

POLICY BRIEF

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The Impact of Texas Emerging Research Universities on Student Outcomes

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Executive Summary

In 2009, the Texas Legislature approved research-based funding programs to increase research prominence at state universities. A primary aim of these programs is to increase research productivity and competitiveness and impose accountability through financial incentives. By examining student admissions and completion patterns, this study investigates whether the “emerging research university” designation impacts student outcomes as a consequence of research-focused behavior and if these impacts align with strategic plans. This study uses individual-level longitudinal student data from the University of Houston Education Research Center and the Integrated Postsecondary Education Data System as well as difference-in-differences methodology to examine how students are impacted by research-based indicators. The model investigates how research expenditures and other covariates pertaining to student and university demographics impact application decisions and six-year graduation outcomes among institutions participating in the emerging research university policies.

The findings suggest that emerging research university policies have an impact on student outcomes at these designated universities. While the policies had no impact on application actions in the beginning, they did have a five-year lag impact. There was also an impact on graduation outcomes immediately after policy enactment but not five years later. The findings also demonstrate that the policy impact varies depending on student and institutional characteristics. This study reveals how the state government and universities can create and implement policies that coalesce with statewide strategic plans to achieve common goals for student and institutional success.

KEY FINDINGS

The mean change in the admissions outcome was not different in emerging research universities and doctoral universities immediately before and after the emerging research university policy enactment, but there was a difference in the mean change in the admissions outcome five years after the enactment.

There was a difference in the mean change in the number of students who graduated within six years immediately after the enactment of the policy, but that difference did not exist five years after its enactment.

Emerging research university policies impacted student application decisions at emerging research universities five years after the policy enactment but not immediately after the policy was enacted.

Emerging research university policies impacted student graduation outcomes at emerging research universities immediately after policy enactment but not five years later.

The policy impact varies depending on student and institutional characteristics. African American, international and male students may be more vulnerable to the policy impact regarding admission outcomes, while Hispanic and Native American students may be more sensitive to the policy impact concerning six-year graduation outcomes.

RESEARCH QUESTION

To what extent has the creation of the emerging research university designation impacted student admissions and completion patterns at Texas public universities?

Brief Summary of the Literature and Conceptual Frames

Performance-based funding was initially created as an accountability formula that would provide quantifiable data regarding student outcomes and offer institutions of higher education financial incentives to prioritize those outcomes (Dougherty & Reddy, 2011). The ultimate aim of performance-based funding is to improve student success outcomes, including graduation rates, credit accumulation, job placement and the alignment of postsecondary outcomes with labor market demands (Dougherty & Reddy, 2011; Letizia, 2015). The creation of research-based funding in Texas mimics the framework of performance-based funding formulas. Higher education institutions in Texas are given incentives to increase their institutional prestige through research funding and its link to outcomes (Texas Education Code 62.141-62.149, 2009).

Even though studies have found that performance-based funding policies for higher education may be ineffective or trigger inadvertent outcomes (Gándara & Rutherford, 2018; Hillman et al., 2018; Kelchen, 2018; Umbricht et al., 2017), more research is needed to understand the underlying contributing mechanisms that illuminate policy failure before irrefutable reports are made about it. While literature on the impacts of the emerging research university designation is scant, performance-based funding literature has provided a foundation for the exploration of this nascent topic. An initial review of performance-based funding policies revealed that these types of policies typically do not efficiently impact student outcomes unless certain equity parameters are specified. Research universities may be more sensitive to policy-implicated spending due to the influence of prestige, but overall, more research is

needed to investigate the ways in which spending and outcomes are linked specifically for emerging research universities.

This study pulls theoretical and conceptual insights from action theory (Argyris & Schön, 1996) and institutional isomorphism (DiMaggio & Powell, 1983). When attempting to comprehend both the intended and unintended outcomes of research-based funding programs in Texas, there needs to be an understanding of how policies influence certain outcomes. The theory of action used in organizational learning can be adapted to public universities in Texas that change how they expend R&D funds in order to qualify for emerging research university funding programs (the Core Research Support Fund, National Research University Fund and Texas Research Incentive Program) and maintain those expenditure changes once research funding eligibility is achieved. Also, research-based funding at universities can be situated within institutional isomorphism, which states that organizations become structurally similar over time due to policymakers' desires for organizational conformity regarding standards (Karlsson, 2008). Because of the nature of research and perceived efficiency, not only do institutions become more alike, but state decision-makers also incentivize these institutions to change in a particular way. The underlying mechanism of institutional isomorphism is the structuralism of organizational fields, which leads to homogenization within the field (Giddens, 1979). DiMaggio and Powell (1983) assert that organizations become more similar not only because of competitiveness but due to perceived efficiency; a variety of fields—including the American textbook field, hospitals, public schools and the radio industry—have become more homogeneous over time, they note.

Brief Summary of the Study Methods

This study uses college admissions and graduation data from the University of Houston Educational Resource Center (UH ERC) as well as institutional variables from the Integrated Postsecondary Education Data System (IPEDS). The data housed at UH ERC includes longitudinal student-level data at the college level; IPEDS uses an annual institutional survey to compile information from all postsecondary institutions that offer federal financial aid to students. The sample used for this study comprises 14 Texas public institutions that could potentially become eligible to receive funds from research-based funding policies—eight of which currently hold the designation of emerging research university. The outcome variables are the application actions of trackable students (via student IDs from UH ERC) who applied to doctoral and emerging research universities in Texas and completion within six years of admittance from 2004 to 2018. The outcome variables are dummy variables indicating the types of acceptance or graduation standards that were met. For the application action, the number zero indicates that unspecified application criteria were met, and the number one indicates that legislative and/or institutional criteria were met. For the graduation outcome, zero indicates that a student graduated in more than six years of admittance, and one indicates that a student graduated within six years of admittance. This study includes student-level demographic variables including race, age at the time of admittance, gender and family income status. It also includes an institutional demographic variable for emerging research university designation or doctoral university and research expenditures per year.

Key Findings

The findings suggest the mean change in the admissions outcome is not different in emerging research universities and doctoral universities immediately before and after the emerging research university policy enactment. When examining the model with a time lag, there was a difference in the mean change in the admissions outcome five years after the enactment. When examining the coefficient of interest for the model (the interaction term for time and emerging research university status), the coefficient is statistically significant (0.02, $p < 0.000$), indicating that

Universities Used in This Study Categorized by University Type

RESEARCH UNIVERSITY GROUP

University of Houston
Texas Tech University
University of Texas at Arlington
University of Texas at El Paso
University of Texas at San Antonio
University of Texas at Dallas
University of North Texas

DOCTORAL UNIVERSITY GROUP

Texas State University +
Sam Houston State University
Texas A&M University Corpus Christi
Texas A&M University Kingsville
Texas A&M University Commerce
Texas Woman's University
University of Texas at Rio Grande Valley

+ Texas State University was designated as an emerging research university in 2012, however this study examines the policy creation and subgrouping that occurred in 2009. For that reason, it is included in the doctoral group.

the mean change in outcome is different in emerging research universities and doctoral universities five years after the policy enactment. Compared to students who met some other type of application criteria at doctoral universities, students who met legislative and/or institutional criteria at emerging research universities increased by 0.02 ($p < 0.000$), holding all other variables constant. The graduation outcome examines whether students graduated within six years or more than six years. There was a difference in the mean change in six-year graduation outcomes immediately after the enactment of the policy, but that difference did not exist five years after its enactment. The interaction coefficient is

0.002 ($p < 0.02$), which demonstrates that the mean change in outcome is different in emerging research universities and doctoral universities before and after the policy enactment. Compared to students who graduated in more than six years at doctoral universities, students who graduated within six years at emerging research universities increased by 0.002, holding all other variables constant.

Overall, emerging research university policies impact student outcomes at those designated universities; while the policies had no immediate impact on application actions, they did have a five-year lag impact. The number of students who met legislative and/or institutional criteria for admittance (e.g., top 10%, top 25%, high school GPA minimum requirements, etc.) increased five years after the enactment of the policy at emerging research universities. This could mean that emerging research universities were accepting more top 10% or top 25% students and/or that more students were being accepted that met the institution's criteria for admittance. There was also an impact on graduation outcomes immediately after policy enactment but not five years later. More specifically, there was an increase in students who graduated within six years from emerging research universities at the enactment of the research-based funding policies, but that increase was no longer present five years after. The findings also demonstrate that the policy impact varies depending on student (e.g., race, gender, etc.) and institutional characteristics. Overall, African American and international students who met legislative and/or institutional criteria experienced a decrease at emerging research universities five years after the policy enactment. In terms of gender, five years after the enactment, there was a decrease in admittance of males who met legislative and/or institutional requirements. For Hispanic and Native American students, there was a decrease in the number of students who graduated within six years at emerging research universities after the policy enactment.

Policy Recommendations

With institutional collaboration, legislators can create research-based policies that enhance institutional research productivity and impact student

KEY RECOMMENDATIONS

With institutional collaboration, legislators can create research-based policies that enhance institutional research productivity and impact student outcomes.

While this study demonstrated that the state is predominantly meeting its objectives for some groups of students, there is still ample work to be done for others. The state, the Texas Higher Education Coordinating Board and emerging research universities should continue to create and enact policies to directly target students who are still experiencing equity gaps, including African American, international, Hispanic, Native American and male students.

Legislators and institutional leaders at emerging research universities can use this work to craft policies that will strengthen multiple layers of policy implementation and ultimately enhance experiences for students in higher education.

outcomes. While this study demonstrated that the state is predominantly meeting its objectives for some groups of students, there is still ample work to be done for others. With this information, the state, the Texas Higher Education Coordinating Board and emerging research universities can continue to create and enact policies to directly target students who are still experiencing equity gaps. To the state's credit, it is doing just that through the creation of its newest strategic plan, 60x30TX. However, since the new strategic plan has been in effect for only five years, with projections for 2030, it may be too soon to see results for all student groups. Legislators and institutional leaders at emerging research universities can use this work to craft policies that will strengthen multiple layers of policy implementation and ultimately enhance experiences for students in higher education.

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