 recession. At that point, some form of performance-based funding was in use by 19 states (Burke, 2002). By 2007, 26 states had attempted a PBF program and 14 had discontinued it (Dougherty & Natow, 2009; Miao, 2012).

The failure to fund PF1.0 in difficult economic years led to proposals to integrate performance metrics as part of base funding—the PF2.0 model—in an effort to maintain the focus on accountability and keep programs viable (Jones, 2013; Miao, 2012; Shulock 2011). But the reasons for the abandonment of PF1.0 in a number of states go beyond the lack of available funding. Resistance from higher education leadership developed on the basis of frustration over inappropriate indicators. In addition, education leaders’ lack of involvement in the development of
the policies and concerns about campus autonomy caused misunderstandings and created mistrust of the policies. The high cost of implementation was also a financial burden to the institutions (Dougherty et al., 2011; Dougherty, Natow, & Vega, 2012).

A second wave of PBF adoptions began in 2007 with most of the new programs representing renewals of discontinued first wave policies (Dougherty et al., 2014). In 2009, additional momentum developed for PBF after Complete College America formed and began to lobby states to develop higher education reforms, including PBF policies (Rabovsky, 2012). Some of the new wave of programs were PF2.0-type implementations with funding for performance results integrated into the base state appropriation.

More recent recommendations for PBF policies have attempted to address the prior concerns regarding the choice of indicators and the involvement of campus leaders (Dougherty & Reddy, 2013; Jones, 2013; Miao, 2012; Shulock, 2011). In addition, Jones (2013) and other policy entrepreneurs have suggested that PBF funding should become a part of base funding to avoid the vagaries inherent in bonus funding.

HCM Strategies, a public policy consulting firm, has compiled a new typology in order to differentiate between states that include both community colleges and four-year institutions or just one sector and the more aggressive forms of PF2.0 that attach more funding to outcomes (Snyder, 2015). It has also mapped the status for all states and indicated that 14 states have or are moving to some form of PF2.0. The firm claims that 35 states have implemented PBF policies or are in the process of doing so.
Part of the difficulty in tracking the actual number of states in each program is that some state actors misunderstand that a program has been dropped or that some “planning” is simply an early concept discussion. Even within solid research efforts, there are meaningful misinterpretations of state intentions. For example, McLendon and Hearn (2013) wrote that Texas passed an initiative to redirect 10 percent of higher education formula funding for colleges and universities based on performance metrics, whereas only community colleges in that state actually have a PBF policy. In addition, the proposal for Texas universities called for 5 percent PBF as an addition to formula funding, and it is still a proposal (D. Rajino, personal communication, January 29, 2015). Such misinterpretations can make it difficult to understand the true situation in any given state based on a survey of the literature.

Regardless of the specific plan of each state, and regardless of the sporadic history of implementations, it is clear that a majority of states are now using some form of PBF policy or planning one soon. The next section explores the indicators and motivators of PBF programs in order to more fully understand the specific policy mechanisms and theoretical constructs of this growing phenomenon.

**PBF mechanisms and theoretical constructs: indicators and motivators**

The most common PBF mechanism is still based on providing bonus funding—typically 2 to 6 percent on top of base appropriations—for specific outcomes (the PF1.0 model) (Harnisch, 2014). As stated previously, the shift from a bonus on top of regular appropriations to a base funded percentage dependent on certain outcomes (the PF2.0 model) is a growing development. The proportion of funding tied to the performance results in PF2.0 is typically higher than for PF1.0—usually 5 to 25 percent of the total higher education budget. Sometimes, however, it is much higher as, for example, in Tennessee and Ohio, which are now basing essentially 85
percent and 100 percent, respectively, of funding for undergraduate education on performance indicators. Both types of performance funding programs represent a policy innovation in comparison to the traditional formula funding approach, which is based on inputs such as enrollment numbers (Dougherty et al., 2014).

The specifics of PF1.0 and 2.0 programs vary considerably by state. Outcomes (indicators) can include any variation of the following: the number of students graduating, graduation rates, transfer rates, the number of job placements for graduates, year-to-year retention, reaching credit thresholds, specific course completions, successful remediation, and time to degree, among others (Dougherty & Reddy, 2013). In some cases, the PBF program also includes input indicators, such as the enrollment of students of color and students from low-income families.

The PBF program mechanism will typically assign points to specific outcomes. The points are then totaled based on the desired programmatic scaling or weighting of the various outcomes (Burke, 2002). Outcomes and weights can vary by sector and by institutional mission within a sector. Some states also permit institutions to choose or create a certain number of indicators as part of the total PBF program (Harnisch, 2011).

The policies sometimes differentiate indicators of performance by institutional impact: intermediate and ultimate. For example, since initiated by Washington State in 2007, the addition of intermediate student outcomes, such as core-course completions or reaching certain credit thresholds, has gained momentum as a mechanism to help institutions develop the correct steps to ultimate outcomes (Dougherty & Reddy, 2013).

The theoretical basis for higher education policy choices is considered lacking, as least compared to other disciplines, and policies are often controlled by ideology,
as seen through the influence of the political processes (McLendon & Hearn, 2013; St. John & Parsons, 2005). To the extent that theory is used to develop or understand PBF polices, several different constructs are offered. A general theory of action embodied in performance funding can be described as follows:

If you intend to produce consequence C in situation S, then do A. Two further elements enter into the general schema of a theory of action: the values attributed to C that make it seem desirable as an end-in-view and the underlying assumptions, or model of the world, that make it plausible that action A will produce consequence C in situation S (Argyris & Schön, 1996, p. 13).

The specific theory of motivation commonly referenced in the performance funding “model of the world” is that institutional results will improve through financial incentives as happens in the for-profit sector (Burke, 2002). This theory assumes that higher education institutions are focused on maximizing revenue or, more plausibly, that such institutions are resource dependent and will make an effort to change outcomes if the amount of funding is significant enough (Barneston & Cutright, 2000; Dougherty et al., 2014). The resource dependency theory is part of the justification for increasing the percentage of funding based on outcomes and allocating the appropriations as base funding rather than bonus funding.

Another theory of action offered for PBF programs is that the clarity of state goals as expressed in the performance indicators help an institution become more aware of the gaps in its performance relative to state intentions, even if the incentives are small. A similar theory is that the PBF program itself will persuade institutions that improved student outcomes are important, regardless of specific actions or indicators. Still another theory is that institutions will become more knowledgeable about their performance relative to other universities and react based on status striving and executive competition (Dougherty et al., 2014).
Although increased institutional awareness of state goals and other theories of action may provide education leaders with an understanding of the logic of a PBF program, assumptions are embedded in the performance indicator itself that are not always understood. Indeed, the use of performance indicators may result in confusing accountability with regulation (Barnetson & Cutright, 2000). For example, to the extent that points are awarded for the number of graduates who have gained employment, one frequent PBF measurement, the higher education institution is being used as a source of labor-market preparation. As such, the PBF program becomes a regulator of this outcome as a policy instrument rather than providing more autonomy in exchange for accountability. Once the regulatory effect is realized, the policy impact may have perverse effects on motivation within the higher education administration and faculty (Shin, 2010; Sörlin, 2007). Furthermore, as Radin (2009) points out, the performance measurement systems have values embedded in them that are not always well defined and are often in conflict with each other, such as between greater efficiency and greater access.

The consequences and experiences of the many states over the past several decades have resulted in recommendations from policymakers and consultants about what constitutes an ideal PBF program. These design principles include:

(a) getting agreement on the (limited number of) goals before implementation;

(b) integrating all sectors based on a statewide public agenda;

(c) attending to mission differentiation in the model design;

(d) incorporating performance indicator weights that support low-income and minority student success;

(e) including intermediate as well as ultimate performance indicators;
(f) limiting the number of outcomes to key state priorities;
(g) using unambiguous outcomes;
(h) rewarding continuous improvement;
(i) developing a clear quality outcome, even if not yet part of the funding model itself;
(j) making the performance funding pool large enough to change behavior;
(k) phasing the implementation;
(l) employing stop-loss but not hold-harmless provisions; and
(m) continuing the funding regardless of state economics (Dougherty & Reddy, 2011; Jones, 2013; McKeown-Moak, 2013; Reindl & Jones, 2012).

These design principles are not universally accepted, of course, and debate continues about how to construct an appropriate PBF program. For example, although using unambiguous outcomes (see (g) above) would appear to be a straightforward principle, the number of graduates—a hard number and unambiguous compared to graduation rates, which can be variously defined by cohort or starting intention, or as full-time and part-time, and the like—can be improved by increasing the number of enrollments, which may or may not result in a “performance improvement” recognized by all actors. And though policymakers recommend using metrics that are difficult to “game,” any performance indicator can be gamed. For example, the number of course completions can be improved merely by reducing the number of “F” grades given or by reducing the course rigor.

Furthermore, concepts of productivity (for example, the number of degrees per faculty full time equivalent or the number of degrees per full time student equivalent) often get confused with concepts of efficiency and cost effectiveness (Jenkins & Rodriguez, 2013).
Another example of an ambiguous mechanism in performance-based funding programs is the use of “time-to-degree,” which is sometimes considered a proxy for university productivity and included as a performance metric. Although low institutional productivity may be a signal that change is needed, longer time-to-degree rates may or may not represent a problem that an institution needs to address, depending on the characteristics of the students and the institutional mission (Massy, 2011).

Given the complexity of designing PBF programs and measuring the outcomes desired, it is surprising that higher education policymakers have seemingly ignored what can be learned from such efforts in other economic sectors, the costs associated with such systems, and their unintended consequences (Rothstein, 2008; Cunha & Miller, 2014). The next section considers additional concerns that have emerged about the general outcome results, the unintended consequences, and the unresolved challenges of performance-based funding in higher education.

**PBF outcomes: policymaker exuberance and questionable results**

Although other outcomes besides college completions are specified in PBF programs, the focus of most of the quantitative analyses of PBF policies has been on graduation rates because of the availability of clear data and the primacy of that outcome across many state accountability efforts. Yet a close evaluation of the literature reveals that the reports of good outcomes under PBF policies heralded as policy successes by many others are sometimes self-reports or self-interested reports without the benefit of an appropriate comparative analysis.

For example, the claim by the chancellor of the Pennsylvania State System of Higher Education (PASSHE) that the system’s universities improved graduation rates because of a PBF policy instituted in 2001 was based on a report produced without
using a control group (Cavanaugh & Garland, 2012). A more recent investigation, one using a difference-in-difference quantitative analysis that compared the PASSHE institutions to similar institutions in other states that did not operate under a PBF program, concluded that PASSHE did not produce more degree completions during the period in question because of any policy change (Hillman, Tandberg & Gross, 2014).

The PASSHE PBF program was certainly notable because it was the second PF2.0 effort nationally, after a disastrous South Carolina effort in 1996 (Dougherty & Reddy, 2013), and there were other benefits identified by Cavanaugh and Garland (2012). However, the self-report is a particularly powerful example of the misunderstanding that PBF policymakers can make when results are accepted that have not been rigorously reviewed. Even though the PASSHE graduation rate claim was not validated using independent sources or through a multivariate analysis, researchers and policymakers with an interest in the outcome held up the claim of improved completions, in other reports, as an example of a positive result and best practice for a PBF program (Center for American Progress, 2012; Shulock, 2011; Washington Higher Education Coordinating Board, 2011). The PASSHE graduation results were also cited by the Lumina Foundation and in a presentation to the American Association of State Colleges and Universities (AASCU) as an example of a successful PBF program (Harnisch, 2011).

The Tennessee PBF policy represents another example of policymaker exuberance. Blanco (2012) reported that, “a small amount of funding had a large impact” in Tennessee (p. 2) and Bogue and Johnson (2010) stated:

The policy’s persistence for over 25 years may be accepted as partial evidence of its effectiveness. . . . Clearly, the wisdom of allocating some state funds a performance criterion has been demonstrated (p. 12).
But a more analytical investigation does not support those statements. The Bogue and Johnson (2010) study did not use variable controls, and it should be noted that Johnson was an official with the Tennessee Higher Education Commission and Bogue was an architect of Tennessee’s 1979 program (Banta, Rudolf, Dyke, & Fisher, 1996). Furthermore, Bogue and Johnson (2010) offered no analysis of the cost of implementation that is necessary to properly evaluate the claim of benefits (Rothstein, 2008).

Sanford and Hunter (2011) conducted a rigorous analysis of the Tennessee program that shows that, in fact, retention and graduation rates over a 15-year period were unrelated to the PBF policy. Nonetheless, the Tennessee PBF policy has been held up as a model of a successful performance-based program (Freidel, Mecedes, D’Amico, & Katsinas, 2013; Harnisch, 2011; Miao, 2012). Complete College America (2015) still lists the Tennessee policy as an admirable success on their website.

One can see still another example of policymaker exuberance regarding the results for Washington State’s Student Achievement Initiative (SAI) for community colleges, which has been widely recognized as a model PBF approach (Jenkins & Rodriguez, 2013; Miao, 2012; A. McGuiness, personal communication, November 6, 2014). A difference-in-difference multivariate regression study found that the retention and degree-completion performance of Washington community colleges did not differ significantly from the performance of colleges in states not using PBF policies (Hillman, Tandberg, & Fryar, 2015).

To be clear, the divergence in result interpretations is not rooted in reasoned scientific dispute. The difference arises from self-reports that do not consider the
possibility that institutions in other states are also improving results without performance-based incentives.

Although some PBF programs reflect positive results through a multivariate regression study, negative results are also apparent: performance funding was shown to have a positive impact on community college completions in four states and a negative impact in six states, with no effect in nine states (Tandberg, Hillman, & Barakat, 2014). Another positive association between PBF and completions was found in a multivariate study but only after the seventh year of implementation and beyond (Tandberg & Hillman, 2014). That result did not lead the investigators to endorse the PBF policy, given their overall study findings and considering the sustaining effort required for an impact so far in the future.

Other quantitative studies using multivariate and longitudinal analyses of baccalaureate completions and other outcomes find no meaningful correlation with performance funding (Polatajko, 2011; Rabovsky, 2012; Rutherford & Rabovsky, 2014; Shin, 2010).

It is important to note that the rigorous quantitative studies referenced here are generally quite new. Even as recently as 2013, a Rand Corporation researcher reported to the Texas Higher Education Coordinating Board on the challenge of policy deliberations, given that there were extremely few quantitative studies on the impact of PBF models (Miller, 2013). It is not clear what collective impact these new studies will have on future implementations or state policy deliberations. Unfortunately, the Miller (2013) assessment confirms that decisions in the past decades to implement or retract PBF policies were apparently made without the benefit of rigorous quantitative analyses—an interesting reflection of the lack of evidence-based decision making within higher education itself.
It is also important to note that the new quantitative studies described herein are limited to PF1.0 or the few early PF2.0 programs because the more aggressive PF2.0 efforts have not been in existence long enough for full quantitative evaluation. It is possible that greater emphasis on performance indicators through the linking of outcomes to base funding, along with a significant increase in the percentage of funding associated with outcomes models, may indeed create the desired results. At this point, however, it is clear that PF1.0 policies do not have a significant impact on higher education graduation outcomes and that further research needs to focus on those PF2.0 programs that are linking meaningful levels of appropriations to outcomes.

Looking beyond graduation rates, several qualitative studies have documented certain positive changes that four-year universities and community colleges have made in response to a new PBF policy (Banta, Rudolf, Dyke, & Fisher, 1996; Dougherty & Reddy, 2011; Natow et al., 2014). Those include improvements in assessment initiatives, tutoring, accreditation, remediation education, course articulation, the use of cohorts, aggressive advising, and other student service enhancements. In many cases, it is difficult to directly relate an improvement to a PBF policy because other concurrent influences operate within the higher education environment (Natow et al., 2014). Even though it is difficult to directly relate the benefits of PBF policies, clearly some positive developments have occurred across the country that have roots in PBF policy and associated theories of actions. However, there are also unintended impacts noted, which are described in the next section.
Possible PBF unintended consequences: quality, access and more

Scholarship from other fields suggests that performance indicators are fraught with challenges: either the goals are too complex to capture in effective metrics or the attempts to use performance indicators result in corruptions to the very service that they are intended to improve (Cunha & Miller, 2014; Rothstein, 2008). Indeed, higher education studies have documented evidence of mission contraction, increased workloads, unreimbursed costs of compliance, admission restrictions, and a weakening of academic standards—none of which would presumably be intended by policy framers (Lahr et al., 2014). For example, in the historically broad-access comprehensive universities and community colleges, even if underrepresented student groups are identified for admission support through specific performance indicators, increased selectivity can still result on the basis of greater pressure to produce more graduates (Dougherty & Reddy, 2013).

Admission restrictions are a particular concern, given that the correlation between selectivity and attainment is already known. As stated in The Condition of Education 2015,

“Six-year graduation rates for first-time, full-time students who began seeking a bachelor's degree in fall 2007 varied according to institutions' level of selectivity. In particular, graduation rates were highest at postsecondary degree-granting institutions that were the most selective (i.e., had the lowest admissions acceptance rates), and graduation rates were lowest at institutions that were the least selective (i.e., had open admissions policies)” (National Center for Education Statistics, 2015).

Furthermore, attainment and socioeconomic status are correlated, which suggests that if selectivity is increased through PBF policies, class-based inequality may increase (Bowen, Chingos, & McPherson, 2009; Carnevale & Strohl, 2013).

Although it is plausible to address access for underrepresented groups and selectivity in general through the structure of the performance indicators (Jones,
it is more difficult to control for quality. Quality in terms of learning outcomes and academic standards is a challenging concept to measure and control (Jenkins & Rodriguez, 2013). It is often assumed to be a constant and something the faculty will assure (Shulock, 2011). But qualitative evidence suggests that performance-based funding programs can lower learning standards (Lahr et al., 2014). One example of such a concern is the potential of relaxed grading standards. For example, adjunct faculty, who are more vulnerable to perceived pressure to improve outcomes, might convert F’s to D’s to increase course completions (Dougherty & Reddy, 2013). It is also possible that the focus on outcomes, including jobs for graduates in some policies, will lead the academy itself to adopt “an increasingly customer-based ethic, lowering its expectations and standards for a rigorous liberal education, and narrowing its focus to the career-only preparation and “professional training” demanded by student and parent “customers” (Delbanco, 2012),” (Hersh & Keeling, 2013, p. 5).

Another potential unintended consequence of performance-based funding that merits consideration is the extent to which faculty governance in academic matters is shortchanged. In several reports, faculty members were only vaguely aware of the specifics of performance funding and therefore less involved in developing the ideal response to the policy requirements (Dougherty & Reddy, 2013; Lansverk, 2014). To the extent that, through PBF, the administration usurps the concept of shared governance, which assigns the responsibility for academic matters to the faculty, faculty members may be justifiably concerned. Although it is reasonable to expect that all educators are interested in increasing graduation and retention rates, other outcomes maybe be questionable and the ends may not justify the means.
One more possible unintended consequence is the degree to which PBF policies ignore research and service. Both activities are important in higher education missions but not easy to measure as outputs and not typically identified as part of PBF policy, given the difficulty of costing them separately from the teaching mission (Massy, 2011). The reductive nature of PBF—focusing on teaching outputs only—raises concerns about the loss of research and service activities, particularly as the percentage of funding based on PBF increases (Priest & Boon, 2006; Lansverk, 2014).

Additional evidence suggests that accountability systems such as PBF present other, as yet unresolved, challenges. For example, allocating funds based on outcomes may not give adequate consideration for the future needs of the institution (Priest & Boon, 2006). In addition, research demonstrates that retention is not improved in states with strong accountability systems even though test results are improved (Carnoy & Loeb, 2002). Furthermore, Shapiro et al. (2014) revealed that students continue to make progress toward a credential for many years more than the standard cutoff of the typical performance indicator (i.e., 150 percent of normal time-to-degree).

Ideally, of course, unintended consequences can be managed and outcomes improved as PBF policies are updated and refined. At this point, however, the evidence for improvements in attainment in higher education through PBF is lacking, whereas the evidence for unintended consequences is concerning.

Yet PBF policies are proliferating. That may suggest that PBF policies are more than an evolution of funding for higher education and instead represent a revolution in how state higher education is conceptualized by society at large, moving from access-driven to market-driven.
PBF in Ohio: a notable change and specific literature

Ohio is an example of a market-driven higher education funding model, where the recent gubernatorial appointment of the higher education system chancellor highlights the intersection of economic policy and higher education policy. As described in Chapter 1, the 2012 Ohio PBF policy was driven in part by state economic goals as directed by Governor Kasich.

The change in organizational structure involved the removal of the Board of Regents from direct oversight of the Ohio higher education system, as explained by the Inter-University Council (IUC):

The IUC supported the initiative to place the duties and responsibilities of the chancellor of the Ohio Board of Regents under the oversight of the Governor. Doing so has given the Governor greater accountability for and supervision of higher education public policy decisions. The IUC believes that establishing a cabinet-level higher education Chancellor enables the Governor to be a stronger, more effective advocate for the higher education community in Ohio. Placing the Chancellor under the Governor’s direct authority ensures a greater degree of accountability in the development of higher education policy. (IUC, n.d.)

Because the 2012 Ohio PBF policy is relatively new, most of the available research on Ohio refers to the 2009 policy and earlier PF1.0 models. One study of the earlier model reviewed the unintended impacts of performance funding in Tennessee, Ohio and Indiana on a qualitative basis. The research included interviews of 41 Ohio university academic and non-academic personnel from department chairs and provosts to vice-presidents and presidents. The most commonly perceived unintended impacts at universities in Ohio were restricted admission and weakened academic standards (Lahr et al., 2014). These perceptions were a mix of actual and potential impacts with the most of the change in access reported as an observed increase in admission requirements.
Several studies of Ohio results were inconclusive regarding the impact from PBF, either because they were self-reports or because research methods were not specific—such as when increased graduations were reported but not controlled for enrollment increases. One qualitative Ohio study of note suggested that knowledge of the PBF policy was limited to upper level administrators and not widely understood by faculty (Dougherty & Reddy, 2013).

A large survey study of institutional changes to practices and programs in Ohio, Tennessee and Indiana suggested that most changes in Ohio involved advising, tutoring and registration with additional changes noted in orientation and residence life. However, a majority of respondents in the study indicated that the implementation of PBF had a medium- or low-level influence on institutional academic and student service changes. Respondents suggested that other externalities made it difficult to discern the influence of performance funding (Natow et al., 2014).

**Conclusion: the promise and the peril of PBF**

Based on the importance of education to individuals and society as well as to economic competitiveness, many researchers, education policymakers, university leaders, and politicians believe that some version of PBF is an appropriate solution for better results in higher education. The premise is that college completion rates are currently too low to maintain state and national economic progress, that states are unlikely to increase higher education funding on a per-student basis, and that PBF aligns state and institutional goals by providing economic incentives to improve graduation rates, among other outputs. Because of this logic and the broad-based coalition in support of PBF, the phenomenon cannot be dismissed as just another policy or political fad.
Many states have responded with PBF policies in an attempt to make universities more effective in creating the desired outputs. Those efforts represent an evolution in the way higher education is funded as viewed through various theories of action (such as financial incentive or state-goal alignment) that explain how performance-based funding is expected to produce new outcomes. Induced activities may include more tutoring, intrusive advising, and other student service enhancements that ultimately lead to better graduation rates.

Of course, the promise of PBF is the achievement of these greater outputs at the same or lower cost and without any loss of quality or access. Thus far, this funding mechanism has struggled to produce positive results. Various studies do not support the claim that PBF policies improve higher education graduation outcomes. The failure of results thus far in PBF programs across the nation may be based on a lack of appropriate institutional support, inadequate incentives, or the difficulty of changing outcomes in a complex university environment.

Given the lack of results, the question of whether universities are already doing everything they can to graduate students given the available funding remains unanswered. The PBF results to date would suggest that universities are already fully engaged in student success but greater incentives may still produce better outcomes. The evolution of PBF policies to PF2.0 has yet to be fully analyzed.

Certainly, some qualitative evidence suggests that universities have heightened their focus on tutoring, remedial education, advising, and the like, but it is difficult to conclude a causal relationship with PBF. These improvements are also not the ultimate outcomes intended by most PBF policies and it would therefore be inappropriate to judge the merits of the concept on such improvements alone.
Thus, regardless of the promise of performance-based funding, questions remain. A number of potential unintended consequences have been recognized in the literature that deserve attention. They include mission contraction, access limits, weakened academic standards, and increased student selectivity, among others. There is the risk that, as states focus on market-driven attainment policies, Freidman’s human-capital model will become increasingly self-fulfilling and the only justification for state support will become the economic output of the graduate. Relatedly, the correlation between greater selectivity and reduced access for students in lower socioeconomic brackets represents a class-based inequality that PBF policies might further. Under a market-driven rubric, these risks represent a potential reconceptualization of the mission of state higher education, with its own peril.

Given the growing PBF interest among states around the nation, the lack of results to date, the continuing evolution of various state policies, and the risk of unintended consequences, performance-based funding is clearly an important phenomenon to investigate further and understand fully in order to ensure the best education results for students and society. The recent development of the PBF policy in Ohio, where all state undergraduate appropriations are based on degree and course completions, represents a significant change in higher education funding—one that offers the promise of better results as well as greater risks. The rest of this paper is devoted to an analysis of that specific program in depth.
CHAPTER 3: METHODS

Although a rich and growing empirical literature focuses on higher education performance-based funding (PBF) appropriation models, policies vary substantially among states. Moreover, the policies are evolving quickly, which leaves gaps in the research. This study addresses the gap pertaining to a 100 percent PBF model, specifically the 2012 Ohio PBF policy, which was a suggested study by Dougherty et al (2014).

This chapter will describe the conceptual framework and the specific procedures that the study used to answer the research questions, introduced in Chapter 1. Although PBF policies have been in place since 1979, the latest policy innovation that Ohio has implemented represents a substantial change in how public universities are funded. Whereas older forms of PBF have typically allocated less than 10 percent of state higher education appropriations, Ohio initiated a policy in 2012 to base 100 percent of state-allocated appropriations on degree and course completions for undergraduate education at public four-year universities. This research explores the Ohio PBF phenomenon using publicly available data and the perceptions of Ohio university leaders obtained through one-on-one interviews.

The conceptual framework for the case study

A specific conceptual framework grounds the research questions that this paper examines. (See Figure 1, page 44.) The framework posits that maintaining student access and education quality may be difficult given the increased incentives for outputs like course and degree completions in PBF policies (Cunha & Miller, 2014; Doyle & Zumeta, 2014; Lahr et al., 2014; Priest & Boon, 2006). This problem statement is based on a large body of research that demonstrates: (a) ultimate
outcomes, such as increased degree completions, are lacking under PF1.0 policies to date, and (b) even if market-driven funding models ultimately improve outputs, the approach may also lead to negative consequences such as reduced access and lower education quality.

The conceptual framework assumptions are that: first, student outcomes (e.g., graduations) will increase when institutions are incentivized by a 100 percent appropriations policy and, second, intended or unintended negative consequences, such as decreased access and education quality will result under such a policy, as priorities shift. The first assumption is based on Argyris’ and Schön’s (1996) theory of action, where the economic value of consequence “C” (degree and course completions)—increased by an order of magnitude and representing approximately 20 percent of total university funding—makes it plausible that action “A” (introducing a 100 percent PBF model in university appropriations) will change outcomes, all else being equal, in situation “S.”

The second assumption is based on the theory that universities are professional bureaucracies (Mintzberg, 1993) and, as such, fully committed to existing priorities. Because new funds are typically difficult to obtain in state institutions, attention and funding diverted towards significant new priorities could require the abandonment of existing commitments and standards and thus cause negative consequences.

Given that the potential consequences of reduced access and lower education quality, as listed in the problem statement, are antithetical to the historic mission of universities and the betterment of society as well as the overall intent of the policy to improve education outcomes, the research purpose of this study was to analyze the
early impacts of a 100 percent PBF model to address the conceptual framework assumptions.

My research used a case study methodology where the unit of analysis was the state of Ohio’s 2012 PBF policy bounded by the years immediately before implementation and through the most recent data available (typically 2014 or 2015). I designed the research questions in the case study to capture perceptions of university leaders regarding access and quality changes, as well as other important observations. I then complemented those perceptions with data on documented changes in access, education quality, and outcome results for a comprehensive understanding of policy impacts. The various elements of the study pertaining to access, quality, and outcomes are described below.

- **Access** is a broad concept that has roots in the historic social mission of higher education (Delbanco, 2012; Jenkins & Rodríguez, 2013). The study assessed institutional access through changes in enrollment and certain selectivity factors as well as through campus leaders’ qualitative perceptions of changes in institutional enrollment and selectivity. Enrollment was defined as full-time first-time in college (FTIC) students, data that is readily available data through the U.S. Department of Education’s National Center for Education Statistic (NCES). The selectivity factors included admission rates, ACT composite scores (25th and 75th percentile), the number of Pell Grant recipients (as a proxy for students of lower socioeconomic status), and the number of first-time full-time students of color enrolled. Researchers usually consider the latter two selectivity factors to be important measurements in addressing social equity issues (Bowen, Chingos, & McPherson, 2009; Carnevale & Strohl, 2013).

- **Education quality** was assessed indirectly through observed changes in staffing and appropriations and through qualitative findings regarding student support, grading standards, and faculty activities. I used these proxies because education quality is difficult to measure directly (Jenkins & Rodriguez, 2013). Nevertheless, a higher faculty and staff ratio to students
has been proven to improve completion rates, which suggests a higher quality program (Jenkins & Rodriguez, 2013). Also, appropriations per student have been positively associated with graduation rates and funding per student is generally recognized as having an impact on education quality (Zhang, 2008; Zumeta, 2005). The study evaluated staffing performance metrics through student-to-faculty and student-to-staff ratio changes using full-time equivalent (FTE) employee and full-time student equivalent (FTSE) totals and the most comprehensive definitions available through NCES (all ranked faculty and all staff types). It also examined appropriation changes as reported through NCES on a total FTSE basis and the website Ohio.gov on an undergraduate FTSE basis. In interviews, I further explored education quality with the university leaders through their perceptions of grading standards, as several studies have cited grade inflation as a concern related to academic rigor (Dougherty & Reddy, 2013; Lahr et al., 2014). I also probed perceived changes in advising and student support activities as indicators of quality, as well as the perceived impact of the policy on teaching, service and research.

- **Outcomes** were assessed through changes in retention that reflect course completions and lead to the ultimate outcome of degree completions. I used the returning cohort from the prior year as provided through the NCES data to define retention in this study. Although the Ohio PBF policy does not call out retention specifically, many PBF policies identify improved retention rates as a fundamental result that leads to increased graduation (Dougherty & Reddy, 2013; Harnisch, 2014). Furthermore, retention is used as a proxy for outcomes in important studies (Wellman, 2010). As a readily available value through NCES and a reasonable proxy for outcomes, retention is therefore a key metric to inform the assumption that student outcomes will increase when institutions are incentivized by a 100-percent appropriations policy.

I refined the research questions during the study, expanding RQ1 to include the university leaders’ responses related to student success, faculty activities, and access. I simplified the original RQ2, combined it with RQ3, and then added RQ2 to
highlight the quantitative impacts through the various performance metrics that were previously proposed only as background context.

The answers to the refined research questions together reveal broader policy implications for access, education quality, and other outcomes of a 100 percent performance-based undergraduate appropriation model in Ohio public four-year institutions at an early stage of policy implementation.

*Figure 1. Study concept map, simplified.*
The study design and site selections

Ohio’s allocation of all undergraduate appropriations based on specific outcomes represents a dramatic innovation in state higher education funding. The 100 percent PBF policy is unique in the country.

Tennessee also adopted an aggressive PBF policy in 2012 (Dougherty & Reddy, 2013), which funds approximately 85 percent of university appropriations based on outcomes. Given that Tennessee has had some form of performance-based funding in place since 1979, however, the actors in that state may be somewhat inured to any given change. In addition, many people have studied Tennessee on the basis of the longevity of its PBF efforts, and I assumed potential participants might have a study fatigue. Finally, Tennessee may not be an appropriate study model for other states because it also has one of the lowest value-added quality records for state institutions in the country (Zhang, 2009). In other words, any Tennessee policy change may result in an improvement and the improvement’s association with the policy change may therefore be exaggerated. Thus, the focus of this study was the 2012 Ohio PBF policy.

To answer the research questions, I developed a mixed-methods case study of the 2012 Ohio PBF policy to analyze specific performance metrics in Ohio public four-year universities and the perceptions of leaders of particular Ohio main campus universities. I focused the study on the public four-year university sector because community colleges in the state receive funding under a different mechanism. The study also did not include the branch campuses because most of them do not report data to NCES under the four-year institution classification.

In this study, I used summaries of by state, regional and national performance metrics from the NCES’s Integrated Postsecondary Education Data
System (IPEDS) to identify the trends distinct to Ohio. The study also examined the specific performance metrics of the 13 public main campus universities (excluding the medical university), using data from both NCES and the website Ohio.gov in the same systematic approach. More detailed information was available from Ohio.gov on appropriations for undergraduates than through NCES. All annual data reported are fiscal-year data, unless otherwise stated.

The study investigated quantitative changes in the performance metrics from 2011 to 2014 or 2015, as data were available. The intent was to bracket the years around the policy implementation to identify trends after that implementation. The state phased in the policy from 2013 to 2014, with removal of back stops and full implementation of outcome measures occurring in the fall of 2014. Thus, the assumption is that universities were aware of the policy change and reacting to it in 2013. Changes in various performance metrics could be expected as early as 2013 as universities began to respond to the policy.

The interviews of university presidents and other administrative leaders with a deep knowledge of the policy impacts within the Ohio main campus universities formed the basis for the qualitative portion of the study. The interviews also included key faculty leaders in order to gain a perspective outside of the administration. I chose the multi-location case methodology approach in order to develop an in-depth understanding of the research problem, to identify themes that could be analyzed across locations within the state, and to determine patterns and general lessons that might be consistent across two or more universities (Creswell, 2013). The study design included interviewing three leaders at each institution to provide a site triangulation, as well as using multiple sites across the state to provide further validation of perspectives regarding the PBF phenomenon.
To manage the size of the study, I limited the interviews to eight institutions. The choice of universities to include in the interviews was based on the size of state appropriations. I selected those with the largest 2014 state appropriations as a percent of total expense budget, with one modification made on behalf of geography to allow for expansion of in-person interviews. My assumption was that these universities would be more reliant on public allocations and have less diversified revenue streams, so the 2012 Ohio PBF policy would have more likely affected them than the flagship university or the largest research universities.

The eight universities in the study were Bowling Green State, Central State, Cleveland State, Kent State, Shawnee State, Youngstown State, Wright State, and the University of Akron. The size of their budgets ranged from $64 million to $492 million. The various institutions represented those with open and selective access, small and large student enrollments, significant research and minimal research, and one historically Black university. Altogether, they provided a diversity of characteristics within the sector.

A study goal was to interview half of the study respondents in-person. The in-person interviews were important for the development of trust and to enable a fuller exploration of a complex topic. In-person interview requests also made it more compelling to accept interview requests. At the same time, given financial and schedule constraints, it was not realistic to attempt all interviews in person.

I contacted presidents directly via email (and through their assistants, if no response was received or email addresses were unavailable) for interview requests and asked them to identify another administrative leader for the study. I then contacted key faculty leaders—faculty senate presidents or past-presidents or another faculty leader provided by the president—via email with an interview
request. For most universities, I obtained the name of the faculty leader from the university web site.

In my interview requests, I sent each study participant a summary of the study topic and my basic biographical information. I also shared how important the topic was, given how advanced the Ohio policy appeared based on a 100 percent performance funding model, and how I was interested in understanding its impacts from his or her point of view (as part of a study). I wanted to assure the participants that I was researching a significant phenomenon and that I was not intending to present a prejudice (Ravitch & Riggan, 2011).

Data collection and analysis

The quantitative analysis included a summary of performance metrics of all public four-year institutions in Ohio; of the public four-year institutions in the surrounding states of Michigan, Pennsylvania, West Virginia, Kentucky, and Indiana (defined as the “region”); and of all public four-year institutions in the United States. The states surrounding Ohio were grouped as a region to control for localized impacts that might make Ohio’s results differ from the national averages since regional economics might be an important factor in higher education enrollments.

Summary statistics were always weighted averages where appropriate. For the calculated weighted average for national and regional totals, I excluded any institutions with only partial data reported. My assumption was that partial responses sometimes indicate that institutions are in financial trouble or closing, which may therefore skew results—an assumption I have validated on several data sets. The national descriptive statistics also excluded Ohio institutions to make sure that Ohio’s results had not influenced them. Additional regression analyses were investigated
where relationships between independent and dependent variables were expected or possible and that might support a more comprehensive insight on policy impacts.

I conducted the interviews with campus leaders over a four-month period in 2015 from August to November. My intent to interview eight presidents was 50 percent successful. Two presidents did not respond to interview requests; two graciously offered substitutes. I interviewed seven provosts or other university administrative leaders, as recommended by presidents or as substitutes for presidents, and a faculty leader from each of the eight institutions. The addition of five finance officers rounded out the total of 24 respondents, with two institutions represented by two respondents and two institutions represented by four respondents. I interviewed 11 study participants in person at the interviewees’ offices and the remainder by telephone. Given confidentiality requests, I did not identify the names or roles of the respondents or their particular university.

All participants signed IRBs and approved the recording of their interview. I conducted each interview using a semi-structured approach to increase comparability of responses based on the probes in Appendix 1. But I kept the conversation somewhat open-ended so that I could pursue other lines of related inquiry and tailored the questions according to each respondent’s role and his or her particular university’s context.

The interview probes explored how institutional leaders perceived university responses regarding access and quality and what other challenges and benefits they ascribed to the performance-based funding policy. In the interviews, I shared my bias of concern about PF1.0 “policy bureaucracy,” given the lack of results under such policies. But I added that I was very curious about the impact and opportunities under a more comprehensive 100 percent PBF policy.
I tested the probes through a pilot study conducted by phone of five participants March 30 through April 7, 2015. Based on that pilot, I made several modifications to the study: I dropped the expectation to interview all cabinet members of each site because of the difficulty of scheduling and instead assumed that each president would recommend one other knowledgeable participant. In addition, I realized that it would be important to interview a faculty leader outside of the administration to gain a different perspective. I also heard from one pilot participant that (from his perspective) there was no extra cost to graduate more students if done by filling only partially full junior and senior classes. This shifted my thinking about the cost impact of the policy implementation and reminded me to make sure to gather theories from participants about their actions and the policy impacts (Maxwell, 2012).

The average interview length was 50 minutes. Interviews were transcribed (using Rev.com) and then reviewed to make sure I remembered and understood the meaning of each person’s answer. I coded the transcripts deductively through the framework of the probes to highlight major points and inductively as themes emerged. I noted thoughtful reflections of participants in memos as I studied the transcripts.

After the initial coding pass, resulting in 38 codes, I reviewed the transcripts again. I combined codes and reduced them to 20, grouping them into the themes that had emerged (Creswell, 2013). Those themes provided a framework from which to analyze the findings and to summarize the experiences across the different sites. Qualitative research procedures included the creation of a summary to highlight key findings, which I sent to respondents for validation of my interpretation as a member check (Creswell, 2013; Miles, Huberman & Saldana, 2014). Of those,
74 percent were returned. Some of the respondents clarified statements, which I noted, but respondents made no substantive changes to the summaries and it was not necessary to change any codes based on the validations. A sample of summary member checks is included in Appendix 2.

Additional research materials in the study included various state documents on the policy and campus completion plans from each university. Those data and the performance results of the subject university provided context for the interviews and helped to triangulate the interview findings, providing a deeper understanding of the impacts of the PBF policy phenomenon.

**Validity and reliability**

My current role as the chief financial officer of a public university similar to the participants’ institutions provides the background for a deep understanding of the interview questions and the phenomenon itself. I have 17 years of senior management experience within large, complex, higher education organizations that enables me to understand the nuances of education management and validate my interpretations.

However, following the approach of Moustakas (1994), I have referenced my personal perceptions of PBF policies in this study in order to bracket, or set aside, my views as much as possible and provide the reader a clear interpretation of the participant responses. The bracketing provided an opportunity to explore my positionality within the concept map throughout the study and cultivate my curiosity (Ravitch & Riggan, 2011). Although pure objectivity is not possible, recognizing my researcher positionality in advance helps the reader to appreciate my interest in the subject and provides a lens through which to calibrate his or her understanding of my analysis of the findings. Researcher positionality is an important consideration in
any research effort because “the methodological and design choices of a study cannot be separated from researcher identity and positionality” (S. Ravitch, personal communication, January 16, 2015).

Although I am very interested, from a professional perspective, in exploring what is being done and what could be done to improve student success through a PBF policy, I recognized early on that my personal goal as a university chief financial officer was to avoid additional bureaucracy and associated reporting based on a poorly developed policy for what might be an inconsequential funding source (under a PF1.0 policy).

However, my bias about higher education funding is not just based on management practicality. I am concerned that funding limitations in general and PBF policies in particular will increase social inequity. Social inequity is an issue because a significantly stratified society is less content (Radcliff, 2013). Indeed, it is my personal belief that substantial social inequity is both morally wrong and socially unsustainable.

As I approached this study, and particularly after reviewing the literature, I realized that my bias as a practicing chief financial officer put me in favor of defending the status quo to protect the university’s financial position. In reflecting on my researcher positionality, I was able to set the bias aside and accept that a new policy innovation might result in an economic benefit for both the university and society. In further reflecting on my researcher positionality, I was also able to admit that there are many students who are ill-prepared for college and unlikely to succeed and, therefore, I could accept a more open line of inquiry. I recognized that the maximization of student access might be incompatible with the maximization of graduation rates and that funding only enrollment probably leads to over-enrollment,
from the perspective of an economic model, to the detriment of quality. Choosing students more carefully and focusing support on those that do get in might increase their prospects for success. If states based their appropriations completely on graduation rates, different innovations might create more successful outcomes.

As I began my plan for a study of performance-based funding, I also recognized that I held the belief that faculty and staff members were already doing everything they could to help students succeed (because they are well-intentioned people, after all, and not benefiting personally if students fail). It seemed that creating incentives based on outcomes to somehow improve the focus of faculty and staff members on student success was presumptuous of policymakers. In recognizing that bias, I was able to hold it aside to consider the possibility that a systemic funding change might in fact create a useful new approach.

In reflecting on my researcher positionality throughout the study, I was able to recognize deficit orientations in probes, codes and interpretations of various findings. Such a deficit was clearly noticeable, for example, when I interpreted “increasing selectivity” as a negative policy attribute when, upon closer analysis of the transcripts, it was evident that many leaders perceived increasing selectivity as not only a positive step for institutional improvement but also beneficial for those individuals who are unprepared for college. I therefore went back through my codes to ensure a more neutral orientation towards fact-gathering and transcript interpretation to improve validity.

Member checking, or asking each participant to verify my interpretation of the interview findings, enhanced the trustworthiness and credibility of the interview data. Although Cho and Trent (2006) suggest that member checking occur after the interviews and before coding, I reversed that approach, which allowed me to catch
and correct summary statements with deficit orientations. No significant misinterpretations were identified in the member checks. I also appraised the transcripts one final time to search for disconfirming evidence and missed meaning (Maxwell, 2013).

Of course, the triangulation of data across NCES and Ohio.gov findings and interview responses was a form of validation. In addition, the engagement of multiple leaders at a range of similar and contrasting sites strengthened the reliability, validity, meaning, and trustworthiness of the findings (Miles, Huberman, & Saldaña, 2014).

I provide a narration of the shared experiences of the PBF policy phenomenon in the study that offers the essence of the impact across universities and roles. This rich description of experiences allows the reader to make decisions about transferability to their environment. The inclusion of summary member checks in Appendix 2 also offers a comprehensive source of summarized impacts, reflections, and insights regarding the phenomenon for those readers interested in reviewing such detail and further assessing the reliability and credibility of the interview findings for themselves.

Finally, the reported NCES data must certainly contain a few errors and some were evident in this study. Nevertheless, the law of large numbers suggests that any errors are minimal in the aggregate and the summary statistics can be presumed valid.

**Limitations of the study**

Regardless of efforts to ensure the validity of results, the study as constructed is not likely generalizable to any other state or institution, based on a multitude of different factors—politics, economics, culture, history, leadership,
missions, institutional finances, and social expectations, among others. Indeed, case studies are not constructed to be generalized. However, the intent is to provide enough description of the context and environment to enable readers to assess the comparability with their own situation.

The limited engagement of the researcher with participants is recognized as a limitation of the study given the difficulty of capturing an objective description of the participant’s subjective reality in a limited amount of time.

The study is also limited based on the minimal number of university leaders interviewed. Furthermore, the particular leaders that I interviewed may not be representative of Ohio universities overall or of their university specifically. In addition, the leaders themselves are not a homogenous group but bring their own biases and preconceptions to the topic. To substantiate and generalize any findings, further study, with broader survey tools, would be required.

Obviously, the study is limited by the available data and the age of the data. Fiscal-year 2014 data are already old in terms of a dramatic shift in policy. More importantly, the study did not consider the impact of the prior PBF policy effects from 2009. Although that policy was heavily weighted on course completions and less on graduation completions, the results seen since 2012 may reflect a lag effect, rather than the shift in emphasis to degree completions and the drop of the stop-loss protection.

Finally, study limitations may exist given my inability as a researcher to identify and manage all deficit orientations and biases. Although this dissertation has been reviewed by a very strong committee of academicians, these bias limitations are mine alone.
**Ethical considerations**

All research was conducted per the ethical guidelines as outlined in University of Pennsylvania IRB policy and as documented in IRB Protocol Number 822840. Non-disclosure agreements were signed with NoNotes.com and Rev.com to ensure confidentiality of data and that all materials will be destroyed as requested upon the acceptance of the dissertation. I have kept the audio recordings and interview transcripts in digital format only on a secure device throughout the study and will destroy them once the dissertation is accepted.

I conducted my study with the understanding that the topic might be administratively sensitive and that some participants might feel at risk discussing their perceptions. Many participants requested confidentiality, so I extended it to all participants. For clarity, the IRB that each participant signed noted that anonymity could not be guaranteed, particularly given the small sample set of interviewees.

**Summary of methods**

This study of the 2012 Ohio PBF policy impacts on public universities examined, through the reflections of university leaders and the analysis of performance data, the benefits and consequences of a significant institutional funding shift that the state instigated to create better outcomes for higher education. I designed the research questions to deepen our understanding of an innovative approach to higher education accountability and add to the literature on the subject.

The investigation used a mixed method, multi-location case study approach to provide a comprehensive perspective of a relatively new policy. I collected data in the fall of 2015 from NCES and Ohio.gov, along with interview responses from 24 Ohio public university leaders, to explore the policy’s impacts after its implementation in 2013.
Using multiple data sources across multiple sites enhanced the validity and reliability of the study. I examined my researcher positionality throughout the study and adjusted as my reflections revealed biases and deficit orientations. In addition, I conducted member checking of transcript summaries to ensure the trustworthiness and credibility of the interview findings.

Although the study has many limitations and is not intended to be generalizable, the performance data analyses and the interview findings, with member-checked summaries, provide a comprehensive and rich description of the policy’s impact.

Improving higher education outcomes is a laudable goal. PBF policies that support better outcomes while maintaining learning quality and social equity (at a minimum) are a worthy objective. This study explored university leader responses and early effects of the 2012 Ohio PBF policy in order to better understand the implications of an innovative higher education funding phenomenon.
CHAPTER 4: FINDINGS

As introduced in Chapter 1, the purpose of this study was to explore the perceptions and early results of the Ohio 2012 performance-based funding (PBF) policy in order to understand the policy’s impacts on student outcomes, access, and education quality, among other considerations. The following research questions directed the exploration:

1. According to the Ohio main campus university leaders in the study, in what ways have access and education quality changed at their universities in response to the 2012 Ohio PBF policy?

2. Based on publicly available metrics, how has the 2012 Ohio PBF phenomenon impacted the outcomes, access, and education quality in public four-year universities?
   a. How do the Ohio trends compare to national and regional trends?
   b. In what ways has the impact of the 2012 Ohio PBF policy varied across each of the Ohio main campus public universities?

3. What other important benefits or challenges of the 2012 Ohio PBF policy are noted by the Ohio main campus university leaders beyond access and education quality and how is the policy judged overall?

The study was structured to match the perceptions of 24 leaders from eight of the Ohio main campus public universities with observed changes in the performance metrics that measure the quantitative results of the 2012 Ohio PBF policy. Together, the leader perceptions and the quantitative findings provided a more comprehensive understanding of the PBF phenomenon.
Overview

This chapter presents the findings of each research question in turn, beginning with the next section, “RQ1: The leadership perception of access and education quality changes.” Perceptions regarding access are presented in terms of enrollment and selectivity changes. Perceptions regarding education quality are presented in terms of student support, grading standards, and faculty activities. The investigation of access and education quality are anchored to the conceptual framework, as presented in Chapter 3.

The findings of Research Question 2 are presented under the section, “RQ2: The evidence of policy impacts through specific performance metrics.” That section documents the impacts of the implementation of the 2012 Ohio PBF policy through metrics related to outcomes, access, and education quality, as described in the conceptual framework.

Outcomes. Retention is a leading indicator for graduation results and a proxy for course completions, both of which are identified as specific outcome goals of the 2012 Ohio PBF policy. Retention is, therefore, an accessible and key metric to study. It is defined as the returning student cohort from the prior year.

Access. An enrollment change indicates a potential change in student access. However, by itself, because a number of factors can cause the change, intentionality is not clear. This study documented enrollment changes through increases or decreases in the number of first-time-in-college (FTIC) students. It also examined several additional selectivity factors to clarify intention regarding access: admission rates, ACT scores, the number of Pell Grant recipients, and the number of students of color. The study investigated both admission rates and ACT scores in order to compensate for the limitation of each metric. Institutions can manipulate admission
rates through indirect means, such as marketing efforts. An admission rate can also be misleading as an indicator of selectivity if an institution has more applicants than it can admit despite lower acceptance standards. At the same time, not every institution uses ACT scores in admissions. Together, changes in enrollment and all four selectivity factors provide a more complete picture of any change in access.

*Education Quality.* The study investigated staffing levels as a common proxy for education quality through student-to-faculty and student-to-staff ratios. Student-to-faculty ratios reflect teaching loads that might change either because institutions want faculty members to teach fewer students so as to give each one more attention or because, possibly under financial pressure, they want teaching loads to increase. A similar logic applies to non-faculty staffing levels.

Changes in appropriation can also indicate the state’s commitment to education quality, although by itself an appropriation change may, of course, invite other interpretations. The study explored appropriation changes in data on Ohio obtained, on a full-time student equivalent (FTSE) basis, from both NCES and the website Ohio.gov.

Three more sub-sections follow to investigate disconfirming evidence of the impact of the Ohio PBF policy by correlating admission selectivity with retention, underrepresented students, and appropriations. Because graduation rates are highly correlated to selectivity, the study evaluated how changes in retention outcomes are related to changes in admission selectivity in Ohio. Similarly, changes in admission selectivity beg the question of how underrepresented student groups are impacted, particularly because there is a high correlation in national studies between socioeconomic status (SES) and attainment as well as selectivity and SES/race/ethnicity. Thus, the study analyzed the changes in admission selectivity
against changes in the admissions of students of lower socioeconomic status and students of color. The study also examined the relationship between admission selectivity and appropriations to explore whether those institutions that were already more selective were receiving a larger percentage increase in appropriations.

The findings under Research Question 2 validate the participant responses in Research Question 1 and together address the conceptual framework assumptions.

Finally, the section, “RQ3: Other important reflections of university leaders,” offers findings from the study participants that capture additional policy benefits or challenges related to the PBF phenomenon. A summary of all research question findings follows as a conclusion to the chapter.

**RQ1: The leadership perception of access and quality changes**

To understand the impacts of the 2012 Ohio PBF policy on access and education quality, university leaders were asked specifically about their perceptions of:

- changes in enrollment and selectivity, and
- changes in student support, grading standards, and faculty activities.

**Enrollment and selectivity**

Questions regarding enrollment elicited two types of responses. On the one hand, most study participants perceived that an enrollment-only funded formula model overemphasized enrollment growth at the expense of quality. One university leader summed up this enrollment-versus-quality tension:

I would say, any funding mechanism is going to have some perverse incentive to it . . . Before the incentive was to get as many bodies in seats as possible. Now that's not really to our advantage because of course when you increase the number of bodies in seats you decrease the average level of preparation of the students, so you have more failures, or non-completions. (P11)
Many faculty and administrative leaders echoed a similar sentiment regarding the intent to allow slower enrollment growth in order to ensure that the students already enrolled were more capable of graduating. As an administrative leader noted:

So, what we had at this institution is that they were just going out and admitting, admitting, admitting. Maybe not kids that could succeed here. [The enrollment manager] was trying to get his numbers up. Well, he’s no longer with us. (P4)

Even in institutions where enrollments had declined, the drop was recognized as a managed response to the new policy incentives. One participant clarified:

I think the [new] funding model has clearly changed the way we talk and, in fact, the way we act. Our enrollments have gone down significantly. Part of that is because we no longer let [just] anybody come to [this university]. (P14)

Because their institutions still derived the majority of undergraduate funding from tuition, enrollment growth remained important to these leaders, with some mentioning efforts to actively expand recruiting and identify new markets. It was clear, nonetheless, that no one wanted to just put “bodies in seats” to meet enrollment targets. Indeed, as a faculty leader commented, “In a sense what we have [now] is some kind of balance between incentive for enrollment and incentive for things that produce higher completion rates.” (P11)

On the other hand, for a few university leaders, enrollment declines at their institution were significant. In fact, they had become all-important and were demanding a lot of institutional attention. According to those leaders, the new PBF policy had not caused or stimulated those declines, although it had exacerbated the challenge because of the need to find students with a high likelihood of completing college.
It was clear that half of the respondents viewed increased selectivity, even at the expense of enrollment numbers, as an important response to the policy. Of the 18 respondents that perceived a recent increase in their institution’s selectivity, 12 of them, representing seven of the eight Ohio main campus universities, believed that increased selectivity had occurred in direct response to the policy because of its focus on student completion. Six other study participants suggested that selectivity had already been increasing before the 2012 policy implementation at their institution or that it was increasing only coincidently with the policy. The balance of the respondents did not perceive an impact on selectivity, were unaware of any impact, or did not comment on the impact. Note that not all respondents from a particular institution were in agreement about the impact of the policy on institutional selectivity.

In the view of the administrative and faculty leaders who perceived that selectivity had increased at their institution in response to the policy, higher admission standards were necessary to ensure that the students enrolled were capable of and committed to graduating. “Many of those students (we admitted) are really not capable,” one participant stated. He continued:

Some we probably might guess are not even committed to a college education. They look to college as a source of income for a semester or two. [The new policy has] had a positive impact in that it’s forced us at the university to begin looking at how well we’re doing with our students, and whether it makes sense to bring in a group of students who are not going to finish, whether it makes sense to allow those students to hang around for two or three semesters and accumulate a tremendous amount of debt when their likelihood of finishing is next to nothing. (P24)

Most leaders agreed that institutions were admitting too many unqualified students and that it was a disservice to them—in fact, even unethical—to allow it.
Respondents from more open-access institutions particularly recognized that students who came in poorly prepared were not being well served. Observed one leader:

[Raising standards] was done intentionally. Yeah. We needed to do that, I think. They presented data at various meetings that showed that some of the students we brought in years ago didn't do very well. It didn't take them long before they weren't a student here anymore, so we weren't helping them. We really did need to come up with some minimal standards. (P15)

Another study participant noted:

Students need to have some sense of preparation, some sense of responsibility to move through a curriculum. Students can't come and explore at will. It’s very difficult now for a student to drop in, drop out, drop in, drop out. I’m not sure that’s a bad thing. (P18)

Several of these respondents said they believed that the new policy had created the necessary impetus to push for the kind of greater selectivity that the faculty had desired for years. For example, one faculty leader expressed how the board could now be convinced to increase selectivity:

To some extent (the non-completion rate is) the economic incentive that this policy is responding to, even though it's also basically allowing us to do what some people thought we should have done all along, now we can do it. Now we can sell it to the board, whereas before we couldn't sell it to the board. (P11)

Another respondent acknowledged, “I think [the policy] does put pressure on tightening access.” (P29) Still another added:

It’s true that we did tighten our admission standards a bit. . . . I don't know that that would be entirely motivated by the funding policy. I think we'd want to do that anyway but it's certainly, definitely motivated, at least in good part by the [policy]. (P8)

One university leader clearly identified a shift in selectivity at the institution:

Now understanding how important it is that we retain students and that we graduate students, we're not only thinking about it but we're already starting to implement strategies of going after certain types of students, students that
are more likely to be successful in class here and complete their degree here. ... We won't take as many chances on students as we have in the past because of that. (P24)

A few university leaders viewed the move to enroll students with a higher academic profile as a way to remain competitive and to improve institutional branding—not as a direct response to the policy. As an informant explained:

It's about branding, it's about trying to remain competitive with students that you know will succeed. We've got to be more attractive to these students so that more of them will come here, and they'll create more of a sense of demand and people will be like, I better go [there] because they've got good students; it's getting harder to get into. That perception of scarcity generates buzz, generates more applicants. (P22)

Regardless of the reason they gave for the increased selectivity, 13 informants expressed concern that underrepresented students might be negatively affected as a result. One participant admitted, “We changed the lower bound for ACT scores for students coming in, and that may have disproportionately taken some of our minority students out of the mix.” (P1)

Another stated:

Economically disadvantaged individuals, even more so than underrepresented populations are being left out at a higher rate than we would like and is consistent with the rest of the population. Those that are not admitted are not admitted at a much higher rate. (P14)

One university leader was particularly poignant regarding the risk of increased selectivity:

I've had very good results with some [lower socio-economic] students who entered underprepared and that have finished graduate school now and are very successful. Knowing those students ... I have some concerns that the performance funding will cause the university as a whole to start shutting doors that may not need to be shut. (P25)

Four study participants were less concerned about the impact of increased selectivity, suggesting that a different pathway choice—that is, starting at a
community college or vocational school—might be better for the student who was underprepared. The consensus of those four respondents was that underprepared and often at-risk students were better off if a university did not admit them because they would probably accumulate debt and not graduate. As one of the four respondents explained, raising the academic admissions standards meant that:

. . . fewer people essentially come here for no good reason than [to] pay lots of money or take out lots of loans, and then don’t get their money’s worth. It was pretty ethically dicey to be admitting these students in the first place. Yeah, it creates the access problem, but in so many of those cases we were not doing those students any good. (P11)

Another faculty leader simply said that, “College is not necessarily the best course for everybody and I sort of wish somebody would beat that drum a little bit louder.” (P28)

Yet one faculty leader’s concern about the alternate pathway option for such students was particularly insightful:

I think having them directed to a community college or a vocational school is not the answer, because I think that’s the pathway they’ll go . . . they’ll go to a lower cost option and I have nothing against community colleges or vocational school, but I think that people from... that population, have no confidence, and until they’re challenged in an environment like a higher ed, a true university setting, they don’t know what they can do. I really hate to see us saying, ‘Well, don’t stretch, because you’re not going to make it.’ I just think that's a shame if that's what comes out of it. (P27)

Even for those respondents interested in increasing selectivity, however, the goal was not to increase funding but to ensure student success. Certainly, the latter leads to the former, but respondents were careful to emphasize that the purpose of any shift in selectivity was student focused, not financially focused.

When discussing increased selectivity and underrepresented students, 12 of the study participants expressed concern that certain types of at-risk students were being ignored or that the at-risk weighting in the performance-based funding policy
was inadequate to appropriately support those students. That concern was unrelated to the particular selectivity status of the universities in the study, although the most selective universities in Ohio were not included in the study. Most leaders were aware that the state tweaked the formula each year to try to better support at-risk students. Yet some reported the occurrence of internecine struggles to redefine “at-risk” when the changed formula benefited one institution over another. “[At-risk weighting] got tweaked a little bit in this latest round and lowered more than I would’ve liked. Quite frankly that was driven by Miami of Ohio because they don’t have [as many at-risk students],” noted a university leader. (P22)

Other comments related to at-risk weighting included, “We still find that the [at-risk] model doesn’t work for us that well,” (P8) and, “I don’t think [the at-risk model has] been adequate to really affect behavior.” (P9). Elaborating further, another study participant said, “I’m concerned that we’re not taking into account a student’s financial background and sometimes racial background. The new at-risk model doesn’t do it in the way that it should.” (P6)

**Student support, grading standards, and faculty activities**

Several respondents in the study were excited about the gains in retention at their institution and acknowledged that the new policy had had an impact in spurring them to develop more activities to support students and encourage them to remain in college. The majority of participants discussed some level of new student support activity related to the new policy. Of course, every institution already had a variety of initiatives in place to support student success, but the new policy was generally associated with a renewed emphasis across four related strategies.

*First, respondents described an increase in student advising activities in the past year or two.* Just over half of respondents indicated that their institution hired
more staff advisors specifically in response to the policy to further invest in student support. As one participant put it:

We've changed the advising structure and that's just in an effort to make sure that students get adequate advising in their first and second year especially until they're solidly in their major and can be advised by the faculty more. I think the advising has helped. (P6)

Faculty also teamed up with staff advisors at one institution to develop degree maps and degree audits that only began with the implementation of the 2012 Ohio PBF policy. Advising also became mandatory at one institution, according to a participant:

We've had a support structure in place for conditional admits where they have to get some tutoring and some extra support and things like that. We've made that mandatory, where we used to have it being recommended and various things like that. (P14)

Second, advising has become more intrusive. A university leader offered, “There has been a tremendous investment of additional people for intrusive advising. . . . We have ramped up our efforts with respect to advising to keep students on track.” (P21) In fact, intrusive, individualized and more active advising is becoming more common across the nation, even where PBF policies do not exist. However, many of the university leaders suggested that the new policy offered an incentive to essentially catch up in an area where they might have been less aware of best practices and to extend those practices further:

We are doing intrusive advising where the provost has made it clear that students are advised throughout their careers with us. That's something new that we're doing. He calls it, I forget, 'high touch,' I think. That's part of that whole initiative. (P28)

Another leader identified the new advising approach as a major change: “I see it as a significantly different advising approach. It is true individualized, intrusive advising, and I use that word because that's what's used when we talk about it.” (P27) The following statement offered a more holistic explanation of the intrusive approach:
We've hired new professional advisors that could work more aggressively with students. Once again, I think the realization that most of our students are first-generation college; they don't have the kind of support or even the knowledge of how to be successful in college from their families. I think that being able to reach out to them through more than just the classroom through advising and developing relationships with people here at the institution will be an important enhancement. (P24)

Several institutions are supporting the step up in advising—both in depth and breadth—by hiring associate vice provosts or assistant vice presidents to head up the initiatives.

Third, the university leaders in the study indicated that tracking students to make sure they were coming to class and making progress was much more ubiquitous, active, and systematic than it had been previously. According to a study participant:

We have put in place things like a Starfish System for advising, and the emails that go out to students where faculty members in every department in every college are charged with, if you will, keeping track of the students. . . . That has been different since we have gotten into the outcomes-based funding formula. That's one concrete example of what we've done to spur students along and keep contact with them. (P21)

One faculty leader in particular was very pleased with the new tracking effort:

[Administrators] check with me four weeks in to make sure people are coming to class. They take the mid-term grades and make sure that people are passing at mid-term and then later, so I'm given some pressure to check back with our structures. I think that's great. Better continuity of information between the administration and the faculty to make sure the students are being successful. I think that's fantastic. (P6)

Fourth, the respondents saw faculty members as being more engaged—not only in advising students directly themselves but also with student life, the new advising functions, and development activities. For example, an administrative leader explained that student life and academic affairs used to be:
... two groups doing their own thing, never talking to each other. Now at least there’s a linkage. If there are challenges going on in the res halls, we want to make sure that everyone is aware of what challenges a student is having. (P5)

Supporting the idea of a more engaged faculty, a university leader explained that faculty members “didn’t want to participate initially, but I think it’s picked up because people realize regardless of how they feel about it that this [more engaged effort] might be a mechanism to catch their students early.” (P13) An administrative leader suggested that faculty have embraced the changes “because if they don't they're concerned that they won't have students and, therefore, will not have their programs.” (P14)

Several institutions have also focused resources on faculty development and support, so that student support can be enhanced in turn. As an administrative leader noted:

In fact, for all faculty, we've revved up our professional development activities. We've got a lot more to do. We had a real thin professional development program for many years. We've invested some more money there and looked at trying to beef it up so faculty can get better. We need our faculty to do better, whether they're great to begin with or marginal. We want to get them all to be better. (P14)

A respondent from another institution highlighted a similar effort: “We have a center for teaching excellence that we have had that we are putting more emphasis on and more money into in terms of faculty development for teaching excellence and not anything else.” (P21)

Even though many of the student support activities were not new ideas and many of the institutions had similar student support initiatives in place before the 2012 policy implementation, most study participants indicated that without the change in the policy, they would probably not have placed the same emphasis on the
support, services, or personnel related to the student success initiatives previously described.

The three university leaders that did not relate new student support activities to the new policy stated that they were focused on student success regardless of the new PBF policy. One commented: "For me, I'm not driven by the [new policy] SSI. I am driven by how we enhance the students' success. Wouldn't we be at that business no matter what the funding model is?" (P15) The three participants were not from the same institution, so their stated position more likely represented a nuanced distinction in motivation rather than a substantial difference in approach.

Again, as with the changes in selectivity, all respondents spoke about the quality improvements in terms of improving support for students and not as an effort to improve financial outcomes in response to the policy incentives.

Besides student success initiatives, informants also spoke about the strategies that their institutions were adopting to address grading standards. Because course completions result in higher state appropriations, tension has been noted around grading standards and thus education quality. Faculty leaders in the study observed that some faculty members were nervous that their institution might pressure them to pass students in order to improve its financial performance. In fact, one faculty leader himself recognized the tension when he said:

I'm incredibly nervous about it. I don't believe that there is direct pressure to inflate grades. No individual faculty member is going to feel compelled by the administration so far to pass at a higher rate. On the other hand, there's been a number of institutional efforts to look at classifications of classes that have notoriously high [failure] rates. (P6)

Another faculty leader stated, "One of the first things faculty said when they heard about this [PBF] model is that it's a recipe for grade inflation because ultimately
you're putting someone's paycheck on the line with how many students complete their course.” (P8)

But all of the faculty leaders in the study reported that they had neither experienced pressure nor heard of any specific instance when an institution had required faculty members to increase pass rates. And, as one administrative leader pointed out, faculty members would strongly object to such an approach:

I also know that there's kind of an underlying current of concern [about pass rates] that impacts everyone. There's an underlying concern. My experience with faculty here is they are fiercely independent and very motivated. I think that most of the faculty that I know would strongly object to a blanket pass and go strategy. I think they're going to demand the academic rigor. They believe that the degree confers a certain level of knowledge and expertise and they're going to insist upon that. They want to honor the degree. (P19)

Several administrative leaders described efforts to examine the incidence of “D” and “F” grades as well as withdrawal (“W”) rates across class sections (together referred to as simply DFW). They explained that, with course completions now part of the funding formula, institutions have an incentive to spend resources to investigate the differences in section results to ensure students were properly prepared for courses and instructors were teaching effectively. Administrative leaders stated that the intent is to identify a class section where the majority of students were failing or getting Ds (especially if students’ grades in other sections were normally distributed) and determine the problem with the instruction in that section. Likewise, if students in a section were receiving predominately A grades, the university would want to know whether or not they were being prepared appropriately for upper-level study. As a university administrator explained:

If we have classes where the DFW rate is out of the norm, if you will, I think we've got to look at what we're doing in that class. Either we've misadvised students, they weren't prepared, or maybe there is something going on in the classroom that we've got to fix. Some of it could be on the student, but most
of it's on us. Either we've put them in the wrong course, or we're not engaging them in the learning process. It has forced us to take a very close look on all of those areas.

He added:

We always monitored [the DFW rate], but . . . I'm not sure we reacted as aggressively as we do now. . . . Now we go down to the next level. . . . When we went to the next layer, we were finding a huge difference between the success rates of students in individual sections. Some sections were very high DFW rates; others were incredibly low. Almost to the [extreme opposite] of the other level. Perhaps students haven't been appropriately challenged and that could lead to problems in upper-level courses. (P5)

The intent of the DFW review was, therefore, not to increase pass rates for the financial benefit of the institution. Administrative leaders were careful to note that they wanted DFW consistency for student success and not to improve funding.

Education quality was associated with student success across the entirety of the student’s career, and both faculty and administrative leaders uniformly denounced any notion of reducing rigor. As one administrative leader declared:

I really don't think faculty, or universities in general in Ohio, are moving toward less rigor to better advantage their institutions in terms of the performance based funding. That would be a foolish approach to try to game the system. You are going to reduce quality. It is going to be evident over time. It's going to come back to bite you. I don't have fears that that is going on. I don't think the faculty focus on performance-based funding for behavior that drives their actions. (P18)

Faculty and administrative leaders alike said that faculty members are very independent and not likely to succumb to pressure to inflate grades for improved pass rates, in any case. It was generally recognized that: (a) grade inflation has always been a higher education challenge, (b) grade inflation only harms the institution’s reputation, and (c) faculty members do not benefit personally by inflating grades. The 2012 Ohio PBF policy makes the connection of course completions and funding obvious—and the study respondents acknowledged that
some faculty members are deeply suspicious of any change such as those within the policy. But faculty and administrative leaders alike recognized that quality and reputation are connected and that any decrease in education quality in order to graduate more students would be self-defeating.

The final element of education quality that the study probed through interviews concerned the changing expectations regarding faculty activities such as teaching, service, and research. As the new policy shifted institutions’ attention to new priorities, would faculty priorities also change, and, if so, how might that affect education quality?

Several of the faculty leaders interviewed indicated that they were being asked to do more—such as tracking and contacting students—as a result of changed expectations for advising and a heightened emphasis on student support. “We're being asked to do more activities than we normally did before. Engage more with students, more proactive intervention,” said one faculty leader. (P13) Another faculty leader went further:

The financial pressures for retention and recruitment have made my job very challenging because it does require extra, you know what I mean, and there’s not as much extra floating around. Extra time, extra money, extra resources that are not time or money. . . . I'm barely able to make the minimum amount of contact that I need with my students, to monitor their success. (P6)

But most faculty leaders were more sanguine about any change in expectations or impact based on the policy. Most faculty as well as administrative respondents indicated that they saw no change in workload or expectations for research and service. A typical faculty leader response was, “I don't think that there's been an impact on [teaching quality] from performance-based funding.” (P29) Another added:
I really can't see a whole lot of impact. The faculty members were pleased and supported tightening up the admissions standards a bit but beyond just the attitude, I don't think that [PBF] has impacted anyone yet, and perhaps just there isn't time really to have seen it reflected in things like service and research. (P8)

Still another faculty leader offered a more comprehensive insight:

Well, student success and community engagement are not two separate things. They are really linked quite closely with each other and one benefits the other. While we are still exploring how to make those things stronger, I think the recognition that there is a link is quite clear. Similarly, with scholarships, we've made a name for ourselves in terms of scholarship in the realm of student success, in the realm of education research and teaching research. (P10)

Indeed, several other respondents suggested that research could be better integrated into the student-learning environment and did not see the policy’s focus on performance results as having any negative impact on the research focus. Certainly, this response varied according to how much each institution emphasized research. At institutions where research was low to begin with, the question of research impact was viewed as not applicable.

A larger concern—which a third of administrative and faculty respondents expressed—was the potential need to spend institutional funds to hire more advising staff. That might mean that institutions would have to recruit adjuncts, rather than more expensive tenured professors, to take on teaching loads. As a faculty leader noted, “And so tenure track numbers go down but non-tenured track members go up . . . so that's a concern,” (P28) Another added, we’re “hiring more full-time non-tenured track faculty who are doing almost nothing but teaching.” (P11) One challenge with this development over the long term is that it ultimately leaves more committee and service work for the fewer tenured faculty members. There are also concerns that adjuncts are not as available to students for regular advising activities.
A clear finding is that faculty members appear to be well aware of the new policy across all institutions. Although they may not understand all the specifics of the funding formula (indeed, most study respondents thought that only a few people in the entire state understood the formula because of its complexity), they are well aware of the general connection of an institution’s funding to course completions and the number of students it graduates. Meetings and discussions in a variety of forums across the universities had gotten the word out about the funding formula.

The interviewees suggested that general impact of this awareness was greater attentiveness to the competitive reality of their program sustainability and thus greater involvement in student success activities. In some institutions, the policy awareness was viewed as a positive as it allowed the justification to be made to recruit better students—a development welcomed by many faculty leaders. At other institutions, the policy was simply connected to the importance of “student success, the importance of student retention, making sure student’s progress toward their degrees,” as one informant said. (P15) There was a sense among many that faculty behavior was changing—in a good way—because of the policy and the renewed focus on student success, course completions and advising. One leader saw such behavioral changes as positive because they resulted in “other opportunities of community engagement, undergraduate service, participation in interdisciplinary programs, honors college, et cetera.” (P14).

Summary of findings under Research Question 1

The interview findings under Research Question 1 suggest that student access in Ohio is under pressure as institutions have de-emphasized enrollment growth in favor of selectivity but that education quality is not at risk. Selectivity has been intentionally increased in most Ohio main campus universities, with some of the
increase pre-dating the new policy. Most respondents believed that the increase in selectivity was necessary to improve student success, even in the face of declining enrollment.

More than half of the study participants expressed concern that the increased selectivity could negatively impact underrepresented student enrollment and support. Study participants also perceived shortcomings in the policy formula for the at-risk weighting of underrepresented students. Still, a few university leaders suggested that underprepared students, regardless of race or socioeconomic status, would be better off moving through a different pathway—such as a community college or vocational program.

Twelve of the respondents considered the new policy a factor for increased selectivity because it emphasized student success through the completion of courses and degrees over enrollment growth. Six respondents suggested that increased selectivity to improve student success was a moral imperative regardless of any policy. Importantly, no participants cited financial results as a motivation for change.

Almost all study participants acknowledged some level of renewed focus on student success through comprehensive and intrusive advising, the ubiquitous tracking of student results, or enhanced faculty engagement efforts as a result of the new policy. They were generally aware of grade inflation as a potential issue but not currently concerned about it. Moreover, they did not perceive that the new policy had had a direct impact on faculty research, service expectations, or teaching workloads, though a third of the study participants said the hiring of more adjuncts instead of tenure-track faculty was a concern. Faculty were perceived to be very aware of the new policy and slightly more engaged because of it, given the ostensible need to sustain their programs and recruit better students.
RQ2: The evidence of policy impacts across performance metrics

To further investigate the impact of the 2012 Ohio PBF policy, I summarized certain performance metrics across all American public four-year, primarily baccalaureate and above universities, highlighting Ohio four-year public universities as well as the public four-year universities in the surrounding region. As described in the conceptual framework, the performance metrics were retention; enrollment; the selectivity factors of admission rates, ACT scores, the number of Pell Grants recipients and students of color; and university staffing and university state appropriations. For a more detailed understanding of impacts, I also examined the specific performance trends in each Ohio main campus university. Finally, to investigate disconfirming evidence of the policy’s impact, I correlated retention, certain selectivity factors, and appropriations with admission selectivity itself.

Retention

The weighted-average fall retention results show marked improvement for the public four-year universities in Ohio compared to the nation and region between 2012 and 2014. Although the weighted average retention increased for all groups, as Figure 2 shows, the Ohio public four-year institutions increased retention by 6.3 percent, from 74.9 percent to 79.7 percent, whereas institutions across the nation and region increased retention only 2.1 percent during that time.

It is possible that the gain in retention from 2012 only reflects a recovery from an anomalous drop in retention in 2012. However, the Ohio retention rate gain puts Ohio very close to the national and regional retention rates in 2014 in absolute terms, whereas Ohio’s rate was substantially below the national and regional rate in previous years.
Figure 2. Fall retention rates, 2011 to 2014, U.S., Region, Ohio. Source: NCES. Weighted full-time adjusted returning fall cohorts in public, four-year, primarily baccalaureate institutions.

Each individual Ohio main campus university improved their full-time fall cohort weighted average retention rate from 2012 to 2014, as shown in Table 1.

Table 1

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<th>Fall Retention Rates, 2011 to 2014, Ohio Main Campus Universities</th>
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<td>Bowling Green State University</td>
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<td>Central State University</td>
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<td>Cleveland State University</td>
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<tr>
<td>Kent State University</td>
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<td>Miami University</td>
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<td>Ohio State University</td>
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<td>Ohio University</td>
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<tr>
<td>Shawnee State University</td>
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<td>University of Akron</td>
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<td>University of Cincinnati</td>
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<td>University of Toledo</td>
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<td>Wright State University</td>
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<td>Youngstown State University</td>
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<tr>
<td>Weighted Average</td>
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<tr>
<td>72%</td>
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<tr>
<td>55%</td>
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<td>85%</td>
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<td>65%</td>
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<td>62%</td>
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<td>65%</td>
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Source: NCES. Full-time adjusted cohorts.
In fact, five institutions achieved double digit improvements averaging 15 percent during the 2012 to 2014 period. Overall, the institutions realized the largest average retention gains during the period in 2014.

Even more notable, the two-year rate of improvement in retention from 2012 to 2014 was the strongest in those institutions with the lowest retention in 2012. That is, the institutions that needed to improve retention the most did just that, as shown in Table 2, which compares the retention rates of Ohio main campus universities in 2012 to the improvement in retention in those universities from 2012 to 2014, sorted on the 2012 retention rate.

Table 2

*Fall 2012 Retention Rate and Two-year Improvement in Retention Since 2012, Ohio Main Campus Public Universities*

<table>
<thead>
<tr>
<th>Institution</th>
<th>2012 Fall Retention Rate</th>
<th>2 year percent increase in retention 2012 to 2014</th>
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<tbody>
<tr>
<td>Central State University</td>
<td>43%</td>
<td>19%</td>
</tr>
<tr>
<td>Shawnee State University</td>
<td>49%</td>
<td>16%</td>
</tr>
<tr>
<td>Wright State University</td>
<td>56%</td>
<td>17%</td>
</tr>
<tr>
<td>University of Toledo</td>
<td>62%</td>
<td>12%</td>
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<tr>
<td>Cleveland State University</td>
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<td>8%</td>
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<td>University of Akron</td>
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</tr>
<tr>
<td>Youngstown State University</td>
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</tr>
<tr>
<td>Bowling Green State University</td>
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<td>9%</td>
</tr>
<tr>
<td>Kent State University</td>
<td>77%</td>
<td>6%</td>
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<tr>
<td>Ohio University</td>
<td>79%</td>
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</tr>
<tr>
<td>University of Cincinnati</td>
<td>86%</td>
<td>1%</td>
</tr>
<tr>
<td>Miami University</td>
<td>89%</td>
<td>2%</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>92%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: NCES. Full-time adjusted cohorts.

Obviously, it is harder to improve retention dramatically when retention is already at 92 percent, such as at Ohio State, than when retention is as low as 43 percent. The strong correlation of improvements in retention among lower-retention-
rate institutions might therefore be expected. However, the same analysis of the correlation between improvement in retention rates and retention rates of all U.S. public four-year institutions shows no meaningful relationship. Also, the strong relationship of larger retention improvements among the lower-retention-rate institutions does not hold true for Ohio main campus universities prior to 2012: the two-year retention improvements after 2010 or 2011 are essentially random for the universities when compared to retention rates of those years.

In sum, the non-random retention gains from 2012 to 2014 for the Ohio main campus universities and the large, systemic retention gains from 2012 to 2014 for Ohio public universities in general suggest that the 2012 Ohio PBF policy has had a positive effect on retention.

Selectivity – admission rates

While national and regional admission rates increased slightly from 2012 to 2015, the eight Ohio public four-year universities that reported results during the entire period decreased admission rates by 6 percent to 65 percent, their lowest level in five years, as Figure 3 shows. It is in fact the lowest average admission rate for these Ohio institutions since 2001, the earliest data available from NCES.

The weighted-average 6 percent decrease in admission rates understates the actual Ohio main campus university results during the three years because Youngstown State University, the University of Toledo, and the University of Akron did not start reporting data until they dropped open-access in 2014, 2013, and 2012, respectively. Therefore, these universities are excluded in the weighted-average calculation and yet their admission rates obviously decreased.
Figure 3. Admission rates, 2011 to 2015, U.S., Region, Ohio. Source NCES. Public, four-year, primarily baccalaureate institutions.

Table 3 presents the individual admission rate for each main campus university. Eight of the 13 institutions had more restrictive admissions rates in 2015 than in 2012, while three were less restrictive and two remain open-access.

Table 3

| Admissions as a Percent of Applicants, 2010 to 2015, Ohio Main Campus Universities |
|-----------------------------------------------|-----|-----|-----|-------------------|
|                                             | 2010 | 2012 | 2015 | percentage change from 2012 to 2015 |
| Bowling Green State University             | 89%  | 76%  | 53%  | 29.4%             |
| Central State University                    | 39%  | 32%  | 38%  | -16.9%            |
| Cleveland State University                 | 64%  | 64%  | 84%  | -31.6%            |
| Kent State University                       | 74%  | 89%  | 84%  | 4.8%              |
| Miami University                            | 79%  | 74%  | 66%  | 11.2%             |
| Ohio State University                       | 65%  | 63%  | 53%  | 16.3%             |
| Ohio University                             | 82%  | 86%  | 74%  | 13.8%             |
| Shawnee State University                    | 100% | 100% | 100% | 0.0%              |
| University of Akron                         | 100% | 100% | 96%  | 4.3%              |
| University of Cincinnati                    | 61%  | 65%  | 76%  | -17.0%            |
| University of Toledo                        | 100% | 100% | 95%  | 5.3%              |
| Wright State University                     | 100% | 100% | 100% | 0.0%              |
| Youngstown State University                 | 100% | 100% | 83%  | 16.7%             |

Source: NCES. 100% = open-access. Note: The Cleveland State University 2012 admission rate was reported as 47 percent and is believed to be an error based on the report of 64 percent for each of the preceding and following two years.
Based on the decline in the admission rates for the eight Ohio universities reporting results from 2012 to 2015, it is clear that selectivity increased in the majority of the Ohio main campus universities in absolute and relative terms after the implementation of the 2012 Ohio PBF policy.

**Selectivity – ACT composite scores**

Ohio mirrors the national study results noted in Chapter 2 in *The Condition of Education 2015* (NCES, 2015), as higher ACT scores are moderately correlated with higher completion rates in its four-year public universities. Figure 4 compares the percentage of degrees per FTSE in 2014 with the 2009 ACT 75th percentile composite scores for students from the eight Ohio institutions reporting ACT scores in 2009. That correlation suggests that, as institutions become more selective, they will produce a higher number of degrees per FTSE.

![Figure 4. Correlation of Ohio 2014 degrees/FTSE and 2009 ACT 75th percentile composite scores.](image)

*Source: NCES. Eight Ohio public universities reporting scores.*

Based on the relationship of ACT scores and the degree completion rates shown in Figure 4 and given the 2012 Ohio PBF policy incentive to increase degree
completions, it is not surprising to see ACT composite scores increase in Ohio after 2012, as reflected in Figures 5 and 6.

Figure 5. ACT 25th percentile composite score (weighted), 2011 to 2015, U.S., Region, Ohio.
Source: NCES. Public, four-year, primarily baccalaureate institutions.

Figure 6. ACT 75th percentile composite score (weighted), 2011 to 2015, U.S., Region, Ohio.
Source: NCES. Public, four-year, primarily baccalaureate institutions.
The eight Ohio public four-year universities reporting ACT scores increased selectivity in 2014 and 2015 as measured by the ACT 25th and 75th weighted-percentile composite scores—both in absolute terms and relative to the region and the nation.

The weighted-average composite scores of national and regional institutions rose slightly during this period, too. Yet, the larger increase in the ACT scores of the eight Ohio public four-year universities reporting scores suggests that institutional selectivity grew in response to the 2012 Ohio PBF policy. Indeed, seven of nine Ohio main campus public institutions reporting ACT composite scores increased student ACT scores at the 25th percentile, while two stayed the same during the 2012 to 2015 period, as Table 4 shows.

Table 4

| 25th Percentile ACT Composite Scores, 2012 to 2015, Certain Ohio Public Universities |
|---------------------------------|------|------|------|------|---|
| Source: NCES.                   | 2012 | 2013 | 2014 | 2015 | trendline |
| Bowling Green State University  | 19   | 19   | 19   | 19   |   |
| Central State University        | 14   | 14   | 15   | 15   |   |
| Cleveland State University      | 18   | 19   | 19   | 19   |   |
| Kent State University           | 20   | 20   | 20   | 20   |   |
| Miami University                | 24   | 24   | 25   | 25   |   |
| Ohio State University           | 26   | 26   | 27   | 27   |   |
| Ohio University                 | 21   | 21   | 22   | 22   |   |
| University of Akron             | not reported | 18 | 18 | 19 |   |
| University of Cincinnati        | 22   | 22   | 22   | 23   |   |

Table 5 shows the 75th percentile ACT composite scores for the same nine institutions: five increased student selectivity from 2012 to 2015, while four did not change.
The change in ACT composite scores show that, since the 2012 PBF policy implementation, selectivity increased in seven of the nine Ohio main campus universities that reported ACT scores through 2015 in terms of either one of both of the composite scores.

**Selectivity – Pell Grants**

Given the evidence of increased selectivity in Ohio through lower admission rates and higher ACT scores, an important question is whether underrepresented students have been impacted. Using Pell Grant data as a proxy to quantify the number of students of lower socioeconomic status, the weighted-average percentage of full-time, first-time undergraduates receiving Pell Grants in the United States, the region, and Ohio from 2011 to 2014 is shown in Figure 7.
Figure 7. Percent Pell Grant recipients, 2011 to 2014, U.S., Region, Ohio. Source: NCES. Public, four-year, primarily baccalaureate institutions.

The data show that, from 2012 to 2014, the percentage of Pell Grant recipients fell across the country by 2 percent, but the percentage of full-time, first-time undergraduates receiving Pell Grants at Ohio public four-year institutions dropped a total of 13 percent. For 2014, the latest data available from NCES, the percentage of full-time first-time, undergraduates receiving Pell Grants in Ohio decreased by 6.5 percent, compared to slight increases in the nation and the region. It should be noted, however, that the decline in Pell Grant recipients in Ohio began before the implementation of the 2012 policy.

Because the percentage of undergraduates receiving Pell Grants decreased for the entire nation from 2011 to 2014, it is not likely that the 2012 Ohio PBF policy was the sole cause of the average decrease at Ohio public universities. Yet the trend in Ohio accelerated after 2012, and the percentage of Pell Grant students decreased substantially in 2014. Meanwhile, the percentage nationally and regionally increased slightly.
The change in the percentage of Pell recipients in each of the Ohio main campus public institutions was negative for most—and dramatically so for some from 2012 to 2014, as Table 6 summarizes.

Table 6

Percent Pell Grant Recipients, 2011 to 2014, Ohio Main Campus Universities

<table>
<thead>
<tr>
<th>Institution</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green State University</td>
<td>40%</td>
<td>41%</td>
<td>36%</td>
<td>34%</td>
<td>-17.1%</td>
</tr>
<tr>
<td>Central State University</td>
<td>85%</td>
<td>89%</td>
<td>81%</td>
<td>80%</td>
<td>-10.1%</td>
</tr>
<tr>
<td>Cleveland State University</td>
<td>54%</td>
<td>52%</td>
<td>53%</td>
<td>50%</td>
<td>-3.8%</td>
</tr>
<tr>
<td>Kent State University</td>
<td>39%</td>
<td>37%</td>
<td>36%</td>
<td>34%</td>
<td>-8.1%</td>
</tr>
<tr>
<td>Miami University</td>
<td>18%</td>
<td>15%</td>
<td>13%</td>
<td>10%</td>
<td>-33.3%</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>20%</td>
<td>21%</td>
<td>19%</td>
<td>18%</td>
<td>-14.3%</td>
</tr>
<tr>
<td>Ohio University</td>
<td>28%</td>
<td>26%</td>
<td>25%</td>
<td>27%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Shawnee State University</td>
<td>65%</td>
<td>65%</td>
<td>62%</td>
<td>59%</td>
<td>-9.2%</td>
</tr>
<tr>
<td>University of Akron</td>
<td>50%</td>
<td>50%</td>
<td>47%</td>
<td>43%</td>
<td>-14.0%</td>
</tr>
<tr>
<td>University of Cincinnati</td>
<td>24%</td>
<td>24%</td>
<td>23%</td>
<td>23%</td>
<td>-4.2%</td>
</tr>
<tr>
<td>University of Toledo</td>
<td>52%</td>
<td>39%</td>
<td>46%</td>
<td>41%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Wright State University</td>
<td>48%</td>
<td>48%</td>
<td>42%</td>
<td>40%</td>
<td>-16.7%</td>
</tr>
<tr>
<td>Youngstown State University</td>
<td>60%</td>
<td>58%</td>
<td>56%</td>
<td>56%</td>
<td>-3.4%</td>
</tr>
</tbody>
</table>

weighted average 39% 37% 34% 32% -14.1%

Source: NCES. Full-time first-time undergraduates.

Only Ohio University and the University of Toledo increased the percentage of Pell recipients during this period. Altogether, these data raise the concern that the 2012 Ohio PBF phenomenon has had a negative impact on students from lower socioeconomic backgrounds as institutions have focused on greater selectivity.

Selectivity – students of color

To further analyze the impact that heightened selectivity at Ohio public four-year institutions has had on underrepresented students, the study explored the enrollment changes across race and ethnicity (Hispanic, Black, Two or More Races, and White) from 2011 to 2014 through the total number of undergraduate, degree-
seeking, first-time students as reported in NCES. A clear pattern emerged for the Ohio public four-year institutions when compared to institutions in the nation and the region regarding the lack of growth of Hispanic and those of two or more races and the large decrease in the percentage of Black students during this period, as depicted in Figure 8.

![Figure 8. Change in percentage of undergraduate students by race/ethnicity, 2012 to 2014, U.S., Region, Ohio. Source: NCES. Public, four-year, primarily baccalaureate institutions.](image)

The percentage growth of undergraduate, degree-seeking, first-time Hispanic students from 2012 to 2014 in Ohio public four-year institutions was 1.5 percent whereas the regional and national institutions increased an average of 18.2 percent and 14.1 percent, respectively. The percentage of undergraduate, degree-seeking, first-time Black students in Ohio decreased 19.7 percent during the same time period, whereas the percentage of those students at institutions in the region and the United States decreased 4.5 percent and 1.6 percent, respectively. Meanwhile, and the percentage change in the total number of undergraduate, degree-seeking, first-time students of two or more races in Ohio was 3.8 percent, whereas the
percentage in the region and the nation increased 13.3 percent and 9.4 percent, respectively. The percentage change in the number of undergraduate, degree-seeking, first-time White students during this period was negligible everywhere.

Such differences in Ohio race/ethnicity enrollments from 2012 to 2014 stand in marked contrast to the changes between 2010 and 2011 in Ohio, which essentially mirrored national trends. For example, from 2010 to 2011, Hispanic FTIC enrollment grew 10 percent in both Ohio and the United States, and Black FTIC enrollment grew 3 percent in Ohio and 2 percent the nation. (The study did not consider changes in other race/ethnicities because the numbers are so small that just a few students can swing the percentage change dramatically.)

It is important to note that race/ethnicity enrollments varied significantly among the Ohio main campus universities, as shown in Table 7, which lists the two-year change in total number of undergraduate, degree-seeking, first-time Hispanic, Black, and White students, and those of two or more races, from 2012 to 2014.

Table 7

<table>
<thead>
<tr>
<th>Change in the Total Number of Undergraduate, First-time Students by Race/Ethnicity, 2012 to 2014, Ohio Main Campus Universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green State University</td>
</tr>
<tr>
<td>Central State University</td>
</tr>
<tr>
<td>Cleveland State University</td>
</tr>
<tr>
<td>Kent State University</td>
</tr>
<tr>
<td>Miami University</td>
</tr>
<tr>
<td>Ohio State University</td>
</tr>
<tr>
<td>Ohio University</td>
</tr>
<tr>
<td>Shawnee State University</td>
</tr>
<tr>
<td>University of Akron</td>
</tr>
<tr>
<td>University of Cincinnati</td>
</tr>
<tr>
<td>University of Toledo</td>
</tr>
<tr>
<td>Wright State University</td>
</tr>
<tr>
<td>Youngstown State University</td>
</tr>
</tbody>
</table>

| Weighted average total                                              | 1.1%     | -19.3%| 3.2%  | -0.4% |

Source: NCES. Undergraduate, degree-seeking, first-time students.
Although the overall decrease from 2012 to 2014 in the number of Black students stands out, the enrollment growth or decline at individual institutions may have caused some of the change in race/ethnicity percentages. For example, Ohio University grew enrollments in every race/ethnicity category during this period. Similarly, enrollment declined in all race/ethnicity categories at Central State University (except for that of students of two or more races, who numbered in single digits so percentage changes are not meaningful) and are probably related to the overall enrollment drop.

Still, the overall percentage change in the enrollment of undergraduate, degree-seeking, first-time students of color at the Ohio main campus universities from 2012 to 2014 is considerably less than the percentage change in enrollment from 2010 to 2012, as shown in Table 8, both in absolute terms and relative to the White student change in enrollment.

Table 8

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2012</th>
<th>2 year change</th>
<th>2012</th>
<th>2014</th>
<th>2 year change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students of Color</td>
<td>8231</td>
<td>8076</td>
<td>-1.9%</td>
<td>8076</td>
<td>7158</td>
<td>-11.4%</td>
</tr>
<tr>
<td>White Students</td>
<td>32078</td>
<td>30692</td>
<td>-4.3%</td>
<td>30692</td>
<td>30567</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>

Source: NCES. Undergraduate, degree-seeking, first-time students.

The contrast noted in Table 8, along with the shifts within individual race/ethnicities, suggest that there has been a substantial change in the enrollment of students of color in Ohio public universities from 2012 to 2014 that, based on the data in Table 7, has affected Black students the most.
Enrollment

Full-time, first-time-in-college (FTIC), degree-seeking enrollment trends provide a context from which to understand whether general university access is expanding or contracting. As Figure 9 shows, full-time FTIC enrollment fell after 2011 relative to national and regional trends in terms of the percentage change from the prior year.

The large enrollment decline in 2012, which is seen in the region as well, is likely based on effects of the Great Recession and subsequent recovery. Still, the Ohio public four-year university FTIC enrollment decreased 1.5 percent from 2012 to 2014 whereas enrollment increased 1.7 percent at institutions in the region and 4.2 percent at institutions throughout the nation.

Figure 9. FTIC enrollment percentage change from prior year, 2011 to 2014, U.S., Region, Ohio.
Source: NCES. Public, four-year, baccalaureate institutions.

The FTIC enrollment changes from 2012 to 2014 vary considerably among the Ohio main campus public universities, with an 11 percent standard deviation on an average decrease of 1.5 percent, as shown in Table 9.
Table 9

*Enrollment, 2011 to 2014, Ohio Main Campus Universities*

<table>
<thead>
<tr>
<th>Institution</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>change from 2012 to 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green State University</td>
<td>3810</td>
<td>3591</td>
<td>3330</td>
<td>3020</td>
<td>-15.9%</td>
</tr>
<tr>
<td>Central State University</td>
<td>712</td>
<td>503</td>
<td>411</td>
<td>401</td>
<td>-20.3%</td>
</tr>
<tr>
<td>Cleveland State University</td>
<td>1328</td>
<td>1531</td>
<td>1729</td>
<td>1562</td>
<td>2.0%</td>
</tr>
<tr>
<td>Kent State University</td>
<td>4256</td>
<td>4049</td>
<td>4293</td>
<td>4238</td>
<td>4.7%</td>
</tr>
<tr>
<td>Miami University</td>
<td>3581</td>
<td>3730</td>
<td>3637</td>
<td>3641</td>
<td>-2.4%</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>7074</td>
<td>7204</td>
<td>7121</td>
<td>7070</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Ohio University</td>
<td>3863</td>
<td>3869</td>
<td>4233</td>
<td>4367</td>
<td>12.9%</td>
</tr>
<tr>
<td>Shawnee State University</td>
<td>1146</td>
<td>1115</td>
<td>1065</td>
<td>900</td>
<td>-19.3%</td>
</tr>
<tr>
<td>University of Akron</td>
<td>4371</td>
<td>3927</td>
<td>3589</td>
<td>3652</td>
<td>-7.0%</td>
</tr>
<tr>
<td>University of Cincinnati</td>
<td>4250</td>
<td>4106</td>
<td>4431</td>
<td>4566</td>
<td>11.2%</td>
</tr>
<tr>
<td>University of Toledo</td>
<td>3788</td>
<td>3338</td>
<td>3277</td>
<td>3359</td>
<td>0.6%</td>
</tr>
<tr>
<td>Wright State University</td>
<td>2729</td>
<td>2327</td>
<td>2141</td>
<td>2307</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Youngstown State University</td>
<td>2366</td>
<td>2090</td>
<td>1985</td>
<td>1704</td>
<td>-18.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>45068</td>
<td>43046</td>
<td>42832</td>
<td>42411</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

Source: NCES. Full-time, FTIC, degree-seeking.

Four institutions experienced double-digit decreases that averaged 18 percent over the two years. The general decline in FTIC since 2012 in absolute terms and compared to the nation and the region supports the conclusion of increased selectivity in Ohio main campus universities since the implementation of the performance-based funding policy.

**Staffing – faculty**

An examination of undergraduate (UG) FTSE student and FTE ranked faculty data show that there is no evidence for concern regarding increased teaching loads from 2012 to 2014. As Figure 10 shows, student-to-faculty ratios in Ohio, the region, and the United States all decreased slightly during the period, with Ohio improving student-to-faculty ratios by 4 percent over the two years, while the region and nation each showed an institutional weighted-average improvement of 2 percent.
Figure 10. FTSE enrollment per FTE ranked faculty, 2012 to 2014, U.S., Region, Ohio. 
Source: NECS. Public, four-year, primarily baccalaureate institutions.

Table 10 presents the student-to-faculty ratios for each Ohio main campus university from 2012 to 2014.

Table 10

<table>
<thead>
<tr>
<th>UG FTSE Student to FTE Faculty Ratio, 2012 to 2014, Ohio Main Campus Universities</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2012 to 2014 percentage change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green State University</td>
<td>27.3</td>
<td>28.1</td>
<td>28.6</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Central State University</td>
<td>23.2</td>
<td>21.4</td>
<td>22.6</td>
<td>2.5%</td>
</tr>
<tr>
<td>Cleveland State University</td>
<td>23.1</td>
<td>25.5</td>
<td>25.0</td>
<td>-8.3%</td>
</tr>
<tr>
<td>Kent State University</td>
<td>26.2</td>
<td>24.9</td>
<td>24.3</td>
<td>7.3%</td>
</tr>
<tr>
<td>Miami University</td>
<td>26.2</td>
<td>27.3</td>
<td>27.5</td>
<td>-4.7%</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>21.6</td>
<td>19.7</td>
<td>19.9</td>
<td>7.6%</td>
</tr>
<tr>
<td>Ohio University</td>
<td>29.1</td>
<td>28.5</td>
<td>28.3</td>
<td>2.7%</td>
</tr>
<tr>
<td>Shawnee State University</td>
<td>35.8</td>
<td>35.4</td>
<td>34.2</td>
<td>4.3%</td>
</tr>
<tr>
<td>University of Akron</td>
<td>30.5</td>
<td>30.0</td>
<td>28.3</td>
<td>7.2%</td>
</tr>
<tr>
<td>University of Cincinnati</td>
<td>18.1</td>
<td>18.3</td>
<td>18.5</td>
<td>-1.9%</td>
</tr>
<tr>
<td>University of Toledo</td>
<td>27.7</td>
<td>28.7</td>
<td>28.3</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Wright State University</td>
<td>27.4</td>
<td>24.3</td>
<td>22.4</td>
<td>18.0%</td>
</tr>
<tr>
<td>Youngstown State University</td>
<td>28.9</td>
<td>27.8</td>
<td>27.1</td>
<td>6.3%</td>
</tr>
<tr>
<td>weighted average</td>
<td>24.5</td>
<td>23.9</td>
<td>23.6</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Source: IPEDS. Note: a negative change indicates an increase in the student-to-faculty ratio.
The data show substantial variations in the student-to-faculty ratios among the 13 universities. Eight of the 13 increased the student to faculty ratio over the period, and the remainder decreased the ratio with the weighted-average improvement equal to 3.9 percent. These data suggest that there was no systemic increase in workload in terms of students per faculty.

**Staffing – non-faculty**

The study investigated the staff ratio in same manner as the student-to-faculty ratio. A ratio change might have been expected under the 2012 Ohio PBF policy as a result of the need to hire more staff to support student success initiatives. It might also have been expected because institutions would perhaps have had to hire more faculty members to improve attainment levels and, therefore, were expecting fewer staff to do more.

Yet, there is no evidence to indicate that student-to-staff ratios changed meaningfully, as shown in Figure 11.

*Figure 11. FTSE enrollment to FTE staff ratio, 2012 to 2014, U.S., Region, Ohio. Source: NCES. Public, four-year, primarily baccalaureate institutions.*
Public four-year institutions in Ohio and the United States served more students per staff than the regional institutions did in general from 2012 to 2013, but the change after the 2012 policy implementation is minimal. These data suggest that no systemic increase or decrease in staffing levels occurred from 2012 to 2014.

**Appropriations**

It is generally accepted that having more resources per student represents a higher quality educational opportunity or experience for the student. Describing the Ohio appropriations per FTSE for public four-year universities provides an indication of the state commitment to higher education, which, along with tuition dollars, indirectly translates into program quality. Appropriations per FTSE is a better measure of success than appropriations alone because it is scaled for changes in enrollment.

Figure 12 shows that the Ohio public four-year institutions weighted-average state appropriation per FTSE (graduate and undergraduate) increased $330 from 2012 to 2014 in nominal dollars, or about 6.5 percent. The graduate and undergraduate appropriation per FTSE for the United States increased by $592 or 8.5 percent in the same time frame, while the regional institutional average increased by $90 or 1.6 percent per FTSE. Although state appropriations per FTSE in Ohio and the region are substantially below the U.S. average, it is obvious that the Ohio legislature has not used the 2012 Ohio PBF policy to decrease appropriations per FTSE as of 2014 in public four-year institutions relative to historical levels and the national and regional weighted averages. In fact, Ohio's appropriations are approaching the level of those of the regional institutions.
Because Ohio supports 62,000 graduate and professional students out of a total of 285,000 students (as of 2015), I analyzed the data related to the undergraduate State Share of Instruction (SSI) from the website Ohio.gov to provide an assessment of undergraduate funding specifically. I compared the SSI undergraduate appropriations to the undergraduate only FTSE enrollment to determine the appropriation per FTSE, as depicted in Table 11.

Table 11

SSI per Undergraduate FTSE, 2012 to 2014, Ohio Main Campus Universities

<table>
<thead>
<tr>
<th>Institution</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>percentage change from 2012 to 2014</th>
<th>3 YR trendline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green State University</td>
<td>$4,250</td>
<td>$4,082</td>
<td>$4,065</td>
<td>-4.3%</td>
<td></td>
</tr>
<tr>
<td>Cleveland State University</td>
<td>$5,980</td>
<td>$5,858</td>
<td>$5,881</td>
<td>-1.7%</td>
<td></td>
</tr>
<tr>
<td>Kent State University</td>
<td>$3,911</td>
<td>$4,046</td>
<td>$4,401</td>
<td>12.5%</td>
<td></td>
</tr>
<tr>
<td>Miami University</td>
<td>$3,170</td>
<td>$3,197</td>
<td>$3,176</td>
<td>0.2%</td>
<td></td>
</tr>
<tr>
<td>Ohio State University</td>
<td>$4,781</td>
<td>$5,280</td>
<td>$5,063</td>
<td>5.9%</td>
<td></td>
</tr>
<tr>
<td>Ohio University</td>
<td>$4,071</td>
<td>$4,446</td>
<td>$4,685</td>
<td>15.1%</td>
<td></td>
</tr>
<tr>
<td>Shawnee State University</td>
<td>$3,221</td>
<td>$3,314</td>
<td>$3,502</td>
<td>8.7%</td>
<td></td>
</tr>
<tr>
<td>University of Akron</td>
<td>$4,169</td>
<td>$4,364</td>
<td>$4,723</td>
<td>13.3%</td>
<td></td>
</tr>
<tr>
<td>University of Cincinnati</td>
<td>$5,151</td>
<td>$5,347</td>
<td>$5,347</td>
<td>3.8%</td>
<td></td>
</tr>
<tr>
<td>University of Toledo</td>
<td>$4,976</td>
<td>$5,184</td>
<td>$5,247</td>
<td>5.4%</td>
<td></td>
</tr>
<tr>
<td>Wright State University</td>
<td>$4,637</td>
<td>$5,136</td>
<td>$5,245</td>
<td>13.1%</td>
<td></td>
</tr>
<tr>
<td>Youngstown State University</td>
<td>$3,416</td>
<td>$3,542</td>
<td>$3,575</td>
<td>4.7%</td>
<td></td>
</tr>
<tr>
<td>weighted average total</td>
<td>$4,389</td>
<td>$4,619</td>
<td>$4,691</td>
<td>6.9%</td>
<td></td>
</tr>
</tbody>
</table>

The undergraduate appropriations changes from 2012 to 2014 for the main campus universities were positive for all but Bowling Green State University and Cleveland State University.

**Analysis of admission selectivity and retention**

Because graduation rates are strongly correlated with institutional selectivity in national studies, retention results and admission selectivity are examined in this section to investigate the relationship between the two variables and further evaluate the impact of the 2012 Ohio PBF policy.

Assuming a one-year lag effect, and using the change in 2013 admission selectivity as the independent variable, a moderate correlation is evident with the change in 2014 full-time fall cohort retention, as shown in Figure 13, with Ohio University data removed. (Ohio University was removed as an anomaly regarding retention and admission selectivity.)

![Figure 13. Correlation of percentage change in the 2014 full-time fall cohort retention and the percentage change in the 2013 applicants admitted, 12 Ohio main campus universities. Source: NCES. Ohio University removed as outlier.](image-url)
With the coefficient of determination equal to 48 percent, the moderately strong correlation between increased admissions standards in 2013 and improved retention rates in 2014 among 12 Ohio main campus universities suggests that increased institutional selectivity may have caused some of the improvement in retention after 2013, rather than the 2012 Ohio PBF policy in particular, although the policy may have caused selectivity to increase indirectly.

Note that an additional analysis (not shown) verified that there is no meaningful correlation for 2014 or 2013 retention data and changes in admission selectivity prior to 2012.

Analysis of admission selectivity and enrollment patterns

Because national studies suggest a correlation between selectivity and race/ethnicity/SES, and because increased admission selectivity was observed in Ohio public universities after the new policy implementation, I further analyzed the data on the enrollment of students of color and Pell Grant recipients to explore potential 2012 Ohio PBF policy impacts.

Despite strong evidence of a decrease in Pell Grant recipients and the enrollment of students of color from 2012 to 2014 in Ohio public universities, especially as compared to the United States and the region, no evidence was found of any meaningful correlation with increased institutional selectivity. For example, as Figure 14 demonstrates, using the change in admission selectivity in 2014 as the independent variable and the percentage change in Black undergraduate, degree-seeking, first-time students in 2014 as the dependent variable, no meaningful correlation is evident, with the coefficient of determination equal to 4 percent.
Figure 14. Correlation of percentage change in Black student enrollment and percentage change in percent of applicants admitted, 2014, Ohio main campus universities. Source: NCES. Undergraduate, degree-seeking, first-time students.

Correlating 2013 data (not shown) also shows no relationship. Although the decrease in the percentage of undergraduate, degree-seeking, first-time Black students from 2012 to 2014 across most of the main campus Ohio public four-year universities is a concern, it cannot be explained by a simple increase in admissions selectivity. The cause for the change in Black student enrollment and its relationship to the 2012 Ohio PBF policy is unknown.

Using the same analytical approach, I found no meaningful correlation between the percentage change of undergraduate, degree-seeking, first-time Hispanic students or those of two or more races and the percentage change in applicants admitted. There was also no correlation between the decrease in the percentage of Pell Grant recipients and selectivity. The changes from 2012 to 2014 in the percentages of Pell Grant recipients and students of color enrolled in Ohio public universities remain unexplained.
Analysis of admission selectivity and appropriations

If increased retention is at least partly a result of heightened admission selectivity as opposed to improved education quality, then it seems possible that simply increasing selectivity would lead to more state funding. In other words, those institutions that start with better students who are more likely to graduate might receive an increase in appropriations just because they start with better students.

Investigating the change in undergraduate appropriations per FTSE by main campus university revealed that the change in 2014 appropriations are in fact meaningfully related to the 2012 and 2013 percent admitted among 12 Ohio main campus public universities. But the correlation contradicts the expectation: the 2012 Ohio PBF policy appears to have disproportionately supported those institutions that have less selective admissions, presumably through the at-risk weighting within the policy’s allocation formula. The concern that the more selective institutions with better students would automatically receive a larger increase in state appropriations based on the formula mechanics was not supported.

As Figure 15 shows, using the 2014 percentage change in the undergraduate SSI per undergraduate FTSE as the dependent variable, the less-selective main campus universities had a weak but positive correlation with undergraduate SSI per undergraduate FTSE from 2013 to 2014, the latest data available. The coefficient of correlation ($R^2$) is 38 percent using the 2012 admission rates and 30 percent for the 2013 admission rates (not shown). Note that there is no meaningful correlation result using 2011 or 2010 admission rates and appropriation data.
Figure 15. Correlation of percentage change in undergraduate SSI/FTSE (2014) and selectivity (2012) across 12 Ohio main campus universities. Source: Ohio.gov. Central State University excluded as an outlier.

The analysis excluded Central State University from the correlation as an outlier because of the extreme selectivity of that institution in 2012. Central State admitted 32 percent of applicants in 2012, about half that of the university with the next lowest percentage.

The appropriation changes per FTSE in 2014 suggest that less-selective institutions received proportionally more state support over more selective institutions after the implementation of the 2012 Ohio PBF policy.

Summary of findings under Research Question 2

From 2012 to 2014, the Ohio public four-year universities improved outcomes in terms of average retention gains—markedly so in absolute value (6.3 percent) and relative to the nation and the region. In fact, every individual Ohio main campus university improved full-time fall cohort retention rates from 2012 to 2014.

However, Ohio public universities also became more selective as evidenced across multiple factors. From 2012 to 2014, for those institutions reporting results, admission rates decreased an average of 6 percent. Both the 25th and 75th percentile
weighted-average ACT composite scores increased by one point and remained higher than the average for the nation and the region. Meanwhile, the percentage of Pell Grant recipients in Ohio public universities decreased 13 percent from 2012 to 2014 and dropped below the weighted-average recipient percentages of institutions in the nation and the region. The enrollment of students of color also decreased 11.4 percent in absolute value as well as relative to the United States and the region, mostly on the basis of a drop in Black student enrollment.

While the universities were increasing selectivity, FTIC enrollment decreased from 2012 to 2014, both in absolute terms (1.5 percent) and relative to the nation and the region. With few exceptions, the individual Ohio main campus universities mirrored the overall Ohio trends. Together, these findings regarding the selectivity and enrollment changes from 2012 to 2014 suggest that the 2012 Ohio PBF policy has had a negative impact on access.

The findings also indicate that, from 2012 to 2014, student-to-faculty ratios improved slightly, as did appropriations per undergraduate FTSE in general, with just a few exceptions among the Ohio main campus universities. Although not direct quality measures, these data support the statement that education quality has not degraded in terms of faculty ratios or staff and resource support because of the 2012 Ohio PBF policy.

Finally, correlation analyses suggest that retention may have improved because of the increase in admission selectivity as much as any other factor and, importantly, that the policy has disproportionally supported less-selective institutions.
RQ3: Other important reflections of university leaders

Interviewing university leaders about the 2012 Ohio PBF policy represented an opportunity to gather insights beyond just those associated with the conceptual framework assumptions. This section summarizes a commonly perceived policy benefit and three policy consequences that were perceived as unintended. It also includes other important reflections on the 2012 Ohio PBF policy in general.

Policy as agency for change

One benefit of the policy that a third of the respondents mentioned was that it represented an instrument to effect change. Five respondents agreed that the policy represented “political cover” to help administrations make changes that were needed. “I certainly can tell you that the fact that the funding formulas built this way doesn’t hurt us when we make those arguments that we should be doing these things [such as intrusive advising],” noted one administrative leader (P14). Other study participants were more comfortable saying that the policy was a tool to explain how student success is connected to financial sustainability. Another administrative leader echoed this more nuanced view:

I do think [the policy] gives one more way to explain a benefit of doing this to people that are open to it but they just want it explained to them in a way that they can understand the benefits. It does make it easier to say that to them. (P22)

Some change is more difficult, of course. As a study participant pointed out, “It may be bad for some but, I think from an administrative standpoint, it will give them extra clout in going and eliminating programs that are low enrollment and possibly re-directing investments in other areas.” (P24)
Unintended consequences

The university leaders described in some detail what they viewed to be the negative unintended consequences of the policy.

Policy gaming and competition

Those interviewed made several comments about gaming the system and the increased competition among universities as a result of the policy. Increased competition may not be viewed as a negative factor by itself, but it does represent a shift in focus and possibly a diversion from the policy’s intended emphasis on student success. Policymakers recognized some of the potential for gaming, which resulted in policy modifications, as a university leader explained: “We saw we were incentivizing people to play some games with [the policy], and there are lots of ways that can happen. We didn't want to incentivize that, so some changes were made.” (P3)

Clarified another informant:

We could get somebody in there in the last semester of their senior year to transfer in and take one semester with us, and we get their graduation credits. Now there's a heavy-duty incentive to take to encourage transfer students. (P6)

Added another, “Then institutions start trying to game the formula and compete for these transfer credits.” (P29)

One-third of the study respondents mentioned increased competition—for both better students and transfer students—as a consequence of the policy. They also spoke of heightened internal competition, with one faculty leader saying that the policy incentives were “pitting faculty against faculty, colleges against each other.” (P25) In that case, the competition involved resource struggles between those who were representing two-year professional programs and those who were representing liberal arts degrees, which did not look as productive under the formula.
Policy complexity

Formula complexity was another policy consequence of note. A third of study participants commented in some manner about how difficult the formula model was to understand or that the formula model made it difficult to budget. A university finance leader voiced uncertainty about “what you can plan on. You cannot plan on a certain level of subsidy, and that’s because of this formula…the way it works, which is very complicated.” (P27) She went on to add:

We were doing layoffs because we had anticipated a much lower amount of subsidy. When the true numbers came out, then you had a disconnect between what you actually received and what you were telling the campus. That may not seem like a problem, but it was. The credibility of a lot of people was challenged as a result of that because it was that significant.

Both faculty and administrative leaders alike shared the concern over the formula complexity. A faculty leader elaborated:

When you're talking about this performance-based model, we don't have a good measure of what that number is going to be two years down the line, three years down the line, based on this year's freshman class, because that's not a guaranteed estimation we can make. (P10)

And an administrative leader added, “The issue in Ohio is, it's so complicated, the formula, that not even people like you, your colleagues, understand it let alone the faculty senate president.” (P22)

Reduced access

The impact on access was not a surprise to university leaders, but many respondents believed it was not an intended outcome of the policy. As a faculty leader stated, “I'm not sure the legislature intended for the response to be access is restricted.” (P11). He went on to say:

I doubt [the legislature] intended to cause universities to raise admissions standards. This...did have a probably unintended effect in that regard. For people in the university, you look at these incentives and you can pretty
much figure out right away that one rational response to these is to raise admissions standards.

Related to access, several leaders offered that the reduced matriculation of students of color and economically disadvantaged students was an unintended consequence, to the extent that the policy drove such an impact. In a comment about the inadequacy of the at-risk weighting in the policy formula, an administrative leader also pointed out that “they need to look at those risk factors and adjust. . . . I don't think these things were thought through. They actually thought they were helping institutions like ours.” (P25)

Other reflections

In the interviews, the university leaders addressed several other key aspects of the Ohio 2012 PBF policy.

*Does the policy address actual funding needs?*

One third of study participants expressed frustration regarding the lack of state support to adequately support higher education in general. There was consensus among them that higher education was not fully funded and that the state was not investing enough in higher education. Said one interviewee, “The truth of the matter is, we don't have enough new money to invest in order to do this right.” (P14) Yet many participants were quick to recognize that the frustration regarding state support was not a PBF policy issue *per se*. Instead, as one informant stated:

> It's the reality of what's happening in higher ed today. I wish the state would acknowledge that there is a huge population of potential students out there who need access to higher ed. I don't see the commitment. . . . This is where I need to be careful because it is a political issue, but I don't see the state putting the dollars into these institutions to help us be more successful or to help those students be more successful. (P27)

Still another respondent noted that the policy suffered from a structural flaw in that a university could improve results and yet lose funding because other
intuitions made even greater gains. He commented: "If I get better, I shouldn't get better at the expense of someone else." (P22) How this would manifest itself would depend on how the Ohio legislature funded higher education in any given year, of course. But as another university leader noted:

You can have a great metric or great formula that distributes the money in a way that truly is fair and equitable and really rewards the right things, but if you underfund the formula, you don't make any progress. The problem we've had is a formula that has been underfunded. (P3)

*Would participants recommend the policy for other states?*

The last question in the interview protocol was intended to provide the study participants an opportunity to sum up their perceptions of the 2012 Ohio PBF policy in terms of whether they would recommend 100 percent performance-based funding to other states. More than half were willing to recommend it to other states, albeit with suggestions to simplify and ensure appropriate at-risk weighting. One respondent captured this position of support for the policy by saying:

Whatever the amount ends up being, I think all states should have some funding tied to success, however you want to define that—whether it gets defined as a job, or going on to [an advanced degree], I would be happy with either of those. I do think there should be some tie in to successfully completing a program. I think it's irresponsible for us to get paid to just keep students here taking classes and never being successful. I really do feel that [an outcome] is appropriate. There should be something. (P15)

The majority of respondents said they believed that the policy was accomplishing the goal of focusing universities on student success. There was very little sense from any of the university leaders that they thought that the policy was forcing unwanted changes on their institution, even if they acknowledged the policy’s shortcomings and perceived some of the impacts as negative. There was very little sense of resistance to the policy. As one university leader said:
I guess I would say yes, I would [recommend it to other states] with a caveat, and that would be to provide some kind of support if you will, for those schools that have the kind of population we have. I would say yes, it is good, performance is important, outcome is important, but it's not the only thing that's important, but I think we've got to find a way, yes. (P27)

Only a few respondents said that other states should not adopt the policy. Of note, no faculty leaders were willing to recommend the policy to another state. Rather, they tended to suggest that it was too early to judge the benefit of the policy—although most of them did not want to call the policy a failure, nor were they interested in returning to enrollment-only funding.

**Integrated summary of key findings**

The investigation of the 2012 Ohio PBF policy through the observation of early performance results and collection of leadership perceptions has provided many findings. Key among them is that retention of full-time returning fall cohorts in Ohio public four-year universities increased markedly from 2012 to 2014, triple the percentage improvement in the nation and region. Of note, retention generally improved the most in the institutions with the lowest retention. Because increased retention is a proxy for course completions and a leading indicator for degree completions, the policy appears to be meeting objectives.

Many study participants who were aware of their institutional improvement identified student retention as a priority. According to those interviewed, the improvement in retention was based on a focus on student success, not the policy incentive to increase institutional revenue from state appropriations. However, most of the informants agreed that the policy provided some of the motivation for the renewed emphasis on student success through better awareness of completion goals and the de-emphasis of enrollment growth.
At the same time, most institutional leaders were also aware of and pushing for an increase in institutional selectivity. Study participants agreed that too many unprepared students had been admitted historically and that institutions needed to become more selective in order to ensure student success. Although many informants stated that the increased selectivity was in response to the policy, because maximizing enrollment was no longer the driving incentive, some participants clarified that their institution began increasing selectivity before the policy implementation as a strategy to focus on student success.

Increased selectivity in Ohio public universities was in fact observed after the policy implementation through lower admission rates and higher ACT scores. Indeed, despite the importance of enrollment revenue—and although enrollments at the Ohio main campus institutions fell, in general, from 2012 to 2014—all 13 Ohio main campus universities increased admissions standards or ACT scores, or both, from 2012 to 2015. Of note is that the improvement in student retention between 2012 and 2014 is moderately correlated with the increase in selectivity, as measured by admission rates. This relationship suggests that increased institutional selectivity may have caused as much of the improvement in retention as the focus on student success. One or more leaders of all eight of the Ohio main campus universities in the study acknowledged the increased selectivity in their institution and, as discovered in interviews, two universities were actively discussing a further increase in selectivity.

Of course, one drawback of increased selectivity is the risk of excluding underrepresented students. In that regard, there is evidence of a problem in Ohio public four-year universities from 2012 to 2014. For example, the percentage of full-time, first-time, undergraduates receiving Pell Grants during this period in Ohio public four-year universities decreased 13 percent compared to a decrease of 2
percent in the United States and the region. The percentage of undergraduate, degree-seeking, first-time Black students decreased substantially at the Ohio public four-year universities from 2012 to 2014 compared to the nation and the region, as did the percentage of undergraduate, degree-seeking, first-time Hispanic students and those of two or more races. Quite a few study participants were concerned about the potential impact of increased selectivity on underrepresented students and the lack of appropriate at-risk formula adjustments. However, regression analyses did not indicate any relationship between increased selectivity and the decreased enrollment of students of color or lower socioeconomic status across the Ohio main campuses during the 2012 to 2014 period.

Although a number of study participants voiced concern that increased selectivity could have had a disproportional impact on underrepresented students, other participants suggested that if any students were in fact being denied access because of increased selectivity, it was likely a better result for them because they were unlikely to graduate anyway. They suggested that those students should first develop their academic skills through an alternative pathway, such as a community college.

The most consistent theme regarding student success strategies (other than selecting better students to begin with) was clearly a push for more advising. In broad terms, the advising theme included success coaches, intrusive academic advising, tutoring, attendance tracking, and specific faculty engagement efforts.

Most university leaders acknowledged that the 2012 Ohio PBF policy caused their institution to bring attention to areas that needed to be addressed such as increased advising, but not all did. In several cases, study participants stated that the integration of the policy into institutional efforts was just a “happy coincidence.”
Regardless of the reason for the focus on student success, whether through a new awareness caused by the policy or an existing moral imperative, the additional attention to retention and student success activities at Ohio main campus universities would seem to suggest increased workloads. Yet, despite a few complaints of increased work, the study found no evidence of a systemic increase in student-to-faculty ratios or student-to-staff ratios from 2012 to 2014. Most study participants did not associate any change in workload with the 2012 Ohio PBF policy or perceive any impact in general on faculty research or service.

Nonetheless, according to the majority of study participants, faculty members were certainly aware of the 2012 Ohio PBF policy, at least in broad terms. Most of their awareness of the policy stemmed from the institutional focus on student success through the various strategies. Some of the awareness came from concerns about grade inflation. However, most of the study participants, including faculty leaders, thought it unlikely that faculty members would increase pass rates in order to obtain more institutional funding. It was understood that any inflation of grades would have a detrimental impact on the institution, ultimately, and would be of no personal benefit to the faculty member. On the administrative side, leaders were consistent in their focus on student success and opposed to creating a certain pass percentage. They believed the quality reputation of the institution was at stake, faculty members would not tolerate interference in grading, and it was the right thing to do for students.

Another finding of note involved state appropriation funding itself. Although Ohio does not support its public universities as well as the average state, appropriations per FTSE increased faster from 2012 to 2014 than the regional average. Clearly, the 2012 Ohio PBF policy has not caused a decrease in the average
state appropriations per FTSE. Only two Ohio main campus public universities saw a
decrease in SSI appropriations per undergraduate FTSE from 2012 to 2014. More
importantly, further analysis of undergraduate appropriations from 2012 to 2014
indicates that the 2012 Ohio PBF policy appears to have disproportionately supported
those institutions that have less-selective admissions. This analysis suggests that the
at-risk weighting in the policy formula is having some effect.

Other insights gathered through the interviews included:

- The policy allowed some leaders to sell needed changes by connecting
  improvements in student success to the concept of financial
  sustainability.
- Gaming the system, which often meant increased competition for the
  better students and for transfer students, was sometimes an issue.
- The policy was extremely complex, which impacted budgeting and
  managing.
- The state was not perceived to be funding higher education adequately
  and even if an institution did well, it could still lose money.

The respondents did not perceive the inadequacy of state funding as a particular PBF
policy issue. But they viewed increased competition and the formula’s complexity as
unintended consequences of the policy and therefore running counter to its
objectives.

Overall, the majority of study participants believed that the policy was
accomplishing the goal of focusing universities on student success. Although faculty
leaders were not ready to fully endorse the concept, most other study participants
said they would recommend 100 percent performance-based funding to other states.
CHAPTER 5: IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS

This chapter explores the implications of the key study findings with the intent to provide recommendations to policymakers and campus leaders. The purpose of this research was to investigate a 100 percent performance-based funding (PBF) model for higher education in order to identify the early impacts of such a policy on education outcomes, access, and quality.

Conceptual framework, revisited

Argyris and Schön’s (1996) theory of action and Mintzberg’s (1993) theory of professional bureaucracies appear to be relevant as part of the conceptual framework of this study. For example, the finding that university leaders wanted to “avoid enrolling underprepared students and found PBF a useful tool to increase selectivity] to achieve an existing priority is classic bureaucratic behavior” (P. Garland, personal communication, March 23, 2016). But even though access decreased, educational quality was not observed to be impacted. The funds for new initiatives that may have helped with retention might have been available based on increased appropriations per FTSE. The availability of these funds may have avoided the need to cut elsewhere as priorities shifted. This is an important observation for policymakers to consider.

Furthermore, the Argyris and Schön (1996) theory of action did not appear to work based on resource dependency. Outcomes (retention) did indeed improve but the incentive was the stated professional interest in student success, according to respondents, and not the policy’s financial incentive. This may also be an important distinction for policymakers to consider.
The conceptual framework provided useful assumptions against which to test observations but the assumptions proved only partially accurate. A more nuanced framework is required. Additional key implications of the study are presented below.

**Key implications: outcomes, access and education quality**

A central objective of PBF is to improve education outcomes, specifically to incentivize and then reward institutions for improved graduation rates and other measurable results. The 2012 Ohio PBF policy focused particularly on the outcomes of course and degree completions. This study found that retention rates, representing a proxy for completions, improved markedly in Ohio public universities after the policy was put in place—especially compared to those in the region and the rest of the country. This improvement in a leading indicator for graduation outcomes is remarkable to observe so early in the policy’s implementation. Although the improvement may be a short-term anomaly, the findings in this study that retention outcomes improved compared to national and regional results run counter to the findings in other studies, such as Sanford and Hunter (2011), which show very little or no improvement in retention outcomes under PF1.0 policies. This result suggests that a PBF policy based 100 percent on outcomes may be the necessary approach to create meaningful improvements in attainment across a state system.

Of course, the considerable improvement in fall retention rates might also be a result of institutions having higher course pass rates in response to financial incentives. But given the awareness of and concern for grade inflation and academic rigor among Ohio faculty members, as evidenced through the comments of the university leaders interviewed for this study, it seems unlikely that Ohio faculty systematically increased pass rates or reduced course requirements to improve retention across the state. It is more probable instead, as revealed though the study
interviews, that one of the policy impacts was an improvement in retention due, at least in part, to a renewed emphasis on student success—a finding that contradicts that of Lahr et al. (2014) about reduced education quality through grade inflation or the lowering of academic standards.

However, one of the critical challenges of PBF is that it can reward behavior that undermines the historic access mission of public higher education—that by stressing graduation outcomes, institutions will behave in ways that increase their selectivity (Lahr et al., 2014). The increased selectivity of various Ohio universities—as determined for this study by admissions rates, ACT scores and enrollments—reinforces the findings of previous studies. The data show that access was markedly different after the implementation of the policy, indicating that Ohio universities became more selective as a result. Interestingly, the interview findings indicate that university leaders strongly favored more selective access. The desire to increase selectivity was evident among university leaders despite falling enrollments in eight of the 13 institutions from 2012 to 2014.

It is important to note that the increased retention rates were found to moderately correlate with increased admission rates after the policy’s implementation. This correlation suggests that some of the improvement in retention was based on increased selectivity and not just the focus on student success.

Study participants indicated that the intent to improve student success, not the desire for appropriation increases, drove the move to increased selectivity. Whether improved retention was based on a renewed focus on student success or an increase in selectivity to get better students or both, the 2012 Ohio PBF policy would seem to be at least indirectly responsible. The policy allowed the institutions’ focus to
shift from enrolling more students to helping more students to stay enrolled and complete courses.

The strong preference among respondents, including faculty leaders, for increased selectivity was a surprise, given the historic access mission of public universities and the recognized need for more graduates. But, if the early retention results in Ohio correctly indicate that attainment rates will increase, then accepting fewer students might lead to more students graduating.

Furthermore, the bias for increased selectivity found in this study may indicate that the access mission has its limits. The access mission was developed with the Morrill Acts of 1862 and 1890 when very few attended colleges. Additional support for broad access developed through the GI Bill when only 15 percent of the population attended college. At today’s 60 percent attendance rate, the access mission may not be sacred (Burke, 2005). As echoed by several study respondents, not everyone should go to college, and the enrollment-driven model may even be unethical if it is overselling the opportunity.

On the other hand, an important concern associated with increased selectivity is that it can negatively affect students of color and students of lower socioeconomic backgrounds (Carnevale and Strohl, 2013; Blumenstyk, 2014; Mortenson, 2015). However, even though it is clear that the percentage of Pell Grant students and students of color decreased after the policy’s implementation, no relationship between the change in selectivity and the change in Pell Grant recipients or enrollment of FTIC by race/ethnicity was evident in Ohio from 2012 to 2014.

In fact, although some leaders perceive the at-risk weighting to be inadequate, the positive correlation of less-selective admission institutions with a larger percentage increase in undergraduate appropriations per FTSE after the 2012
policy implementation suggests that the policy formula moved appropriations towards support of at-risk students. Instead of the PBF formula only rewarding those institutions that already had strong students, there was a balancing effect for those institutions that were less selective. “Less selective” would typically mean more at-risk students and, although the at-risk categories included more than just students of color and those from lower socioeconomic backgrounds, the policy’s impact was slightly positive for the less-selective institutions. In other words, it worked as intended to counter at least some level of class-based inequality. The finding contradicts concerns in the literature regarding increased selectivity in PBF policies (Dougherty & Reddy, 2013; Lahr et al., 2014).

Qualitative PBF studies have also reported negative impacts on faculty members and education quality in general, as well, noted as concerns about increased workloads, less emphasis on research, and grade inflation (Dougherty & Reddy, 2013; Lahr et al., 2014; Priest & Boon, 2006). This study found no meaningful evidence of a decrease in education quality in either student-to-faculty ratios or in the interview findings. A large majority of faculty leaders did not perceive an impact on research and service commitments, workloads, or grade inflation.

As evidence of continued education quality, Ohio appropriations per FTSE have increased meaningfully since the implementation of the 2012 policy under a Republican governor. The implication is that PBF policy can be implemented without a direct appropriation impact, though it should be noted that Ohio was below the national average for appropriations per FTSE as of 2014. Although this implication, like all of the implications noted here, may not be generalizable to other states, concern for appropriation reductions noted in studies by McLendon and Hearn (2013) and Dougherty et al. (2011) are contradicted by the findings in this study.
Indeed, the emphasis on advising, which most study respondents viewed as the primary policy impact (other than increased selectivity) reflects a form of increased quality. If better student advising supports improved retention, as it appears to do under the 100 percent Ohio PBF policy, it would counter concerns in the literature that education quality is impacted under PBF policies or that such policies cannot lead to substantive change (Jenkins & Rodriguez, 2013).

**Leaders’ views: competition, awareness, funding adequacy**

Three additional implications are worth mentioning. First, a number of study participants commented about the growing competition for better students and transfer students. Trying to game the system is consistent with findings in the literature (Dougherty & Reddy, 2013) but its extension to competition for the best students is surely an unintended consequence of PBF—one that possibly diverts intuitional attention from the main student body. Several respondents observed increased competition after the policy implementation, which suggests that the competition will spread, unless controlled, as institutions attempt to at least preserve their formula funding against the other institutions.

Second, faculty leaders in the study were knowledgeable about the policy change and its implications, and they suggested that most faculty were aware of the policy, as well. That contrasts with the findings about faculty awareness under PF1.0 policies reported in the literature (Dougherty & Reddy, 2013). In addition, although the faculty leaders held certain reservations about the 2012 Ohio PBF policy, as a group they were not particularly negative about it. It would appear that the Ohio approach of funding 100 percent of undergraduate appropriations based on outcomes created enough awareness and buy-in to counter institutional resistance or complacency that other researchers have reported (Dougherty et al., 2014). Some of
that reported resistance was based on concern for abandoning the historical access mission (Jenkins & Rodriguez, 2013), which was notably absent in Ohio faculty leaders. The general sense among those interviewed was that the externally imposed policy was consistent with their own internally derived goals—increased student success and higher graduation rates. The study found little evidence of critical faculty concerns about PBF other than the at-risk weighting mentioned above.

Third, many university leaders in the study noted that it does not matter what formula policy is used to allocate funds if the state is not funding higher education adequately to begin with. This position is supported by Jones (2014), a major proponent of PBF, who suggested that, “Ways can be found to mitigate these costs [to reach attainment goals], but success will be impossible without additional state investments” (p12).

**Recommendations for policymakers**

The study offers nine recommendations for policymakers and university leaders. *First, states may want to increase the incentive in their PBF efforts to a much higher level than currently exists, such as 100 percent.* For states that prize completion over access, such incentive seems to promote that objective. Ohio institutions are making retention gains by focusing on student success rather than filling seats, without much evident downside other than access. That was made possible by removing the state incentive to increase enrollment and replacing it with a state incentive to improve the number of student completions. Enrollment growth is still important to institutions when more than half of total revenue is from tuition, but at least with a 100 percent PBF policy, the enrollment pressure is balanced against the completion incentive. Furthermore, a number of rigorous studies support dropping the low-incentive PBF policy approach based on its zero or near zero impact.
on graduation rates (Hillman, Tandberg & Gross, 2014; Sanford & Hunter, 2011; Rutherford & Rabovsky, 2014; Rabovsky, 2012; Shin, 2010).

Second, to not disproportionately and negatively affect certain groups of students, states that pursue 100 percent PBF should develop robust at-risk weighting to support first-generation and low-income students, as well as students of color. Appropriate at-risk weighting represents the additional investment needed to ensure that these students complete their degrees. Becoming more selective does not mean that institutions must become more exclusive. Scholars suggest that many capable students of color and students of lower socioeconomic status are simply not given the appropriate opportunity to succeed in higher education (Carnevale & Strohl, 2013). At-risk student support is a moral imperative for the country based on our foundational principles as well as a requirement for economic success in the 21st century given the changing demographics of the country and the need to increase attainment levels across underrepresented student groups (Bowen, Chingos & McPherson, 2009; St. John, 2005).

Third, state policymakers should ensure that the funding formula accounts for the distinct mission of each institution affected by the policy. Not all institutions can be highly selective, and less-selective institutions (e.g., those accepting students with lower ACT scores) should not be penalized for their missions. Highly capable students will succeed regardless of obstacles, but national attainment levels of 60 percent will not be achieved through highly capable students alone. Therefore, those institutions educating less capable students need to be resourced appropriately to avoid education quality problems and to support student degree completion (Zumeta, 2005). The Ohio formula does not appear to support this level of mission
specificity, which may partly account for the shift away from open-access and the increase in selectivity observed across the public main campus universities.

**Fourth, policymakers should involve university leaders in the creation of the policy.** Governor John Kasich’s approach through the Ohio Higher Education Funding Commission evidently generated significant buy-in from the start, as reported by the study’s informants. Getting such buy-in ensures that the university leaders have a stake in the outcome and that the policy is shaped to address the distinct higher education culture of the state.

**Fifth, policymakers and university leaders must be flexible and adapt as needed to improve the policy and counter any gaming.** Gaming the system to ensure resources while not producing the actual desired results may be inevitable under any policy, especially as environments become more competitive. Under PBF policies, rules regarding who gets credit for course and degree completions are needed, for example, as high school and transfer students’ movements through institutions become more complex. Rules must be perceived as fair—and modified when they are not, as in the case of Ohio. For instance, policymakers might consider the consequence of awarding degree credit for associate degrees if they don’t want all four-year universities suddenly awarding associate degrees, as was started in Ohio before the rule was quickly modified.

**Sixth, policymakers should find ways to limit competition or remove competitive disincentives from the policy if it decreases collaboration between institutions and diverts attention away from student success.** The Ohio policy intensified competition between institutions, according to respondents. Limiting competition could be accomplished by capping the funding for each institution based on agreed to performance targets. This would also avoid the scenario where an
institution has successfully achieved all its goals and yet loses funding because other institutions have achieved even more.

*Seventh, the policy objectives and its mechanics should be kept as simple as possible.* It seems that having not only university administrators but faculty understand the policy objectives and its formula mechanics is important for acceptance. Faculty leaders in the study hesitated to fully accept the policy and its acknowledged complexity would certainly make acceptance a challenge. One of the study respondents indicated that the most recent Tennessee model was superior and much preferred to Ohio’s policy in part because of its simplicity. Any policy that is universally considered too complex for anyone to understand will struggle for acceptance. Keeping it simple might involve education and communication as much as any change to the formula mechanics, to improve policy transparency.

*Eighth, the policy should focus squarely on student success.* The message from study participants was clear and consistent across institutions and roles. It had nothing to do with improving financial results and everything to do with helping students succeed. Whether this was a result of remarkable university leadership or it was created purposely through related policy discussions is beyond the scope of this study. But the result was an engaging message that resonated with the general mission of universities: to better students and society through education.

*Ninth, use validated, evidence-based research in policy development.* Scholars suggest that ideology has in some ways dominated PBF policy making, rather than research (St. John & Parsons, 2005), which likely adds to faculty skepticism of policy changes, as suggested by a study respondent. Ideologically driven policy making may also lead to the expensive replication of policies that offer little in the way of improvement.
Recommendations for campus leaders

Despite some of the negative responses to PBF by faculty members and administrators as described in various studies, this study suggests that PBF is potentially a positive development if aligned with institutional values such as student success. Barr and Tagg (1995) suggested, 20 years ago, that “any system of intuitional incentives based on outcomes would lead to greater learning than any system of incentives based on inputs” (p. 18). Although they were speaking from a pedagogical point of view, they may have been more right than they originally intended. To further the point, learning should be the objective of any university system, and as long as that learning objective is primary, campus leaders should be open to different allocation and funding mechanisms, even performance-based funding.

To improve the PBF approach, another recommendation to campus leaders is to protect education quality and to develop new assessment measures that better demonstrate learning outcomes. Certainly, at-risk students need appropriate support, as do the distinct missions of various universities, as mentioned above. But it also evident that finding a way to measure the value-add of educational efforts—beyond the purely economic—will become increasingly important if PBF policies increasingly emphasize outcomes.

Because engaged faculty members are vital to the success of a learning environment, they must understand any policy that will impact learning outcomes. No policy is perfect, so trade-offs should be understood and discussed. Faculty members should ensure that, when it comes to student success, the external objectives are consistent with the internal mission.
Finally, university leaders should consider the possibility that access for all may imply mediocrity for all. On the surface this seems counter to the democratic values of higher education grounded in broad access. But broad access does not need to be defined as “all” and those values of broad access were asserted when only a fraction of the population attempted higher education, not the majority that does today. Exclusivity through certain group limitations must not be allowed but, along with appropriate support for at-risk students and unique missions, a focus on students of potential may be needed to ensure that more students are completing their degrees given limited state resources and the neoliberal agenda that currently drives national and state policy.

An increased focus on students of potential may mean that students who are unprepared for the university level of study or completely uncertain about their intentions should start in a community college program that can better address their remedial or exploratory needs. Such selectivity, if PBF is successful in Ohio as early indications suggest, will enable more students to graduate and attainment rates to improve. For example, if freshman enrollments are held at current levels but retention increases for every cohort, then overall enrollment will grow and the institution is more likely to achieve the ultimate goal of increasing attainment rates and supporting student success. Because increasing upper level classes may not represent a cost to the institution—increasing a class size from 14 to 16, for example—the university may be able to lower the degree cost per graduate, as well.

Recommendations for future research

There are many opportunities for future research including, of course, additional studies on the Ohio policy as it matures. Those studies should include a more rigorous investigation of the impact on graduation results in 2018, which will
represent the sixth year since the policy began, conducted through a difference-in-difference regression analysis as demonstrated by Hillman, Tandberg and Gross (2014). This type of analysis would be important to quantify the Ohio results and validate improvement in retention and graduation rates caused by the 2012 PBF policy.

Additional studies that isolate the particular change driving the recent Ohio retention gains are also needed to better understand the impact of selectivity and advising. In that same vein, a broad survey of faculty and staff might reveal more specific trends or concerns related to the 2012 PBF policy.

A comparison of the Tennessee and Ohio models would be a worthy study, given the similarity of emphasis on outcomes and the difference in apparent policy complexity. One could test for differences in faculty engagement, retention, and selectivity.

Most importantly, the drop in the percentage of Pell Grant recipients and students of color in Ohio during 2012 to 2014 should be studied in order to determine the cause and solution. Otherwise, the policy itself is suspect and its legitimacy undermined.

**Conclusion**

This study was the first that looked specifically at early outcomes along with access and education quality impacts of a 100 percent PBF policy through both qualitative and quantitative data. PBF is becoming the favored strategy of policymakers seeking to increase graduation outcomes and other improvements. At the same time, researchers are increasingly criticizing early PBF policies with low appropriation percentages because outcome improvements are lacking and unintended consequences abound.
There is certainly general agreement in the literature that higher education outcomes must improve. And, as noted by Zumeta, Breneman, Callan, and Finney (2012), finance is a means to other ends, not an end in itself. Thus, it is reasonable to adjust financial policies as social needs and goals change—to improve outcomes, for example. Because too many students are not completing college, changing policy to incentivize outcomes is reasonable, all else being equal. Because it is also apparent that many students are not prepared for college—even dedicated faculty members are saying that universities are admitting too many unqualified students—then, even at the expense of broader access, changing policy to incentivize outcomes seems reasonable as long as class-based inequality is addressed.

This study demonstrates that for Ohio’s 100 percent PBF policy, there is some convergence of policy and best practice as outcomes improved. Negative consequences, other than increased selectivity, appear minimal. For those institutions already engaged in best practices, the policy may not be necessary. But to paraphrase Rothstein (2008), the benefits of a 100 percent PBF policy to make systemic change across a state’s public higher education system may be worth the variety of risks that such a change engenders. If at-risk students are supported so that class-based inequality is reduced, and if we understand as a society that we are potentially changing that “foundational principle of higher education” based on the “opportunity for all students to attend public higher education in their state” (Bastedo & Gumport, 2003, p. 341), then Ohio is leading the way with the 2012 performance-based funding policy.
APPENDIX 1: INTERVIEW PROTOCOL

Start with a reminder of the interview purpose, a thank you for helping with the research, and a check on time availability. Request permission to record the call or conversation, discuss the respondent’s need for confidentiality, and get the IRB consent form signed. Use the following questions to direct the semi-structured interview protocol:

1. What is your reaction to the 2012 performance-based funding (PBF) policy in Ohio, in general? Is the policy achieving the intended goals?
2. How has the university response to the policy impacted your faculty, if at all, in terms of service, teaching, research, and faculty culture, for example?
3. Are faculty fully aware of the policy? And if so, accepting of the policy?
4. What investments have been made, if any, because of the policy that would not have been made otherwise to support policy implementation (e.g., an Outcomes Management Office)?
5. What discussions have occurred regarding education quality, given the PBF policy emphasis on course completion and the obvious incentive to increase pass rates?
6. Have there been any surprises based on the implementation of this policy? What, if any, unintended consequences have you experienced?
7. How has the 2012 Ohio PBF policy affected university enrollment, if at all?
8. How has access been affected by the change to 100 percent PBF, if at all? How well is the PBF policy formula for risk-weighting supporting at-risk students?
9. How has the university response to PBF policy improved the ability of faculty to directly support student success that would not have happened but for this policy?
10. Does the policy essentially provide “political cover” for leadership to push for needed institutional changes?
11. So, in the final analysis, how would you judge the policy? Should other states adopt this type of 100 percent performance-based policy?
12. Thank you so much for your time – do you have any suggestions or ideas for me to further this research?
APPENDIX 2: A SAMPLE SET OF MEMBER CHECK SUMMARIES

The data below have been de-identified to ensure the anonymity of those study respondents who requested that their responses be kept confidential. Changes made through member checks are in noted red ink or yellow highlight.

1. You started with a very key point in that any singularly focused funding scheme is going to have a perverse incentive. In particular, an enrollment only mechanism may result in a decrease in the average level of preparation and likelihood of success, all else being equal.

2. A response by the University to the 2012 PBF policy has been to increase selectivity in admissions (slightly, from an almost open access position).

3. Although the new PBF policy could incent faculty to lower standards (to increase pass rates), faculty tend to operate very independently and have professional norms – essentially a cultural anchor – which slows change and mitigates any policy impact.

4. Nonetheless, departments are aware of the new incentives and becoming more thoughtful about actions with regard to the policy.

5. The policy might be reducing the emphasis on research, partly through the hiring of non-tenure track faculty and other support personnel who are only focused on teaching and student success. Service expectations of tenure-track faculty are not changing.

6. In general terms, faculty agree that education quality (rigor) remains important and that standards have not been lowered in response to PBF, and the faculty have not felt pressure from the Administration to lower standards, although there would be great concern and resistance if there were such pressure.

7. In fact, the policy converges the economic incentive with the goal to increase the quality of the student experience and minimize the student failure rate.

8. However, a potential risk to quality is the increase in part-time or adjunct faculty.

9. Judging success is complex: if pass and grad rates increase while incoming student prep stays the same, it could be based on increased effort and activities focused on student success or it could be a result of lower pass standards [education quality being hard to measure]. The HLC-mandated assessment program could help to sort this out.
10. A possible unintended consequence, from the legislative perspective, is the move by universities to a more restricted access.

11. The increase in admissions standards at the University may have had a disproportionate impact on the enrollment of students of color.

12. Although any direct impact on minority students was not intended, raising admissions standards has been considered by many the right thing to do; the policy allows that change to be agreed to by the board.

13. From a social equity perspective, not admitting students who have little chance to succeed may be a better practice in that those students are potentially moved through a more appropriate pathway (in terms of cost and support).

14. There is not a specific concern regarding the current PBF metrics (of completion and graduation) other than some who might fear the potential long term de-emphasis of the liberal arts. There is no talk about the addition of metrics such as graduates’ salaries or employment though, if there was, that would be a concern.

15. There appear to be some direct changes as a result of the policy, such as success coaches and new support services, though it is too early to tell if these changes will result in better pass rates or more graduates.

16. Current PBF policy problems include dealing with credit for (partial) completion by students who transfer out and complete their degree elsewhere.

17. You would not recommend the current PBF policy to other states (based in part on the need for more years of results), but nor would you want to return to the enrollment only approach because of the challenge that enrollment only model created in terms of a quality college experience, though an enrollment only model could be made to work if focused on quality.

18. Indeed, the current PBF policy balances the tuition enrollment incentive that already exists, which may be a good thing.

19. But the fundamental challenge of lower state support remains, regardless of the formula for allocating funds among public universities.

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1. You started by saying it is too early to judge policy success, but that the university is certainly more focused on student success because of the policy (taken the focus to a new level).
2. You acknowledged that there were many changes being made at once in the policy (moving average, at-risk weighting, and 100 percent PBF) and that together it represented an abrupt change.

3. There are also other changes, not related to the policy, but based on unionized faculty and drops in enrollment, that some may confuse as policy impacts.

4. You are concerned about the policy impact on students who might come from less strong schools - that the policy will naturally focus enrollment efforts on students who are more academically prepared and possibly leave some behind who could otherwise do well with appropriate support.

5. Although the new PBF policy could appear to incent administration to push faculty to lower standards (to increase pass rates), that is definitely not the intention (and it is difficult to see faculty doing so based on their independence).

6. However, a harder look at DFW rates makes sense from an instructional quality perspective (both tails) and the policy may in fact result in quality improvements from that standpoint.

7. An additional response has been to invest in an AVP for Student Success and ramp up the advising function (staff and technology) as well as to link student life and academic affairs to ensure student success.

8. Regardless of the focus on teaching and student success, there is no lessening of research and service expectations from faculty.

9. And access and selectivity are not changing at this university currently as a result of the policy.

10. It is too early to recommend the current PBF policy to other states (based in part on lack of data), but nor are you saying it is failing.

11. You admit to a concern regarding the long term policy incentives (away from a holistic, life-long view of student success).

12. But the largest concern is probably the overall reduction in state support.

1. You believe that the policy is not affecting rigor in terms of pressure by faculty to increase pass rates.
2. The policy might have a long term impact on degree choices, which could be a concern for the non-STEM fields [and a larger concern regardless, depending on your faith in central planning].

3. However, the policy impact is mitigated to some extent by the small amount of state support received by the university.

4. Retention has increased as a direct result of renewed focus on graduation in response to the PBF policy.

5. There have been changes made on the basis of the policy that would not likely have been done otherwise (e.g., more advising).

6. However, the university has also responded to the 2012 PBF policy by increasing selectivity in admissions (and focusing on transfers).

7. Regardless, this selectivity might be better for weaker students, helping them find the right path and support (at less cost) if not quite prepared for university work.

8. As a conjecture, the policy might be reducing the emphasis on research for faculty in general.

9. Service expectations of faculty are not changing and, in fact, the policy creates extra time pressure on faculty for results on the basis of the need to focus on student success issues.

10. The formula behind the policy is complex and very few faculty really understand it.

11. The risk-weighting of the new policy is a concern, and (as conjecture) it may negatively impact students with lower socio-economic backgrounds, minority students, first time in college.

12. But you have not noted surprises or unintended consequences based on the policy – administration has been proactive.

13. You would not recommend the current PBF policy to other states (based on part because it is too early to evaluate results), but nor would you say the policy itself should be eliminated. (The evaluation of the policy is complicated by college credit plus and general state support reductions, which are not directly policy related.)

14. The policy is definitely changing behavior – faculty are aware of it – and the renewed focus on course completions and advising is a good outcome.
1. You believe that the Ohio PBF policy is the right approach and that other states should adopt such a policy.
2. The policy encourages articulation agreements for transfer students.
3. The policy also increases competition for the “best” at-risk students, making it harder for the university, possibly an unintended consequence of the policy.
4. In addition, through forums and meetings, your faculty are very aware of the policy and connecting their performance to outcomes.
5. This new policy awareness is helping to shape faculty behaviors to improve student outcomes and represents changes that would not have happened without the policy incentive.
6. These changes represent increased expectations of faculty as they integrate service, engagement and research into the student experience.
7. Regardless of the formula, education quality remains a priority among faculty and there is no value for them to increase pass rates just because the institution does better financially.
8. And the formula risk-weighting for at-risk students is considered fair.
9. The policy has also encouraged the university to require freshman to live-on campus and to focus on graduating students in 4 years, among other changes.
10. The state is working very collaboratively to make the policy better every year.

1. You made the very important point that the PBF policy might simply be rewarding those schools that already accept the better prepared student and therefore may not be helping to improve overall student success across the state.
2. You acknowledged that admission standards have been increased at The University, but because of the desire to make sure that you were taking care of students appropriately (not admitting students who were unprepared and unlikely to succeed) as much as for any change in PBF policy.
3. You have no concerns at this point regarding the PBF policy impact on faculty behaviors in terms of research and engagement and service commitments.
4. Faculty are aware of the policy.
5. And aware of the perverse incentive to increase pass rates (for the benefit of institutional funding), but there is no evidence of pressure to change grading schemes. Nonetheless, the possibility of grade inflation registers as a concern among faculty.
6. There have been no observed unintended consequences or surprises as a result of the policy.
7. There are many initiatives (through NCATE and TEAP-C, for example) to improve student outcomes that are just part of what faculty do to improve student success that may coincide with the PBF policy objectives, but it is hard to say the policy is causative.
8. It is a complicated formula model that few understand.
9. And as such the at-risk weighting is not well understood nor does it seem to be as helpful as it should be for supporting the at-risk students.
10. In addition, the drift to a vocational emphasis or the social engineering aspects in the PBF policy are concerning to many faculty (given the focus on certain degrees).
11. It is too early to judge the success of the PBF policy or to recommend its adoption elsewhere, but you believe that the policy itself is not (has not been) necessary to create better results at The University.
12. The economic pressures resulting from PBF seem likely to affect most those institutions that are less selective and that serve large numbers of students who are less prepared-academically as well as disadvantaged socio-economically. As these institutions feel economic pressures from PBF at the same time they are facing mandates and pressure to reduce costs, reducing access to higher education could well be an unintended result.

1. You believe that the Ohio PBF policy is the right approach from the business model perspective.
2. However, you are concerned about the at-risk students and the lack of support for them in the policy, as well as the definition of ‘at-risk’ itself.
3. There are no particularly negative impacts on your faculty based on the policy.
4. However, there are other drivers beside PBF impacting changes on your campus – for example, analyzing performance of remedial programs and eliminating them as not a best practice, dropping open enrollment, all of which are improving the university and student success.

5. As such, you and your faculty are focused on student success regardless of the PBF policy.

6. Nonetheless, the policy complements your efforts and through forums and meetings, your faculty are aware of the policy and connecting it with the “mission driven essentials” to become a “stellar university.”

7. Regardless of the formula, education quality remains a priority among faculty and there is no value for them to increase pass rates just because the institution does better financially.

8. The policy has encouraged the university to change some policies though, particularly around freshman orientation and financial literacy classes.

9. You also would say that regardless of PBF policy and the allocation method, the fact remains that the state is not addressing actual funding needs for education adequately.

1. You made the very important point that the University is very focused on student success and has been even before the PBF policy started.

2. You provided examples of faculty and administration working together to improve retention and graduation rates, such as the enrollment management working group, which would have happened regardless of the PBF policy.

3. You pointed out the challenge within the formula of getting full credit for some of the student transfers that occur.

4. You voiced the concern, unfounded today, that in the long term PBF could have negative impacts through the difficulty of competing for students to keep the numbers up for good formula results.

5. Of more concern today, the formula model makes it difficult to project budgets.

6. But you have no concerns regarding the PBF policy impact on faculty behaviors in terms of research and engagement; in fact, you see teaching and other faculty activities as mutually reinforcing (as framed by the Carnegie ‘engaged university’ classification).
7. The PBF policy happens to support current University student success efforts – a happy coincidence.

8. And although the new PBF policy could appear to incent administration to push faculty to lower standards (to increase pass rates), faculty are definitely not going to do that as it would ultimately hurt students as well as the school reputation.

9. However, one possible impact of the PBF policy is that more students may be advised towards a different path that is more suitable for their level of preparedness (community college).

10. It is too early to judge the success of the PBF policy or to recommend its adoption elsewhere, but you believe that the policy itself is not (has not been) necessary to create better results at the University.

1. You pointed out that faculty were a bit apprehensive about the PBF policy resulting in grade inflation initially, but that any such concerns have not materialized and that teaching quality remains a priority, and is not impacted by the policy.

2. You indicated that the university gradually become more selective, starting before the PBF policy implementation, which has resulted in stronger student qualifications in general, and graduation rates have improved, but not necessarily because of the policy.

3. You have not seen any change in faculty service commitments or research as a result of a greater teaching focus.

4. However, you suggested that there may be a greater reliance on (less expensive) adjuncts as a result of funding initiatives related to improving student success, such as the center for teaching excellence and intrusive advising.

5. You also stated that the recent heavy investments in advising would probably not have happened but for the PBF policy.

6. In addition to the PBF policy though, you noted other impacts to higher education in Ohio, such as the 13 percent appropriations cut in 2012 and tuition freezes currently that can make understanding the PBF policy impact rather difficult.
7. Regardless of the policy, a key element is whether or not the state funds higher education appropriately (or even at the same level); the policy is an allocation model not really a funding model per se.

8. You also noted that the at-risk weighting was a concern for the university (and other universities) and may still be a concern (that is, inadequate) even as it continues to evolve.

9. The formula is complex (not user friendly) and more so because it essentially pays 'after the fact' – Ohio has probably created a formula that is too complex.

10. You believe that the PBF policy can adversely affect access, though the university has already moved in that direction prior to the new policy.

11. More specifically, the incentive is to become more selective under the policy and, if not careful, this will impact the mission of a public university.

12. Tenured faculty (and tenure track) are definitely aware of the policy and more serious about addressing student success because of the policy, using technology to stay better in touch with student progress, for example, and degree maps in partnership with advisors.

13. You would agree that the policy is in some ways political cover for the administration to change faculty behavior even more towards a model of focusing on student success.

14. You would also say that the governor, in implementing this policy, was responding to negative public perceptions about higher education and needing to make a change to address student debt and efficiency as well as improved student results.

15. And you would agree that, on balance, other states should consider adopting the PBF policy because it does keep institutions focused on the marketplace, on employer needs, on student success, despite the drawbacks.

1. You indicate that performance-based funding (PBF) has had the impact of increasing competition among Ohio schools.

2. But there are no concerns regarding faculty impacts (in terms of workload for example).

3. And the faculty and institution are committed to student success regardless of policy, such as addressing DFW rates as a best practice.
4. Faculty are aware of the policy in general.
5. But, regardless of the formula incentives, education quality remains a priority among faculty and they have no benefit or intent to increase pass rates just because the institution does better financially.
6. The formula is complicated and difficult for most to understand.
7. However, regardless of allocation method, the fact remains that the state is not addressing actual funding needs for education adequately.
8. The impact of the policy may be overshadowed to some extent by RCM but, even so, the policy provides another way of explaining the benefits of certain behaviors and actions where policy and best practice are working in concert.
9. Selectivity is increasing, both because of the policy (to remain competitive) and to improve branding.
10. You expressed some concern about the at-risk formula adequacy.
11. But there are no obvious unintended consequences based on the policy.
12. And in general, the Ohio PBF policy is the right approach (though maybe too complicated compared to TN) and states might benefit from its adoption (if more like TN), particularly from the standpoint of the moral duty to increase student success and have the financial formula reflect that emphasis.

1. You indicate that performance-based funding (PBF) might be a part of the solution and is probably the right approach but it depends on the objective.
2. Indeed, you are concerned about the at-risk students and the lack of support for them in the policy.
3. In addition, you see greater student selectivity as a natural result of PBF.
4. However, you also see a benefit in the focus on the 2-year degree through the policy.
5. You also see benefits in additional pathways advising, early or intrusive advising on the basis of the policy.
6. There are no particularly negative impacts on your faculty on the basis of the policy.
7. Faculty are aware of the policy.
8. Faculty are focused on student success regardless of the PBF policy.
9. Although, you note that there are other drivers beside PBF having a large impact on your campus, such as RCM.
10. Regardless of the formula, education quality remains a priority among faculty and there is no value for them to increase pass rates just because the institution does better financially.
11. There are no obvious unintended consequences based on the policy.
12. You also would say that regardless of PBF policy and the allocation method, the fact remains that the state is not addressing actual funding needs for education adequately.

1. Faculty are very aware of the performance-based funding (PBF) policy
2. This new policy awareness is helping to shape faculty and institutional behaviors (such as intrusive advising and advising beyond the freshman level) to try to improve student outcomes and represents changes that would not have happened without the policy incentive.
3. However, faculty are focused on student success regardless of policy.
4. There is awareness of policy incentives that could impact quality but there is no pressure to inflate grades and no real concern about such.
5. You might identify the explosion of administrators as an unintended consequence of the policy.
6. The corollary is that faculty see less support, fewer tenure lines as a consequence of the policy focus.
7. You have also heard from other faculty (notably full-time non-tenure-track faculty) that they get chided for too many DWF grades as it is problematic with the PBF policy. If that is true, then the policy may be having unintended consequences.
8. In addition, there are expectations for faculty do more for our students in order to help them succeed, which means that students do less for themselves.
9. At-risk students might be better advised as a result of the policy (to seek alternate, more appropriate pathways).
10. Regardless, it is too early to judge the value of the Ohio PBF policy. Though it may not be a disaster, the challenges around higher education are more nuanced
than the policy allows (given the simplistic focus on job training and graduating more students).

1. You are concerned about the Ohio performance-based policy in general, based on its ideological grounding.
2. Specifically, you are concerned about the potential pressure on faculty to increase pass rates.
3. The University may be in a unique situation given falling enrollments that makes it more complicated to assess the value of any policy change.
4. There have been changes made though, based on the policy, that would not likely have been done otherwise (e.g., more advising).
5. Furthermore, the University is also considering what it means to be open-access and looking for ways to increase selectivity in admissions because of the policy.
6. The policy itself is not, however, having a particular impact on faculty in general.
7. The formula behind the policy is complex.
8. But faculty are generally very aware of the new policy and its focus on graduation rates and course completions.
9. The risk-weighting of the new policy is a concern at it pertains to certain classes of students.
10. You have not noted surprises or unintended consequences on the basis of the policy itself.
11. However, given the bluntness of the policy tool and the tendency for institutions to game the system, the policy may not be appropriate for The University.
12. You would not recommend the current PBF policy to other states.

1. You indicate that the university faces particular challenges in being open-access in the face of the PBF policy and the elimination of line item support.
2. In particular, you have concerns regarding the adequacy of the at-risk formula approach as it pertains to the lower socio-economic status students you serve.
3. Nonetheless, there are positive aspects of the policy in how it is driving focus on student success, intrusive advising, KPIs.

4. Faculty are aware of the policy in general.

5. And regardless of the formula incentives, education quality remains a priority among faculty and there is no concern that faculty would increase pass rates just because the institution does better financially.

6. There could be concern regarding the incentives and competition in specific areas such as distance education.

7. However, financial planning is definitely more difficult and the formula is very complex.

8. There are no concerns regarding direct faculty impacts (e.g., workloads).

9. There may be unintended consequences in terms of costs that the formula is not recognizing in the need to address less prepared students.

10. So, in fact, the university may need to increase selectivity in response to the policy and you are in process of adjusting the university mission as well. This represents a moral issue and a concern because it doesn't necessarily work just to have less prepared students go to CC first.

11. In some ways, the policy is helping to push forward needed changes in academic and student support programs and by redirecting funds, from an administrative point of view.

12. Regardless of the allocation model and the state's efforts in recent biennia to increase the overall funding level for higher education, the funding model hasn't been fully funded.

13. However, in general, you believe the Ohio PBF policy is the right approach and states might benefit from its adoption, apart from the impact on an institution dedicated to open access, the need to support schools with larger populations of underprepared students appropriately, and the lack of evidence that this particular approach is providing the intended incentives for its success at this point.
1. You are concerned that performance-based funding (PBF) might result in greater selectivity that might even impact the open-access mission of the university.

2. You are concerned about the at-risk weighting in the policy formula and the at-risk categories, themselves, which may represent some unintended consequences of the policy.

3. Faculty may be fully aware of the policy but there is a tension as support resources are increased at the expense of academic resources in order to address student outcomes and respond to the policy.

4. There are some positive changes happening that would not have otherwise, such as the bridge program, the adjustment of the development courses, and the alignment work with local career and adult education options, and even the addition of more advisors.

5. The focus on outcomes in the policy is probably the right approach.

6. But there are concerns about over-focusing on the vocational, and the focus on Ohio when you serve students from other states.

7. And there are possible unintended consequences in internal competition for resources.

8. You also would say that regardless of PBF policy and the allocation method, the fact remains that the state is not addressing actual funding needs for education adequately.

9. But other states should consider PBF policy, assuming that they approach it thoughtfully and give it appropriate time for adjustments.

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1. You suggested that there is not enough evidence yet to judge the performance-based funding (PBF) policy in Ohio overall.

2. But you indicate that the university faces particular challenges in being open-access and small in the face of the PBF policy.

3. Indeed, the university may need to increase selectivity in response to the policy and you are in process of adjusting the university mission in response to PBF and a number of other issues.

4. The policy adds pressure to utilize adjuncts to satisfy teaching loads, given the need to focus resources on advising, etc.
5. The faculty and institution are committed to student success regardless of the policy.
6. But there are some institutional changes as a result of the policy such as the implementation of new strategies to recruit certain types of students, early advising, hiring professional advisors.
7. Faculty are aware of the policy in general.
8. But, regardless of the formula incentives, education quality remains a priority among faculty and there is no concern that faculty would increase pass rates just because the institution does better financially.
9. In some ways, the policy is helpful to push forward changes in programs and redirecting funds, from an administrative point of view.
10. You have concerns regarding the at-risk formula approach, particularly as it pertains to lower socio-economic status students.
11. But there are no obvious unintended consequences on the basis of the policy.
12. In general, you believe the Ohio PBF policy is the right approach and states might benefit from its adoption, notwithstanding the lack of evidence for its success at this point.

1. In general, you are positive about the Ohio performance-based funding (PBF) policy. Though it may not be perfect, it is being tweaked to address issues as they arise.
2. You are not seeing a change in your institution’s enrollment practice; that access, affordability and quality are of the utmost importance and that faculty have been told this by the President.
3. There is no perceived impact on faculty service behaviors, research or teaching expectations, etc. However, faculty are aware of potential negative outcomes and monitoring the situation across the state.
4. You believe the PBF policy supports a leveling and more transparent system across the state for university funding.
5. You note that a student who does not complete a degree is still better off, in many ways, than one who has not tried college at all (and this, of course, not a supported outcome through the PBF policy).
6. You and the faculty are aware of the possibility of perverse incentives (to inflate grades) based on this policy but faculty do not feel pressure to do so and would resist any such pressure.

7. You have not been surprised by any unintended consequences.

8. The University remains committed to “doing the right thing,” which is at least partly dependent on the good leadership you have in place.

9. There is no hint of linking financial incentives to things like graduate salaries or jobs in the model currently used by Ohio. However, the Ohio Faculty Council has passed a resolution that expresses concern about that possibility.

10. In sum, much of what is happening at the University would have happened anyway, regardless of the PBF policy, but this policy gives an extra incentive to align the focus on graduation.

1. One of the negative effects is based on the fact that the University was open admissions and has had to become more selective in response to the policy.

2. And regardless of the method of allocation in the policy, the state is not funding education adequately.

3. Still, despite the formula incentives, education quality remains a priority among faculty and there is no value or intention for them to increase pass rates just because the institution does better financially.

4. In fact, you would say that the faculty and institution are focused on student success regardless of policy.

5. However, faculty are very aware of the policy.

6. And it is affecting faculty directly (in terms of work load expectations for example).

7. Furthermore, this new policy awareness is helping to shape faculty behaviors to improve student outcomes and represents changes that would not have happened without the policy (through more intrusive advising for example).

8. In addition, the policy, even if not perfect, helps balance the pressure to fill seats under an enrollment only allocation method.

9. Nonetheless, other states should definitely not adopt this type of PBF policy.
10. The policy is complex and there is a concern about the focus on jobs and vocational training (as emphasized through STEM) in the policy.

1. The Ohio PBF policy has clearly shifted the thinking and behavior around student success.
2. The shift includes becoming more selective - though that may be coincidental to, not a result of, the policy.
3. It also means becoming more competitive as an institution.
4. Indeed, you see an impact on faculty behaviors in terms of greater engagement partly in response to the competitive realities.
5. As a result, your faculty are very aware of the policy and even appreciative because of the effort to attract better students.
6. This new policy awareness is helping to create changes that would not have happened without the policy incentive (such as hiring the AVP for student success, mandatory tutoring for conditional admits, faculty professional development, and additional focus on student advising).
7. However, regardless of the method of allocation in the policy, the state is not addressing actual funding needs to support the needed changes.
8. Education quality remains a priority among faculty and there is no value for them to increase pass rates just because the institution does better financially.
9. One potential unintended consequence of the policy is the impact on underrepresented students and the formula risk-weighting may not be adequate to fully address the needs of the at-risk students.
10. Nonetheless, the Ohio PBF policy is probably the right approach, understanding that data is limited and the difficulty of determining cause and effect. It is at least helping push changes that should be done anyway.
REFERENCES


