Examining the Effects of Tuition Reset Policies on Enrollment and Institutional Finances at Minority Serving Institutions

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Abstract

This chapter addresses the unique financial situation of Minority Serving Institutions (MSIs) and empirically analyzes how changes in pricing strategies may impact student demand, enrollment, and institutional finances. The authors provide an overview of the history of MSIs and the complex set of policies dictating these institutions' MSI designation(s) and sources of public funding. The authors then provide an overview of postsecondary pricing strategies and why MSI designation may be related to the success of differing approaches. Using a difference-in-differences estimation strategy, the authors find that private MSIs may grow enrollment and total tuition revenue by resetting tuition, or decreasing sticker price by at least 5%. Public MSIs and all non-MSIs do not appear to receive the same benefits, which suggests the tuition reset strategy may only be effective in certain contexts.

Keywords: Minority-Serving Institutions, tuition reset, postsecondary access, postsecondary finance

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The advertised cost of providing a postsecondary education has increased faster than public support for higher education (Webber, 2017). These changes have shifted the burden of paying for college from the federal government and state to students and families, through the reduced purchasing power of Pell Grants and direct appropriations comprising smaller shares of institutional revenues. This financial repositioning has disproportionately impacted historically underserved groups, such as racially minoritized students, economically disadvantaged students, and first-generation college students. Further, public divestment in higher education has resulted in steadily increasing tuition at public colleges and universities and ballooning student debt. Again, this shift in the burden of paying for college has reduced access for some students by creating an unaffordable price tag and, thus, has dissuaded a non-negligible share of students from enrolling at certain institutions due to their perceptions of the price. Put another way, some students experience "sticker shock" when they see high published tuition and fees, regardless of what the net price may be for a student after they receive financial aid, which prevents them from applying and enrolling (Levine et al., 2023). As Levine (2023) notes, "perceived costs are one of the most important factors influencing where students apply" (p.366). This phenomenon is particularly salient among Black, Hispanic, and lower-income students (Grodsky & Jones, 2007; Nienhusser & Oshio, 2017).

Minority Serving Institutions (MSIs) have historically played a unique role in the postsecondary sector and continue to serve a broad mission of expanding access and opportunity for racially minoritized individuals. While each MSI differs in its origin, they collectively seek to educate large concentrations of underrepresented students, often through their relatively

affordable price tag. However, MSIs are not immune to the broader context of austerity and have also had to respond by increasing their sticker price to varying degrees, by institutional sector. For instance, the in-state sticker price increased for both public and private MSIs between 2017 and 2021 between 17% and 18%, respectively (authors' calculations using data from "The MSI Data Project," Nguyen et al., 2023). When sticker shock impacts enrollments, it hampers MSIs' ability to fulfill their missions in two ways. First, it reduces the pool of students who apply and enroll at MSIs, thus, potentially reducing the number of students receiving benefits from an MSI education. Second, low enrollments reduce revenues and put a financial strain on institutions, limiting their ability to serve enrolled students effectively.

To counter this sticker shock, an increasing number of institutions have "reset" tuition, or cut sticker prices by at least 5% (Lapovsky, 2015, 2019). This is a relatively recent tuition-setting approach. Its corresponding research has documented its purported effects primarily in the private, not-for-profit sector (Corral & Ward, 2023; Ward & Corral, 2023). However, there needs to be more evidence concerning the effectiveness of this practice, especially across MSIs which vary in their financial strength and resilience (Ortagus et al., 2024; Williams & Davis, 2019). Additionally, the limited research on tuition resets suggests that their effectiveness is significantly impacted by institutional context and that there is heterogeneity in effects across reset sizes (Corral & Ward, 2023). As such, examining the effectiveness of tuition resets for increasing enrollments and improving institutional financial stability at MSIs is important given their unique mission and position within the postsecondary sector. Given the inequities within the postsecondary system, we expect our findings to provide MSI leaders with useful starting evidence to help them serve their target populations more effectively and reduce systemic inequities.

The chapter aims to fulfill three goals. First, we provide a brief historical overview and policy context of MSIs. This background serves as the basis to further understand their financial conditions, including relevant sources of funding and a discussion of historical inequities. The second goal is to provide a background and a review of research on tuition reset approaches. That section will inform our final aim and the empirical and descriptive portion of our chapter: examining institutional enrollment and financial outcomes of MSIs that have reset tuition. We conclude with a discussion of our findings, limitations, and recommendations for institutional leaders and other stakeholders.

Historical Overview of MSIs

MSIs are postsecondary institutions that enroll and educate significant shares of students of color and economically disadvantaged students. However, these institutions differ in their origins and contemporary missions. Various reauthorizations of the Higher Education Act of 1965 (HEA) created the various MSI monikers as they continue to expand and grow (Castro Samayoa, 2022). There are 11 active and different MSI classifications according to the Department of Education (ED) as we illustrate in Table 1. Each of these classifications refers to ED funding programs for which institutions may be eligible, thus, allowing a college or university to achieve the MSI distinction (Dortch, 2023; Hegji, 2017). MSIs generally fall into two distinct categories: 1) institutions created with the explicit mission of serving certain student populations, and 2) colleges and universities that meet a specific enrollment threshold for students from particular racial groups, along with meeting other student-related enrollment and financial requirements (see Table 1; Nguyen et al., 2023). To exemplify the former, higher education leaders recognized Historically Black Colleges and Universities (HBCUs) and Tribal Colleges and Universities (TCUs), also known as Tribally-Controlled Colleges and Universities,

in direct response to the historical and systemic racial discrimination experienced by Black and Indigenous people (Gasman et al., 2015). The proceeding paragraphs provide a brief historical overview of these distinct types of institutions.

HBCUs

The federal government formally recognizes HBCUs as postsecondary institutions established before 1964 with the intention of providing access to higher education for African Americans and Black people. The majority of HBCUs were founded after the Civil War and during the Reconstruction era, with Cheyney University serving as the first HBCU. This period in history saw a significant push towards educating freed slaves, with the support of religious missionary organizations, philanthropic foundations, and the Freedmen's Bureau (Gasman, 2008). While funding from various sources was crucial in their development, relying on these entities proved to be unsustainable (Gasman et al., 2008). The turn of the 20th century also saw increased philanthropic support for these institutions from well-known industrialists of the time (e.g., Rockefeller and Carnegie). Moreover, the Second Morrill Act of 1890 required states to establish land-grant colleges (Agricultural and Mechanical Institutions) for Black students if their existing land-grant colleges were segregated, which led to the establishment of several public HBCUs. The Second Morrill Act also provided significant federal funding for public HBCUs. Throughout the 20th century, HBCUs expanded their academic offerings and played a critical role in providing higher education to Black students, especially in the Jim Crow South where segregation laws prevented them from attending Predominantly White Institutions (PWIs). As of 2023, there were 101 HBCUs located in 19 states (Rutgers Center for Minority Serving Institutions, n.d.). There are 51 public HBCUS and 50 private HBCUs.

Stakeholders often laud HBCUs for their outsized contribution in enrolling and educating Black and other racially minoritized students. And for good reason; they are thought of as institutions doing more with less (Edwards et al., 2023; Gasman et al., 2017). As described more later, HBCUs face decades of financial inequities while still producing proportionally greater outcomes in several domains. For example, despite comprising 3% of all postsecondary institutions, about 40% of Black students apply to at least one HBCU and HBCUs enroll 10% of all Black college students (Edwards et al., 2023). Furthermore, HBCUs collectively have a disproportionate impact on the production of Black STEM degrees and serve as an important pathway to our country's professional class. To illustrate, in 2018, HBCUs produced nearly 14% of all Black bachelor's degrees (National Center for Science and Engineering Statistics, 2021). Finally, there is growing positive economic evidence for Black students attending HBCUs. Using a robust administrative dataset that linked college applications, college enrollment, and financial outcomes, Edward and colleagues (2023) found that Black students who enrolled in an HBCU experienced a household income around age 30 that is 5% higher compared to otherwise similar Black students who do not enroll in an HBCU but applied. Thus, HBCUs offer a considerable contribution in terms of access and success. Nevertheless, as we describe later, HBCUs' financial stability continues to be a contentious issue despite being eligible for and receiving mandatory federal funding; HBCUs continue to receive inequitable funding relative to their PWI counterparts along with private HBCUs continuing to rely heavily on student tuition dollars.

TCUs

TCUs are institutions the federal government recognized beginning in 1965 that are critical to the development and sustainability of Indigenous communities. Tribal governments officially charter TCUs and these institutions serve many purposes (American Indian Higher

Education Consortium, 2022). The broad aims of TCUs are to 1) preserve and promote Indigenous culture, language, and traditions; 2) provide career and technical education; and 3) offer access to postsecondary education that many rural communities would not otherwise have. Diné College (formerly Navajo Community College) was the first Tribal college officially created in 1968. Both the Civil Rights Movement and the Self-Determination Movement starting in the 1960s helped ignite the recognition and eventual growth of these institutions as ways to counteract the historical and vile discrimination, including forced assimilation, Indigenous folks experienced (Marroquín, 2019). The Self-Determination Movement promoted a focus among Indigenous people in developing and self-governing their own educational institutions (Gasman et al., 2008). Accordingly, the 1970s and 1980s experienced an increase in the number of TCUs, primarily two-year institutions (Johnson et al., 2006, cited in Gasman et al., 2008). As of 2022, there are 35 fully accredited TCUs located across 15 states (American Indian Higher Education Consortium, 2022).

Enrollment-Based MSIs

The second category of MSIs we referenced earlier refers to enrollment-based MSIs. The federal government recognizes this cadre of institutions as colleges and universities that enroll a specific share of racially minoritized students, along with meeting other criteria, often related to student enrollment targets and finance. This group broadly consists of Alaska Native and Native Hawaiian Serving Institutions (ANNHSI), Native American-Serving Nontribal Institutions (NASNTI), Predominantly Black Institutions (PBIs), Hispanic Serving Institutions (HSIs), and Asian American and Native American Pacific Islander-Serving Institutions (AANAPSIs), each with their own unique enrollment threshold and histories. For instance, PBIs differ from HBCUs as they tend to be institutions created post-1964 and Black students must represent at least 40%

of their student body, along with enrolling at least 1,000 undergraduates. In addition to these specific enrollment specifications, there is also a requirement that relates to institutions enrolling a certain fraction of students needing financial assistance. HSIs, for example, must have 25% of their undergraduate enrollment comprised of Hispanic students, *and* 50% of students must show financial need. Table 1 includes a list summarizing MSI types and their notable criteria. Note that institutions can meet the requirements of several MSIs, although they can only hold one federal MSI grant at a time (Yang & Masuilt, 2017). According to the Center for Minority Serving Institutions at Rutgers University (2023), there were 848 MSI-eligible institutions.

It is important to note that while these postsecondary institutions enroll and educate high concentrations of racially minoritized students and historically underrepresented students, it does not necessarily suggest they effectively serve students. On the one hand, the growing number of enrollment-based MSIs may reflect the demographic realities of a growing and diverse America. This may be the case with the appreciable increase in the number of HSIs. One study documents that the number of HSIs has increased by nearly 200% since 1995, from 189 to 559 in 2021 (Marin & Aguilar-Smith, 2023). On the other hand, there is also a growing strand of literature challenging the assumption of an institution's "servingness." Questioning an institution's servingness refers to the notion that simply because an institution matches federal criteria for funding, then it may not represent the institution's intrinsic motivation and/or ability to serve specific student populations or promote equitable academic outcomes (Garcia, 2017; Nguyen et al., 2023). Some scholars posit that institutions may purposefully target specific demographic enrollments to attain an MSI status and the accompanying funding or meet the criteria by happenstance rather than with purposeful intentionality. On the contrary, institutions may not be in the appropriate position to support students despite gaining MSI status. As a result, while the

MSI category offers researchers a useful heuristic to think about and analyze institutions educating great shares of marginalized students, researchers must also be aware that an institution's intention may not reflect an institution's commitment and capacity to serve racially minoritized students.

Financing MSIs

Public and private not-for-profit colleges and universities receive funding from a variety of sources. Two primary sources of income include 1) federal and state appropriations and 2) tuition and fees (Smith, 2019). This section discusses these primary sources of income at MSIs.

MSI Federal Funding Programs

The MSI designation is a result of institutions meeting the eligibility criteria for, applying, and ultimately securing, institution-specific funding programs. Therefore, the distinction confers significant financial benefits. These financial resources are a way to address historic inequities by race and ethnicity through building institutional capacity with support from the federal government. Currently, the federal government provides financial resources to MSIs through the HEA's 11 grants program (see Table 1).

The application process for an eligible MSI is intricate and requires thorough documentation to prove that it meets the necessary criteria the federal government requires for funding. The application process involves submitting extensive data on student demographics, financial aid, and the proposed academic program(s). However, potential issues can arise in this process. First, the bureaucratic nature of the application process can be daunting, particularly for smaller institutions that may need more resources to manage complex paperwork and data submission. Aguilar-Smith (2021) interviewed institutional administrators working at HSIs to understand their experiences in applying for Title V funding. She interviewed both unsuccessful

and successful applicants. Successful Title V grantees, for instance, were able to hire outside grant writers who had previous experience in securing ED grants. Some participants noted they also had difficulty navigating the request for proposals (RFPs) as the federal government creates these documents filled with technical jargon that many administrators did not know. What is more, Aguilar-Smith (2021) noted that successful HSIs had institutional research offices that were agile enough to respond to ED's unpredictable and short-windowed RFPs. For context, in FY2020, the Title V Developing HSI Program opened on December 27, 2019, and closed on February 23, 2020, allowing less than two months for institutions to apply. These issues highlight the need for a more streamlined and transparent application process and ongoing support for institutions to fulfill their role as MSIs effectively.

While the 11 grant programs formally designate an institution as an MSI, they are not the only form of funding they receive from the government. A large share of federal funding for MSIs is given indirectly through student aid programs (e.g., Pell Grant program and Work Study program; Williams & Davis, 2019). Nevertheless, the latest government report on these programs suggests that in FY2023, the MSI funding programs awarded approximately $1.293 billion (Dortch, 2023) We now briefly describe each federal funding program

The federal government authorizes most of the funds to MSIs via their "Strengthening Institutions Program" (SIP) which is denoted as Title III-A and Title III-F of the HEA. SIP serves as the foundation for outlining some criteria for MSIs to be eligible for a particular program. According to Dortch (2023), to qualify for Title III-A and Title III-F programs, institutions must meet three criteria:

- Have relatively low educational and general expenditures,
- 50% of undergraduate students received need-based financial assistance, and

- Is an accredited and authorized two- or four-year college or university located in the U.S. or its associated jurisdictions.

Institutions may request a waiver if they fail to meet one or several of these requirements. An eligible institution is thus eligible to receive institution-specific SIP funding (described below). For instance, all enrollment-based institutions plus TCUs receive funds through Title III-A and Title III-F. HSIs receive capacity-building grants instead through Title V while also receiving STEM-specific funds from Title III-F. HBCUs, on the other hand, receive funds through other sections of Title III.

As mentioned previously, building institutional capacity is the chief motive for these federal funds. Some funding programs offer general capacity-building grants, while others focus on supporting specific disciplines and programs, like STEM and increasing access to graduate education. For example, an eligible HSI, may be entitled to apply to one of three different types of federal funding opportunities: 1) the Developing Hispanic-Serving Institutions Program, 2) Hispanic-Serving Institutions - Science, Technology, Engineering, or Mathematics and Articulation Programs, or 3) Promoting Postbaccalaureate Opportunities for Hispanic Americans Program. In an effort to understand the types of programs funded through these specific programs, Boland (2018) conducted a content analysis of enrollment-based MSIs that applied for Title III and V grants. He found that the abstracts of the funded program proposals generally focused on initiatives such as tutoring and advising centers, remedial courses, technology and data improvements, and faculty and staff professional development. These programs were generally described as efforts to improve course completion, student retention, transfer, and/or graduation.

While some of these MSI Funding Programs are guaranteed through legislation, others are non-compulsory. According to Hegji (2017), the MSI "programs are typically funded through annual discretionary appropriations, but additional annual mandatory appropriation" (Summary section). In fact, over 80% of funds appropriated to MSIs are discretionary funding. The distinction between discretionary and mandatory appropriations in MSI funding is crucial because it impacts the stability, predictability, and planning capabilities of these institutions. Discretionary funds, subject to annual budget negotiations, can fluctuate, affecting the ability of MSIs to plan long-term initiatives. Mandatory funds, on the other hand, provide a more ostensibly predictable stream of funding, allowing for more secure and sustained programming, staffing, and resources to support their educational missions and the communities they serve. Despite efforts by the Trump administration to curtail funding for MSIs, both mandatory and discretionary funds tend to be stable year over year (Castro Samayoa, 2022).

Additional TCU Federal Funding

TCUs receive federal funding from other sources than the Strengthening Institutions Program. The federal government also provides funds for TCUs through the Tribally Controlled College or University Assistance Act (TCCUAA) of 1978 which the U.S. Bureau of Indian Affairs administers. Through the TCCUAA, the federal government authorizes a set amount of money per Indigenous student at TCUS, with the latest figures suggesting each institution receives $8,000 per student (Nelson & Frye, 2016; Postsecondary National Policy Institute [PNPI], 2022). However, TCUs rarely receive the authorized amount from the federal government, leading some to claim that TCUs remain perpetually underfunded (Nelson & Frye, 2016). While these per-student subsidies serve as the base budget for TCUs, it is important to note that TCUs do not receive federal funds for non-Indigenous students, who make up an

appreciable share of the TCU student body–roughly one in five students (21%) in 2022 (PNPI, 2022).

State Funding

State appropriations represent a meaningful share of revenue at public colleges, but that share has decreased over time (Li, 2017). Typically states provide funding for colleges and universities to pay for university operations, but they also provide appropriations for research and financial aid grants. However, state support for universities has declined over time, particularly around 2008. The decline in state higher education also comes at a time when costs for Medicaid and K-12 schools are increasing (Smith, 2019). These competing priorities for limited resources may crowd out higher education funding. As previous research has shown, higher education is often the first area to reduce funding during periods of austerity and the last area to have funding restored (Delaney & Doyle, 2011; Gándara et al., 2023). Moreover, political partisanship may exacerbate cuts to higher education and do so in a way that disproportionately impacts institutions serving larger shares of historically underserved students (Taylor et al., 2020, 2023). While public colleges rely quite a bit on states for funding, private colleges receive a smaller share from states.

Performance-Based Funding

The framework states use to appropriate money to public colleges has changed in recent decades, with potentially severe consequences for MSIs. It has long been the norm that public colleges and universities receive state funding based on a combination of the number of enrolled students and the prior year's appropriation (Layzell, 2007; Ortagus et al., 2021). However, over the past three decades, the majority of states have adopted or redesigned performance-based funding (PBF, also known as outcomes-based funding) models that base appropriations on

measurable outputs. Examples of measurable outcomes include the number of degrees awarded, retention rates, and job placement rates. While states sanction outcomes-based funding under the rubric of efficiency and accountability, the literature supporting this approach is thin. This is particularly the case when outputs are difficult to measure, tasks are complex, and/or organizations do not have the organizational or human capacity to support efforts (Hillman & Corral, 2018).

Thus, it may come as no surprise that research examining whether and to what extent MSIs might be disadvantaged by such pay-for-play regimes has produced concerning results (Gándara & Assalone, 2018; Hillman & Corral, 2018; Ortagus et al., 2023). For instance, Hillman and Corral (2018) explore to what extent the adoption of PBF models was associated with changes in state appropriations for MSIs in PBF states compared to MSIs in non-PBF states. They found that such policies were associated with about a $763 per full-time or equivalent (FTE) student decline in funding. Furthermore, Ortagus and colleagues (2021) explored whether the design and dosage of PBF affected state funding for HBCUs and four-year universities that serve high concentrations of racially minoritized students. They found that states with high-dosage PBF policies (states that apportion greater than 10% of their funding via outcomes metrics) had large and negative effects on these institutions. HBCUs received 23.5% less state money which translates to about $2,215 less per FTE student. Institutions that serve above-average shares of students of color experienced a loss of about $905 per FTE student. It is important to note that states that incorporate “equity premiums” - financial bonuses to institutions that promote access and success for underserved students - into their PBF models might counteract the potential negative consequences of paying for performance (Gándara & Rutherford, 2018). In sum, the state higher education landscape appears to be steadily headed

toward a future that puts money on the table for student and institutional outcomes regardless of whether an institution has the capacity to act upon them.

Inequitable State Funding at HBCUs and TCUs

HBCUs. Although there has been ongoing support at the federal level to support HBCUs financially, there are significant inequities at the state level for public HBCUs. These inequities date back to the Second Morrill Act of 1890 as states were required to have equal levels of funds between land-grant colleges founded through the First Morrill Act of 1862 (ED, 2023). These inequities have also been highlighted in the Supreme Court case of *United States v. Fordice* (1992), which had effects on the way states must dismantle de jure segregated higher education systems, including increasing funding for HBCUs.

However, inequitable funding is still present at HBCUs. For instance, in September 2023, U.S. Secretary of Education Miguel Cardona and U.S. Secretary of Agriculture Thomas Vilsack highlighted existing inequities. They sent letters to 16 governors highlighting that there is an aggregate funding disparity between public land-grant HBCUs and their non-HBCU land-grant counterparts totaling over $12 billion. Calculating these disparities between 1987 and 2020 using IPEDS data, the Secretaries present a disparity range from $172 million to $2.1 billion. They recommend states appropriate additional funds to these institutions, while also suggesting rectifying the situation through private donor gifts, which may or may not be feasible at certain institutions.

TCUs. Tribal Colleges also operate in a distinct state funding environment relative to other MSIs. Both two- and four-year TCUs have quite distinct revenue streams relative to their non-TCU counterparts. According to Nelson and Frye (2016), roughly 70% of TCUs' revenue came from federal sources. The next biggest revenue streams are local appropriations and net

tuition and fees. The smallest share of funding TCUs receive is less than 3% from the state. This low number is due to how the federal government recognizes Indigenous colleges as tribally chartered institutions, as opposed to a state postsecondary institution (Nelson & Frye, 2016). As a result, “states have no obligation to fund the operations of TCUs and in most cases do not - not even for their non-Native state residents that attend TCUs” (Nelson & Frye, 2016, p. 3-4). This is worrisome given that TCUs do enroll an appreciable number of non-indigenous students annually but are not provided the corresponding funds to help educate them.

Tuition and Fees

Tuition and fees typically comprise a meaningful share of revenue for postsecondary institutions which vary by public and private status. For context, Figure 1 shows the average sticker price from 2004 through 2021 for public and private MSIs and non-MSIs as well as the average estimated net price over this period. The gap in both sticker price and net price between public and private institutions has grown over time. Moreover, the gap between MSIs and non-MSIs has grown, moreso among private institutions. The lower sticker and net prices of MSIs likely reflects organizational missions and the populations served by these institutions. As described above, some MSI designations explicitly include serving lower-income students, and all MSIs serve groups of students who have been historically excluded from higher education. The lower prices reflect a purposeful expansion of access to these groups.

Both public and private colleges and universities have different financial structures and student demographics, which can influence their tuition strategies and dependency. Public institutions receive an appreciable share of state funding, which can alleviate some reliance on tuition. However, as noted previously, this support has been declining over the years, increasing the tuition burden on students and families (Delaney & Doyle, 2011; Gándara et al., 2023).

Private institutions, on the other hand, rely more heavily on tuition and fees due to receiving a smaller share of state funding. Private institutions often have larger endowments and resources to support financial aid programs and scholarships, but endowment sizes vary significantly between MSIs and non-MSIs.

Figure 2 represents mean tuition reliance (tuition and fees as a fraction of core revenues) between 2017 and 2021, separated by private and public status and MSI and non-MSI status. Privates rely more on tuition than publics. We also see private MSIs relying more on tuition than their private non-MSI counterparts. Tuition revenue, on the other hand, is around 30% for public non-MSIs, while the share of tuition revenue is lower for public MSIs. Dependence on tuition and fees as a major revenue source comes with risks, especially during an economic downturn or demographic shifts that lead to declining enrollment. Institutions must navigate these challenges by developing robust financial strategies, such as diversifying revenue streams, enhancing recruitment and retention efforts, and advocating for increased governmental and philanthropic support, to ensure financial stability and fulfill their educational mission. One potential avenue is the adoption of a tuition reset.

Tuition Reset Background and Evidence

Tuition resets are a strategy for setting tuition among postsecondary institutions. While there is no formal definition, the literature has coalesced around defining the notion as a reduction in sticker price by at least 5% (Lapovsky, 2015, 2019). Recent research has also focused on this approach within the private, not-for-profit sector (Corral & Ward, 2023; Ward & Corral, 2023). For instance, tuition resets have been common in recent years as 63 private baccalaureate-granting colleges have instituted one between 2012 and 2018 (Ward & Corral, 2023). Before discussing the current state of research on tuition resets, we compare this

contemporary tuition-setting strategy with the well-established approach of tuition discounting (Hillman, 2012).

Relation to Tuition Discounting

Institutions typically award financial aid to students after accepting them. These financial aid awards include federal student aid (e.g., Pell Grants, Direct Student Loans, and Federal Work Study), institutional aid (e.g., need-based grants and merit-based scholarships), and students' contributions. Researchers often refer to institutional aid as tuition discounting (Hillman, 2012). More than 90% of first-year students at private colleges and universities receive a discount averaging a 56% reduction in sticker price (NACUBO, 2023). Institutions may draw from endowment funds or use other philanthropic donations to cover these grants and scholarships. Colleges and universities essentially forgo tuition revenue from students when they discount tuition. Although nearly all students at private nonprofit institutions receive a discount, the individual awards vary. Colleges use these discounts to meet certain organizational goals such as increasing opportunities to lower-income students via need-based grants or prestige striving via merit-based awards that help an institution improve metrics used for rankings or advertising (Grodsky & Kalogrides, 2008; Lucido, 2014; Weisbrod et al., 2008). As a result, there is a trade-off between increased efficiency in the pricing process and a social inefficiency of charging each student what they can afford to pay. This can have equity implications if institutions are unable to effectively lower the price for lower-income students to an affordable level.

Background on Tuition Resets

A tuition reset, on the other hand, shifts this discounting practice, at least partially, from a backend to a frontend process. Rather than reducing tuition via institutional awards after an institution has accepted a student, a reset reduces the published sticker price before they open an

application. Tuition resetting is thus a clear shift from the "high-tuition, high-aid" model of postsecondary pricing as a way to improve perceived affordability from the perspective of the student (Turner, 2018). As such, a tuition reset has the potential added benefit of streamlining the financial aid process by reducing the amount of individual awards that need to be calculated and balanced. Of course, the efficiency benefits of this streamlining depend on the size of the reset and how much of the discounting process institutions shift to the front end.

Theoretical Perspectives on How Students Perceive College Pricing

How might students perceive tuition resets? Cheslock and Riggs (2020) provide a framework that offers two relevant perspectives to understand the psychological aspects that inform student and family decision-making in the context of higher education pricing. As they note, "prices can potentially also convey information about the quality of the institution and the value placed upon the student by the institution" (Cheslock & Riggs, 2020, p. 759). The first relevant perspective is the price-quality heuristic. This notion suggests that given the wide variation in characteristics among colleges and universities, students might derive inferences about institutional quality based on ancillary factors, such as listed price. As a result, students who have the least amount of information about higher education might be likely to rely on price as a proxy for quality. In this instance, prices decreasing might lead to decreased demand leading potential matriculants, thus considering higher education as a "Veblen Good." The second relevant perspective in Cheslock and Riggs' (2020) framework is the silver lining principle. This idea relates to the way students may interpret a "transaction that includes gains and losses," similar to an institutional aid award (Cheslock & Riggs, 2020, p. 763). The interpretation of gains and losses center on how a student integrates them and evaluates the result. Cheslock and Riggs (2020) provide the example of a student confronted with a sticker

price the student receives. For instance, if a student receives financial aid, they might either see it as reducing the overall cost of attending the institution or as a separate gain. This principle suggests that students might view colleges differently depending on how they perceive the relationship between tuition costs and financial aid.

In light of the insights put forth by Cheslock and Riggs (2020), it becomes evident that students' perceptions of a tuition reset in higher education are inherently complex. To summarize, students may interpret a tuition reset through two primary lenses. First, employing the price-quality heuristic, students might see a reduction in tuition as signaling a decline in institutional quality, particularly if they correlate higher tuition with better education. Conversely, drawing from the silver lining principle, students may evaluate a tuition reset in terms of gains and losses. On the one hand, for some students, a tuition reset could be seen as a welcome relief, reducing the overall financial burden. On the other hand, it might be perceived as a loss, especially if they equate higher tuition with prestige. Thus, the way students perceive a tuition reset depends on their individual perspectives, which are shaped by their background and postsecondary preparation.

Empirical Research on Tuition Resets

What effects do resets have on institutional finances? Previous research on these approaches has focused on the private sector, which frame and promote sticker price reductions in a particular way, often lauding an increase in institutional affordability (Corral & Ward, 2023). The research on private not-for-profit institutions implementing a tuition reset study the policies using institution-level data and a difference-in-differences design (Corral & Ward, 2023; Ward & Corral, 2023). One study confirms that when institutions reset tuition they shift the discounting process from the backend to the frontend and reduce institutional aid expenditures

(Ward & Corral, 2023). This shift is roughly offsetting as per-student net-tuition revenue remains steady following a discount. Importantly, this shift has the potential to hamstring institutions' ability to engage in price discrimination (Levine, 2022). There is mixed evidence on the efficacy of a reset in increasing enrollment among private universities. On average, resets do not appear to increase overall enrollment, but institutional context and the size of the reset appear to create wide variation in the effectiveness, particularly when resets are as steep as 20% or 30% (Corral & Ward, 2023). This variation transfers to the overall revenue effects of resets and their ability to improve an institution's financial outlook. An important unknown factor is how resets impact applications and yield. Even if there are no strong enrollment effects, these pricing approaches may have spillover benefits that help colleges improve stability through increased student demand as measured by increased applicants or yield rates.

There is other emerging research focusing on price reductions as well, primarily in the community college and public four-year sector (Acton, 2021; Denning, 2017; Klasik et al., 2024). For example, Denning (2017) studied how some community college districts in Texas shifted their tuition structure, which are supported by local property taxes, thus creating boundaries that provide in-district versus out-of-district tuition. Using a difference-in-differences approach, Denning found a $1,000 decrease in tuition was associated with a 5.1 percentage point increase in immediate enrollment. Acton (2021), studying similar changes in tuition boundaries in the community college context found a lower estimate of about 3.5 percentage points when tuition decreased by $1,000. Acton (2021) further found students' persistence and likelihood of transferring to a four-year college also increased. This finding suggests potential effects beyond enrollment and on improving student success. Finally, Klasik et al. (2024) provides novel evidence on sticker price reductions in the public four-year sector by studying North Carolina

Promise, a state-level policy that slashed tuition for all students attending one of the three colleges in the University of North Carolina System. Using a synthetic control design, Klasik and colleagues (2024) found no significant increase among first year students, but did find an increase in transfer students and among Hispanic students at one institution. Thus, the research on cuts in sticker price across the board for students even before considering applying offers mixed evidence.

Why might students considering MSIs behave differently in response to tuition resets? MSIs have historically served students who need more financial resources. Research shows that lower-income students are more price-sensitive and experience higher levels of sticker shock (Grodsky & Jones, 2007; Nienhusser & Ohshio, 2017). However, MSIs are already an attractive option for students of color as they are often located in areas already serving racially diverse demographics and earn a federal distinction of serving great shares of students of color. Furthermore, MSIs may use tuition resets strategically, not only to enhance their competitive positioning in the higher education market but also to align with their institutional missions of serving underrepresented students and fostering diversity. The historical and cultural ethos of these institutions plays a crucial role in how prospective students and families perceive tuition resets and can influence the regional and community-specific strategies employed to meet enrollment and diversity objectives. Based on the enrollment and financial histories of MSIs, previous research on tuition resets, and the underlying theory driving perceptions of institutional pricing, student enrollment at these institutions should increase following a reset.

Research Design

Data, Sample, and Measures

We rely on data collected from the Institutional Postsecondary Educational Data System (IPEDS) to estimate the relationship between a tuition reset and institutional outcomes. IPEDS gathers information from all U.S. postsecondary institutions that participate in federal financial aid programs. The data include information on institutional enrollment and finance. We compiled a panel dataset from 2003 through 2021 of 2,966 public and private institutions. In addition to IPEDS data, we leverage MSI classification data compiled by Nguyen et al. (2023). As described above, HBCU and TCU status remain constant overtime due to their statutory designation. Other MSIs can toggle in and out of their designations depending on enrollment demographics and satisfying financial requirements. To simplify our data and analysis, we classify an institution as an MSI if it holds this designation in 2021. This approach also allows us to focus on institutions currently and that were on a trajectory towards serving minoritized and lower-income students given these populations' higher levels of price sensitivity.

An institution's total revenue is a function of enrollment, sticker price, and institutional aid or discounts. In this study we seek to assess the relationship of a tuition reset with each of these elements in order to present a complete understanding of the benefits or drawbacks of a reset. Table 2 describes our key outcomes of interest, which include the number of undergraduate enrollment applications, fall undergraduate full-time equivalent (FTE) enrollment, Pell enrollment, tuition allowances per FTE, tuition revenue per FTE, and total tuition revenue. Pell enrollment is only available from 2010 forward, and our models reflect this shorter sample period. We use a log transformation of outcome variables in our models. Table 2 also includes state revenue per FTE, a control which is likely related to enrollment and our finance variables, as well as the percentage of adults with a bachelor's degree or higher in an institution's state and

the state unemployment rate, which serve as time varying covariates that may influence the demand for higher education.

To identify treatment institutions, we calculate year-over-year percent changes in reported tuition. Institutions with a decrease of more than 5% were identified as having a tuition reset, aligned with definitions used in previous research (Corral & Ward, 2023; Lapovsky, 2015, 2019; Ward & Corral, 2023). We remove institutions that reset tuition multiple times during the study period as these institutions are likely to be unique cases that should be analyzed separately. This results in a final sample of 574 treated institutions. We consider an institution to have a reset until the tuition level returns to the pre-reduction amount. Figure 3 shows the distribution of reset lengths. More than half of resets last 3 years or less, although some institutions maintain a lower tuition level for an extended period of time.

There is also significant variation in the timing and size of resets across institutions. Other than a spike among MSIs in 2008, the distribution of resets is relatively constant across sample years, as shown in Figure 4. This distribution of timing factors into our estimation strategy, as described below. Figure 5 shows the variation in reset size is similar among MSIs and non-MSIs. Roughly 55% of resets are more than a 15% reduction in tuition. We explore the relationship between dosage and outcomes in our analysis.

Analytic Technique

To estimate the relationship between tuition resets and our outcomes of interest, we use a difference-in-differences (DiD) approach. Recent advances in econometrics methods suggest staggered treatment adoption and the ability of units to move between treated and control groups may bias traditional two-way fixed-effects estimates (Baker et al., 2022; Goodman-Bacon, 2021; Wing et al., 2024). To address issues related to staggered adoption of resets and the ability of the

treatment to switch on and off, we use the approach developed by de Chaisemartin and D'Haultfoeuille (dCDH; 2020, 2023). This approach enables us to estimate the instantaneous average treatment effect on the treated (ATT) at the time a reset occurs as well as the dynamic ATTs over specified periods. Given the immediacy of the expected relationship between a reset and our outcomes of interest, the instantaneous ATT is helpful for understanding organizational shifts occurring alongside a tuition reset and the longer-term dynamic ATT allows us to understand the sustainability of the strategy. In estimating the DiD model using dCDH's approach, we identify all non-treated institutions during the sample period and restrict our control group to these institutions. Because institutions that reset tuition likely accompany these actions with press releases and marketing efforts (Corral & Ward, 2023; Lapovsky, 2019), these institutions may benefit to some degree from press materials remaining on the internet or lingering in students', parents' or guidance counselors' minds after tuition levels have returned to normal rates.

As a robustness check to our findings, we also specify event study models using approaches developed by Sun and Abraham (2021) and Borusyak et al. (2021), which are included in the appendix. We also examine how outcomes vary across different dosage levels given that previous research suggests reset dosage impacts enrollments across different student populations (Corral & Ward, 2023). We use alternative thresholds for our reset variable aligned with previous work: 10%, 20%, and 30% (Corral & Ward, 2023). To maintain our comparison group as never-treated, we eliminate institutions with resets smaller than the given threshold from the sample when estimating these alternative specifications.

Limitations

Among private institutions, tuition resets are designed and implemented by institutions themselves. As such, the "treatment" is endogenous and institutional leaders consider the financial impact of such a decision. Often, an institution will have net tuition revenue targets and will package aid accordingly. At private institutions, the packages are often negotiated by prospective students and financial aid administrators balance tuition dollars secured as students sign enrollment contracts with their pool of available financial aid dollars for unsigned students or students accepted off a waitlist. Our estimates of the relationship between a reset and financial outcomes does not constitute a causal relationship. Instead, we use the DiD approach to understand the relationship between resets and financial aid expenditures and tuition revenue to inform a broader understanding of organizational strategy.

At public institutions, tuition resets may be exogenously decided by system leadership, a state governing board, or the legislature, however, this is not always the case. We do not have comprehensive data on whether these are externally mandated so we are hesitant to make any causal claims regarding financial outcomes measured in this study.

Enrollments represent student demand, however, institutions have the ability to constrain this demand through the admissions process. As discussed above, the sticker price of an institution impacts the likelihood of applying, especially for certain groups of institutions, but merely applying does not ensure admission or enrollment. Since many institutions enacting a reset are intending to increase enrollments (Corral & Ward, 2023; Lapovsky, 2019) and the reset is exogenous to potential applicants, there is a greater likelihood that enrollment effects may be causal. However, we caution a causal interpretation because of the limitations of enrollment as a measure of student demand and the likelihood that an institution enacting a reset may also be implementing other marketing strategies simultaneously. We do estimate the effect on the

number of applicants, which is likely a better estimate of demand. However, we cannot disaggregate applications by students' income to assess differential effects on demand from lower-income students.

Findings

We present our findings through several event study graphs. Figure 6 shows the estimated dynamic effects for enrollment-related outcomes across four samples of institutions: 1) the full set of public and private, MSI and non-MSI, four-year institutions; 2) all MSIs; 3) a subsample of only public MSIs; and 4) a sub sample of only private MSIs. Panel A shows the estimated effect of a reset (of at least 5%) on the number of applications. We find that one to two years following a reset, applications decrease by roughly 30 percent, but then appear to return close to pre-reset level during later years of a reset. When examining MSIs, we find a slower and more persistent decline in applications over time, an effect that appears to be roughly comparable across public and private MSIs. These findings suggest a reset may not induce higher levels of student demand, as measured by the number of applications.

Despite not having the intended demand effects, we do find evidence that resets may influence enrollment decisions. Panel B in Figure 6 shows enrollments remain relatively flat in the full sample and among MSIs, on average. However, enrollment trends appear to diverge among public and private MSIs with the former experiencing small decreases and the latter experiencing modest increases. These effects appear over time at institutions with prolonged resets, but year-specific effects are accompanied by large standard errors. Given that private institutions come with a higher average sticker price, the reset may appear particularly attractive at these MSIs.

We find similar, but more pronounced, patterns among Pell enrollment. At private MSIs, we estimate Pell enrollment increases nearly 30 percent by the sixth consecutive year of a reset. At public institutions, we find that Pell enrollment has decreased roughly 15% six years following a reset. These effects remain relatively flat in the early years of a reset suggesting minimal effects among institutions that had short-lived resets or those in the nascent years of their reset strategies. As noted above, more than half of resets last fewer than three years which suggests the majority of these strategic changes produce minimal changes in overall or Pell enrollment.

Figure 7 provides dynamic estimates of the relationship between tuition resets and institutions' financial outcomes. Panel A shows changes in per-FTE institutional aid (e.g., discount) expenditures. On average, a reset is associated with a 20% reduction in institutional aid expenditures. Given the average size of a discount is 19.1%, this suggests a near one-to-one trade off by shifting tuition discounts from the financial aid process on the backend of the admissions cycle to a reduced sticker price on the frontend of the application process. In both the full sample and among MSIs, this effect fades over time, likely accompanying the rise in tuition back to its pre-reset price.

Next, we find stark differences in changes in institutional aid across public and private MSIs where public institutions do not appear to adjust aid expenditures but private MSIs reduced aid expenditures by roughly 50 percent, an effect that persists over time. These differences are important given that public and private MSIs have similar average discount rates (18% and 21%, respectively). These differences in institutional aid responses may reflect the origins of reset policies. Private institutions autonomously determine their tuition price and thus a reset is part of a larger conversation about financial and enrollment strategies. Public institutions may

implement a reset in a similar way, but can also have one externally imposed on them from the system or state level. In the event that a reset is externally determined, a public institution may not have planned to adjust institutional aid expenditures. Alternatively, public institutions may face restrictions on changing institutional aid expenditures or have mission-oriented earmarked spending on institutional aid to provide access to in-state students which would contribute to the null findings among public MSIs.

Panel B of Figure 7 shows an immediate decline in tuition revenue per FTE of roughly 15% the year a reset is enacted. This effect is detected in the full sample and among MSIs, although it appears to be more evidence at public MSIs than private MSIs which likely reflects the difference in changes in institutional aid expenditures. In both the full sample and among MSIs, the effect appears to dissipate over time which may reflect an increase in tuition over time or an adjustment of aid strategies that better aligns with the new tuition strategy.

Although institutions may be mission driven, they must operate within fiscal constraints. As institutions have become increasingly reliant on tuition revenue, the effect of any policy on tuition revenue is critical for institutional viability. Total revenue is a function of enrollment, sticker price, and institutional aid and thus a culmination of the treatment and other reported outcomes. As shown in Panel C of Figure 7, after an initial decrease in total tuition revenue, most institutions appear to recover and may have positive tuition revenue with the exception of public MSIs.

Dosage Effects

Given our findings that tuition reset policies may be related to enrollment decisions, especially among Pell recipients and at private MSIs, we examine how variation in the size of the reset relates to effect sizes. We present our estimates of the effect of dosage on enrollment-

related outcomes in Figures 8 (full sample and MSIs) and 9 (subsamples of public and private MSIs). Across the four samples, we find little evidence that policy dosage is related to student demand, as measured by the number of applicants.

On average, we find that institutions implementing larger resets may see reductions in enrollment, particularly when resets are prolonged. This effect appears to be more pronounced among MSIs than non-MSIs and driven primarily by public MSIs where point estimates for large resets lasting three years or more suggest a 50% decline in enrollment. There is an important bifurcation between public and private MSIs with the latter group appearing to benefit from larger resets and possibly reversing downward enrollment trends that precede the reset.

Aligned with the average treatment effects shown in Figure 6, we find dosage to be unrelated to Pell enrollment in the aggregate. However, the positive trajectory of Pell enrollments among private MSIs and the decreases among public MSIs do appear to be accentuated by dosage. Among private institutions with a reset of 30% or more, a prolonged decrease in tuition is related to nearly a 40% increase in Pell enrollment. Public MSIs with prolonged resets see downward trends in Pell enrollment over time. LArge resets at public MSIs are associated with more than a 30% decline in Pell enrollment when the reset is in effect for three years or more. This is more than twice the estimated losses in Pell enrollment at Public MSIs for resets generally (see Figure 6).

Discussion

Our findings suggest that, on average, MSIs experience similar enrollment and financial outcomes as non-MSIs, although resets may negatively impact demand, as measured by the number of applicants, at non-MSIs to a greater extent. Previous research has suggested sticker shock is more pronounced among lower-income students (Grodsky & Jones, 2007; Levine et al,

2023), who are more likely to enroll at MSIs, in part, due to the explicit inclusion of students' income distribution in MSI designation. Given these dynamics, we would expect a decrease in sticker price to induce demand among lower-income students, which would have a larger effect on MSIs.

The negative relationship between a reset and the number of applicants may indicate that higher education is a Veblen Good, where higher prices induce more demand. Such a phenomenon has been documented at wealthy, low-acceptance institutions (Kirp, 2003), but the dominant discourse about postsecondary education more broadly centers on unaffordability and how students are price sensitive (Dynarski et al., 2022; Goldrick-Rab, 2016). While the negative relationship is unexpected, the muted effect among MSIs aligns with prior research on lower-income students' price sensitivity. Importantly, we cannot disaggregate applicants by income using IPEDS data. It is possible that reductions in applications are driven by higher-income students and that the extent to which college is a Veblen Good is directly proportional to a student's financial wellbeing.

Although we cannot disaggregate applications by income, we do examine the relationship between tuition resets and Pell enrollment. We find a sharp split in Pell enrollment between public and private MSIs with the former experiencing decreases and the latter experiencing increases. These increases at private colleges are most pronounced among larger and more prolonged resets. Although enrollment is neither exclusively an indicator of student demand, due to an admissions process, nor exclusively tied to sticker price, due to financial aid and backend discounting, the growth in Pell enrollments supports previous research findings that lower-income students may be most responsive to changes in actual and perceived prices. Our findings suggest that a tuition reset may help private MSIs fulfill income-related aspects of their missions.

Our observed decrease in total enrollment and among Pell students at public MSIs may point to a lack of efficacy of tuition resets among these institutions. Public MSIs, which have lower average tuition than their private and non-MSI counterparts, may have a sticker price that is sufficiently low to deter sticker shock. Moreover, the observed relationship between these declines and the size of the reset, while applications remain steady, may point to the fact that public MSIs with large and prolonged resets are in a particularly difficult recruitment situation due to factors unrelated to tuition price.

Implications for Institutional Finance

The overwhelming majority of institutions lack an abundance of alumni with deep pockets or a sizable endowment from which to draw funds. Instead, institutions are operating on tight budgets where every enrolled student and their net tuition revenue is critical for meeting organizational revenue goals (Hossler & Bontrager, 2014). The shifting burden of postsecondary costs to students and their families coupled with rising costs of colleges have created more price sensitive students and put college out of the financial reach of many students. In the face of declining enrollments and increased opacity in college pricing, many institutions have turned to tuition resets as a marketing tool and a way to communicate to students that their institution is affordable.

Total tuition revenue, an important component of institutional revenue especially among private MSIs, is a function of total enrollment, sticker price, and institutional aid. As sticker price decreases, as in the case of a tuition reset, it is expected that institutional aid will also decrease in order to keep net tuition revenue per FTE constant. Of course, if an institution can increase its enrollment with a low marginal cost for each additional student, it is possible a decrease in

sticker price does not necessitate an equivalent decrease in institutional aid in order to grow total tuition revenue.

Our findings in Figure 7 suggest that, on average, a tuition reset does not substantially improve an institution's total tuition revenue or tuition revenue per FTE. This is due to large decreases in institutional aid and relatively null enrollment effects. However, these outcomes differ among private MSIs. We observe these institutions experiencing some growth in fall enrollment, tuition revenue per FTE, and total tuition revenue. These effects appear when resets are prolonged, suggesting a reset is not a quick fix to the revenue equation. Nevertheless, private MSIs that reset tuition appear to benefit financially in the long-term.

Public MSIs, however, show a downward trajectory in total tuition revenue. These institutions experience decreases in enrollment, especially in the longer-term, and do not appear to change institutional aid expenditures substantially. The steady per FTE discounts may be due to public institutions' lack of discretion in some public dollars earmarked for institutional aid. Additionally, tuition revenue comprises a smaller share of total revenue thus making the passthrough of decreases in sticker price to decreases in institutional aid less important for the organization's bottom line.

Finally, tuition resets, especially larger and more prolonged resets, represent a shift away from a high tuition/high aid model towards a low tuition/low aid model. Both public and private institutions have moved towards the high tuition/high aid model over the past several years, although the shift has been more pronounced among private institutions. As such, we expect a reset to be more impactful in this sector. Private institutions using this model generally charge each student a different net price after various types of aid are included to discount the sticker price. The high tuition/high aid models allows enrollment managers at private institution to

strategically use aid to advance institutional goals which may include significant need-based aid to improve affordability for lower-income students, targeted grants the reduce the price and increase enrollment of historically underserved populations, or specialty awards to bolster academic, athletic, or other extracurricular accomplishments at the institution. Resetting tuition and moving towards a low tuition/low aid model likely places constraints on an institution's ability to use aid to recruit certain groups of students.

Some scholars have pointed out that restricting tuition prices may harm lower-income students as institutional aid budgets will not grow sufficiently to make college affordable for those with higher demonstrated financial need. Moreover, they argue that cutting sticker prices may harm lower-income students. Our findings suggest that private MSIs increase Pell enrollments following a reset, an effect that appears more pronounced for larger cuts to the sticker price. Previous research has also indicated that while all students at private institutions experience a decrease in net price following a reset, the decrease is smallest for the highest income students and the net price for lower-income students remains lower than middle- and upper-income students (Corral & Ward, 2023). Although IPEDS data does not allow for a student-by-student examination of net price, we are encouraged by our findings that Pell enrollments grow at private MSIs.

Conclusion

In many ways MSIs are fundamentally different than their non-MSIs. These institutions have distinct missions, experience different trends in and shocks to demand, receive mission-aligned federal funding, but have also been historically neglected through other funding mechanisms. As a result of this unique position, many MSIs are facing financial constraints that may jeopardize their ability to fulfill their mission or remain solvent. Both MSIs and non-MSIs

have engaged in tuition reset policies in an effort to counter flagging enrollment, induce demand for the institution, and improve the organization's financial outlook. In this study, we build upon prior research to understand how students and institutions respond to decreases in sticker prices at MSIs.

Our findings suggest tuition resets may not induce demand, on average, as intended. Enrollment changes are likely driven by organizational strategy and we find a divergence between public and private MSIs. These strategies are also likely to be linked to variation in the overall financial benefits of a reset for institutions. Taken together, our findings suggest that private MSIs may use resets to grow enrollment and increase overall tuition revenue. They appear to do this without limiting access to lower-income students, although our findings cannot disaggregate if the reset hampers the institution's ability to meet these students' financial needs. Resets may be a viable option for some institutions, but context and individual strategy likely plays a pivotal role in the success of such a strategy.

Our findings, and those from previous research, suggest additional avenues for future research. We believe it is important to better understand the factors related to and preceding the adoption of a reset policy. These antecedents of the policy may provide useful ways to disaggregate estimates of the effects of resets and given important context that influences the success of such a strategy. Additionally, it is important to further explore the effects among public institutions and identify if enrollment and finance outcomes differ when institutions devise the reset strategy themselves as opposed to it being externally mandated. Finally, we suggest future research explore students' responses and perceptions of a reset to better understand when and if resets can be an effective tool for institutions.

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Table 1
Description of MSI Types and Criteria

Mission-Based MSI	**Primary Student Enrollment Criteria**	**Legislation & HEA Federal Program Names**	**Purpose of Funding Program & Other Criteria**	**# of Eligible Institutions in 2023[a]**
Historically Black College and University (HBCU)	None	Title III, Part B & F, Strengthening Historically Black Colleges and Universities Program	Assists HBCUs in "strengthening their academic, administrative, and fiscal capabilities"	101
	None	Title III, Part D, Historically Black College and University Capital Financing Program	Provides HBCUs with loans to improve infrastructure	101
Historically Black Colleges and Universities Graduate Institutions (HBGI)	None	Title III, Part B, Strengthening Historically Black Graduate Institutions Program	Authorizes grants to HBCUs with graduate programs to improve "academic, administrative, and fiscal capabilities"	24
Historically Black Colleges and Universities Masters Institutions (HBCU Masters)	None	Title VII, Part A, Master's Degree Programs at Historically Black Colleges and Universities	Support HBCUs in improving graduate STEM education	18
Tribal College and University (TCU)	None	Title III, Part A & F, Strengthening American Indian Tribally Controlled Colleges and Universities (TCCUs) program	Provides funds to enhance academic quality, institutional management, and financial stability	35
		Tribally Controlled College or University Assistance Act (TCCUAA) of 1978[b]	Provides the majority of institutional funding for TCUs based on the number of Indigenous FTE students ($8,000)	35

Enrollment-Based MSI	**Primary Student Enrollment Criteria**	**HEA Federal Program**		**# of Eligible Institutions[a]**
Hispanic Serving Institution (HSI)	25% Hispanic student undergraduate enrollment	Title V, Part A, Developing Hispanic-Serving Institutions Program	Provides general capacity-building grants to expand educational opportunities for Hispanic students	539
HSI - STEM	25% Hispanic student undergraduate enrollment	Title III, Part F, HSI STEM and Articulation Programs	Offers grants with two separate aims: 1) Increase the number of Hispanics in STEM via improving academic quality and capacity, and 2) Develop transfer pathways and articulation agreements between two-year and four-year institutions.	--
HSI - Promoting Postbaccalaureate Opportunities for Hispanic Americans Program (PPOHA)	25% of undergraduate enrollment identify as Hispanic	Title V, Part B, Promoting Postbaccalaureate Opportunities for Hispanic Americans Program	Provide grants to increase postbaccalaureate opportunities for Hispanics and expand postbaccalaureate academic offerings	--
Predominantly Black Institution	40% of undergraduate enrollment identify as Black	Title III, Part A & F, Strengthening Predominantly Black Institutions	Offers grants with specific purposes, such as enhancing institutional capacity, expanding educational opportunities, and financial stability	65
PBI - Masters Degree Programs[c]	40% of undergraduate enrollment identify as Black	Title VII, Part A, Master's Degree Programs at Predominantly Black Institutions	Provide grants to establish Masters degree programs at PBIs (with a focus on STEM)	5
Asian American and Native American Pacific Islander-Serving Institutions (AANAPISI)	10% of undergraduate enrollment identify as Asian American	Title III, Part A & F, Strengthening AANAPISIs program	Offer grants to improve AANAPISI's ability to serve Asian Americans and Native American Pacific Islanders and low-income	207

	and Pacific Islander		individuals	
Alaska Native and Native Hawaiian-Serving Institutions (ANNHIs)	20% of undergraduate enrollment identify as Alaska Native	Title III, Part A & F, Strengthening (ANNHIs) program	Provide grants to support Alaska Natives or Native Hawaiians.	16
Native American-Serving Nontribal Institutions	10% of undergraduate enrollment identify as Indigenous	Title III, Part A & F, Strengthening NASNTIs program	Offer grants to support	32

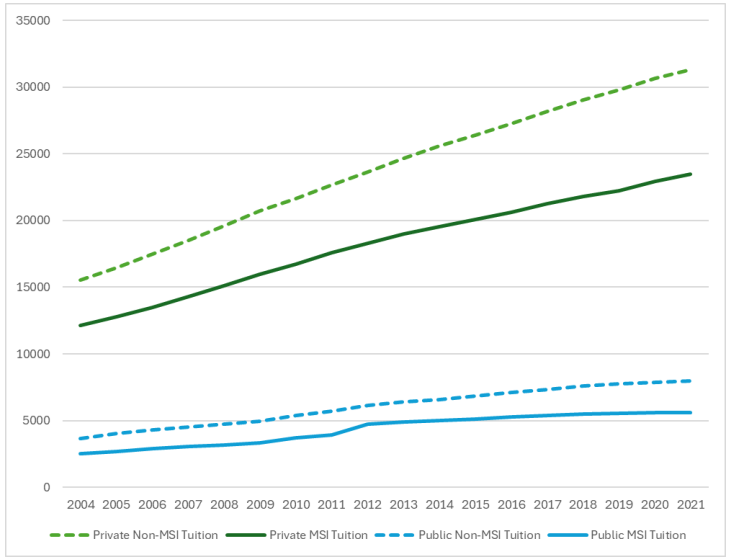
Note. Adapted from Hegji (2017), Dortch (2023); Nguyen et al. (2023); and Rutgers Center for MSIs (2023).
[a] Based on the Rutgers Center for MSIs (2023) eligibility list.
[b] The TCCUAA is not an MSI funding program from the HEA but does provide considerable base funding for TCUs. The U.S. Bureau of Indian Affairs administers it.
[c] The federal government last funded this program in 2014 and we therefore consider it inactive.

Table 2: Descriptive Statistics of analytic Sample, by MSI Status

	Non-MSI		MSI	
	Mean	SD	Mean	SD
Applicants	5621	(8488)	5986	(9162)
Fall Enrollment	5736	(9037)	7229	(9005)
Pell Enrollment	1461	(2336)	2832	(3442)
Tuition Rev (Millions)	65.5	(125)	41.4	(68.4)
Tuition Rev /FTE	12108	(8076)	6965	(4995)
Inst. Aid/FTE	6101	(6247)	3263	(3308)
State Rev/FTE	3108	(10961)	4654	(8066)
% BA+ in State	30	(6)	30	(6)
State Unemp. Rate	6	(2)	6	(2)

Figure 1: Average Sticker Price and Net Price, by MSI Status and Control

Panel A: Sticker Price



Panel B: Net Price

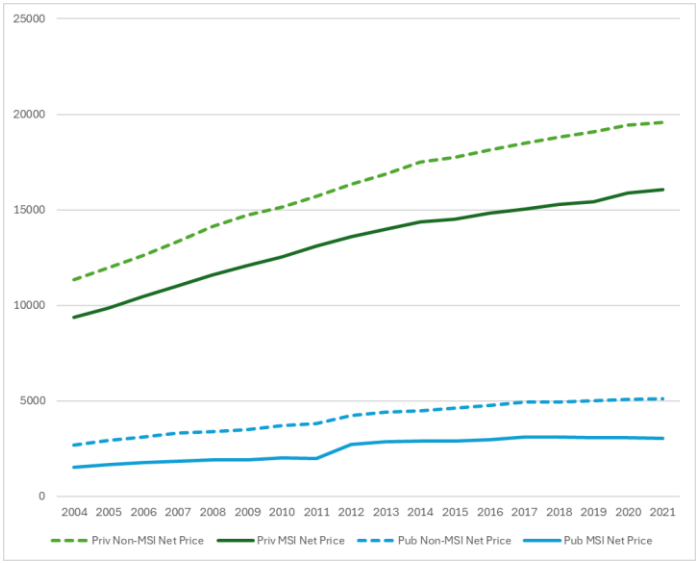
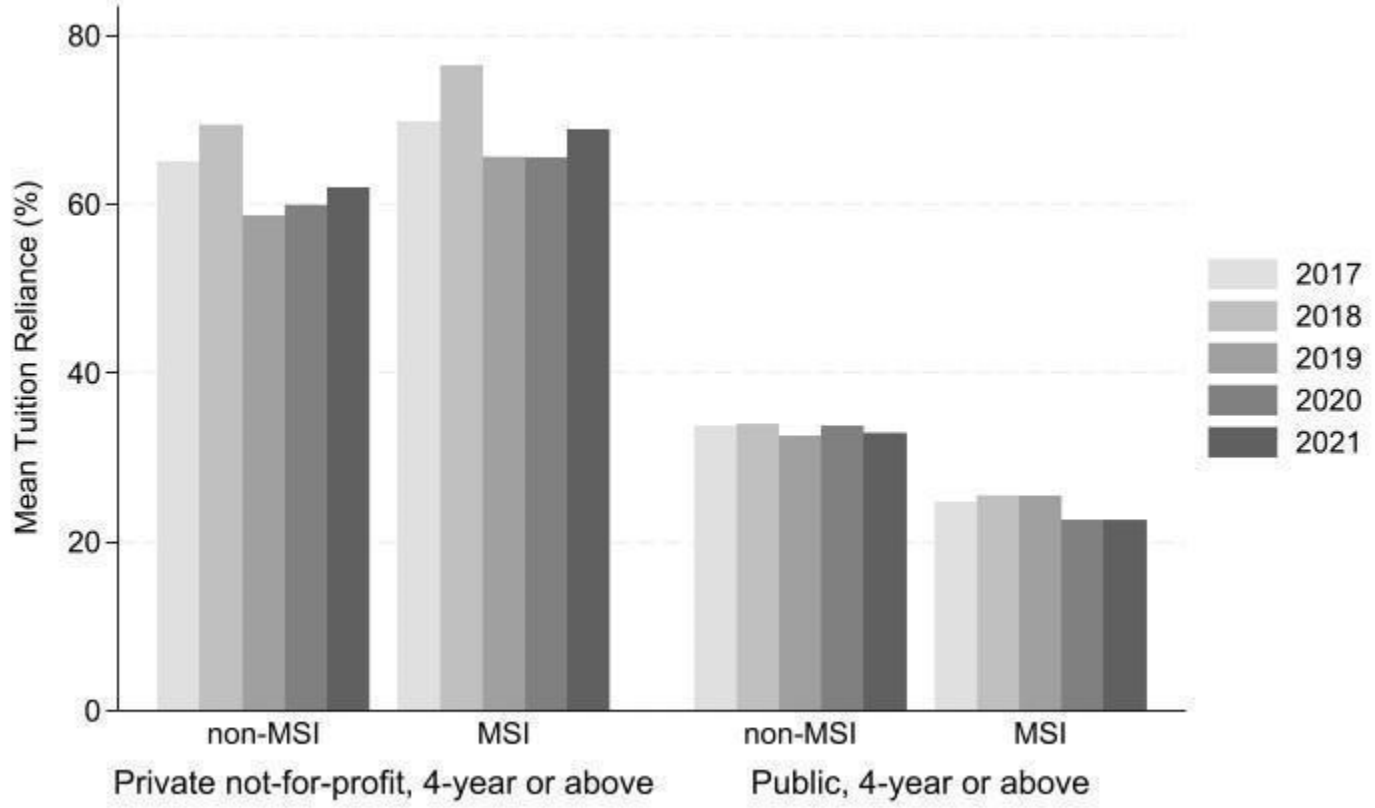


Figure 2.

Mean Share of Tuition Reliance by Sector and MSI-Status



Source: The MSI Data Project (Nguyen et al., 2023).

Figure 3: Length of Tuition Resets, by MSI status

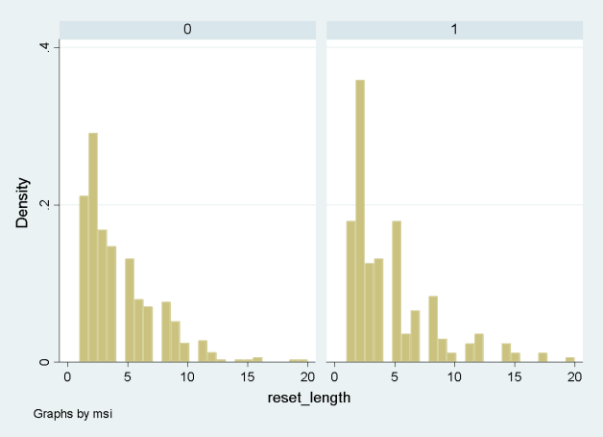


Figure 4: Distribution of Tuition Resets across Sample Years, by MSI Status

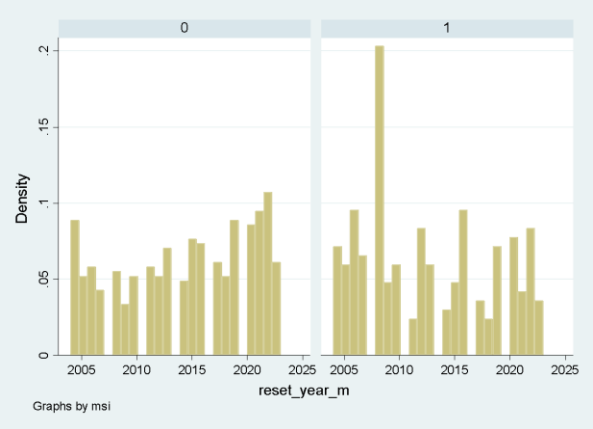


Figure 5: Distribution of Tuition Reset Sizes, by MSI Status

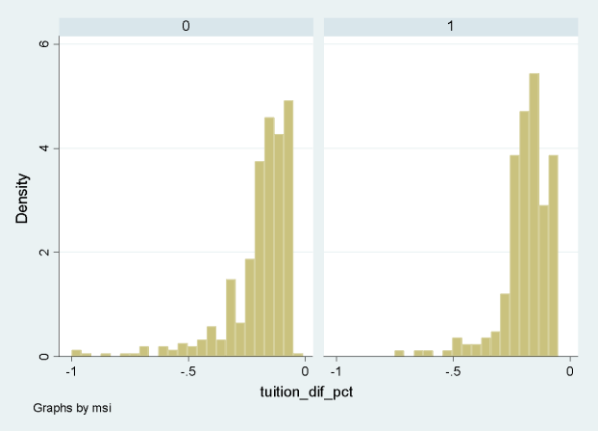
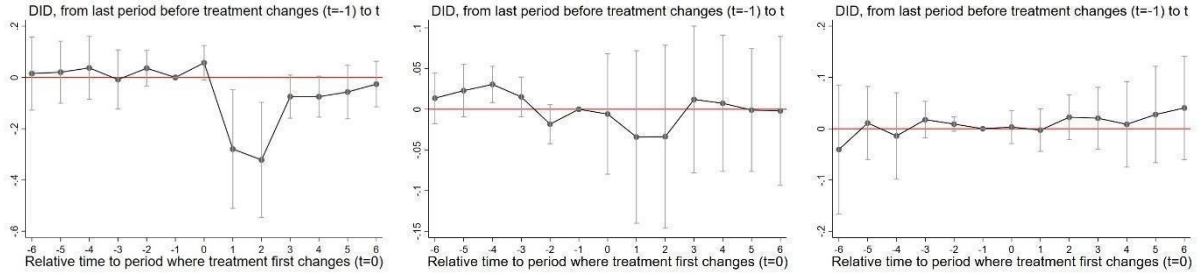


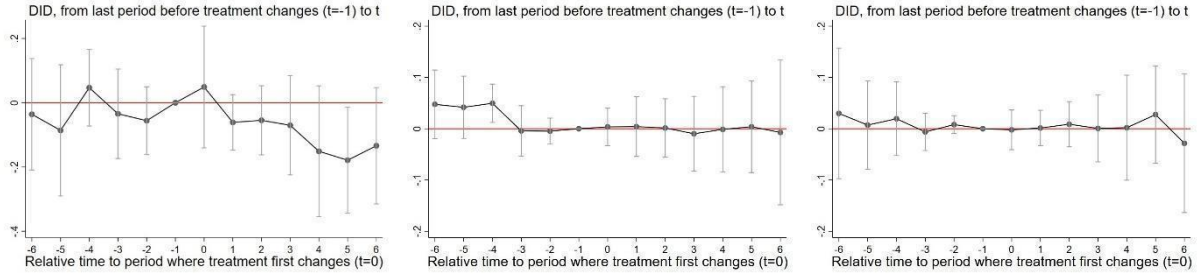
Figure 6: Dynamic Treatment Effects on Enrollment Outcomes

Panel A: Applications | Panel B: Fall Enrollment | Panel C: Pell Enrollment

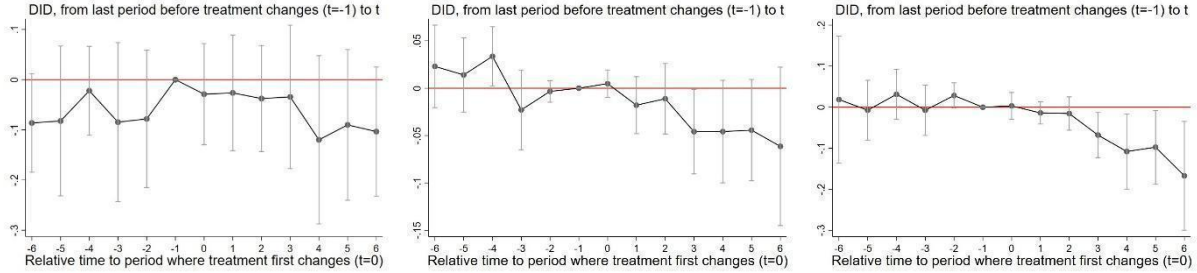
Full Sample



MSIs only



Public MSIs



Private MSIs

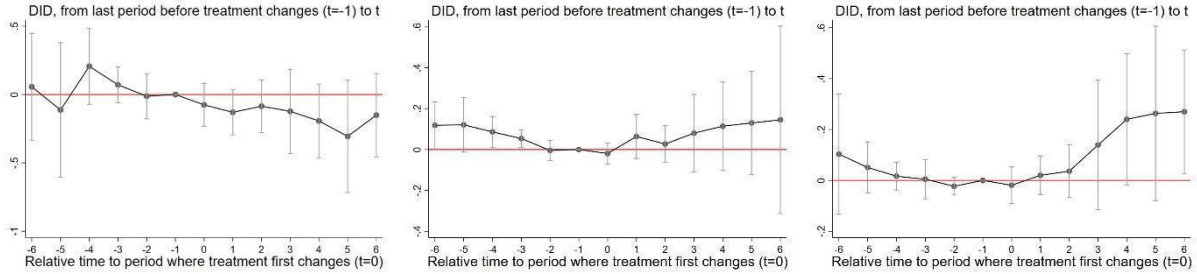
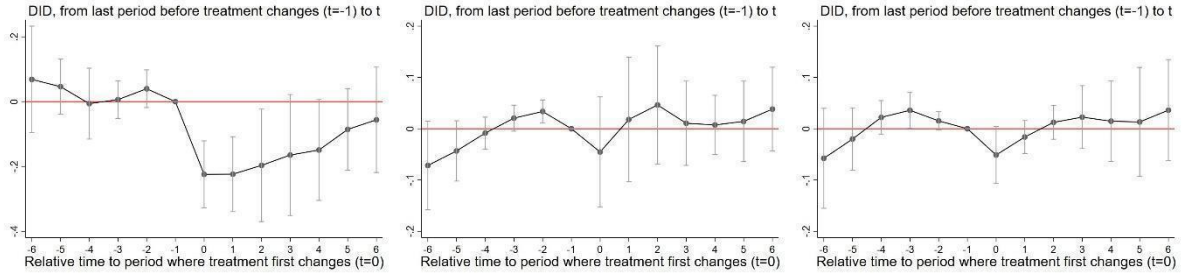


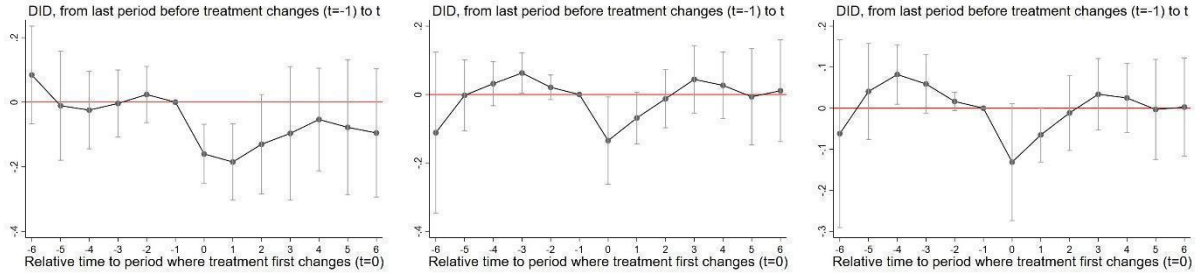
Figure 7: Dynamic Treatment Effects on Finance Outcomes

Panel A: Discount per FTE Panel B: Tuition Rev per FTE Panel C: Total Tuition Rev

Full Sample



MSIs Only



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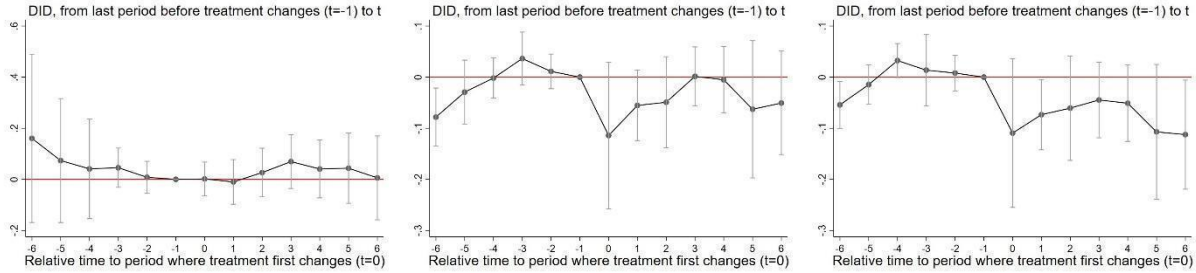


Private MSIs

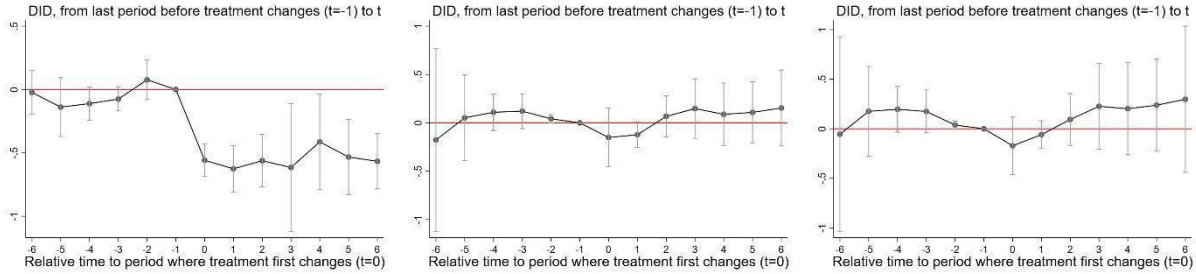
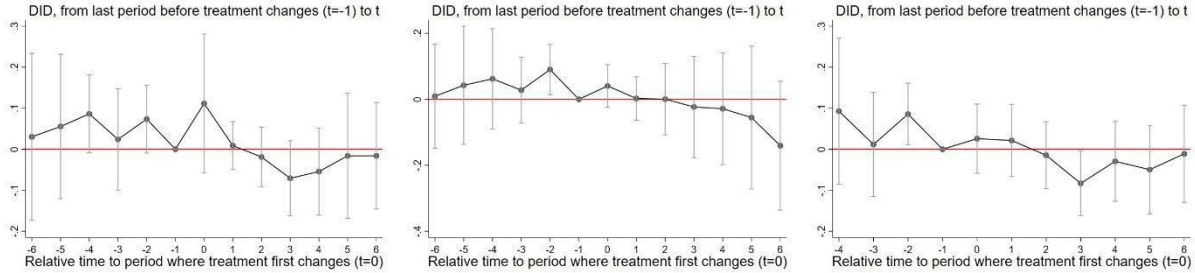


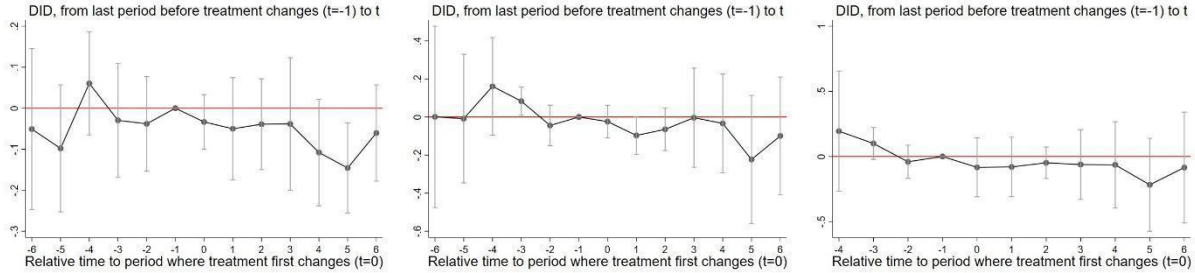
Figure 8: Dynamic Treatment Effects, by Dosage and MSI Status

10 Percent Reset	20 Percent Reset	30 Percent Reset

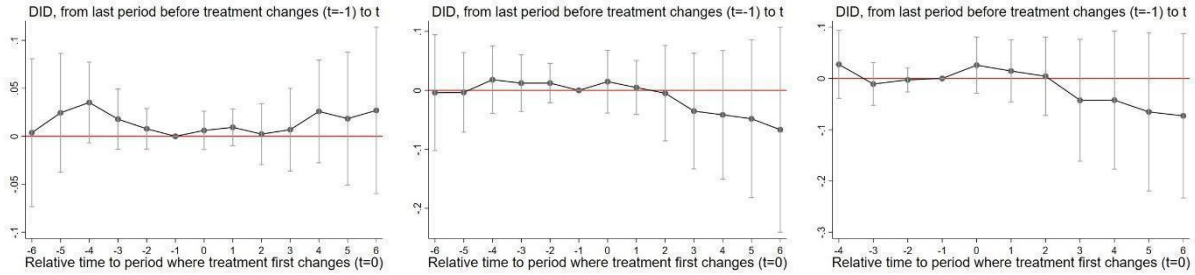
Full Sample – Applications



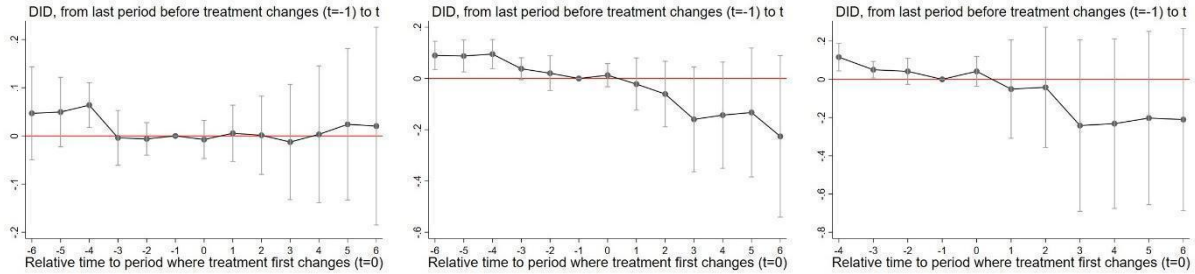
MSIs Only – Applications



Full Sample – Fall Enrollment

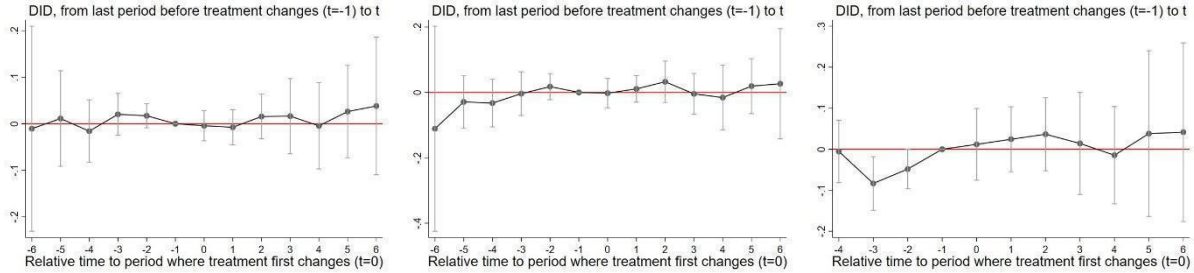


MSIs Only – Fall Enrollment



(Figure 8 continued)

Full Sample – Pell Enrollment



MSIs Only – Pell Enrollment

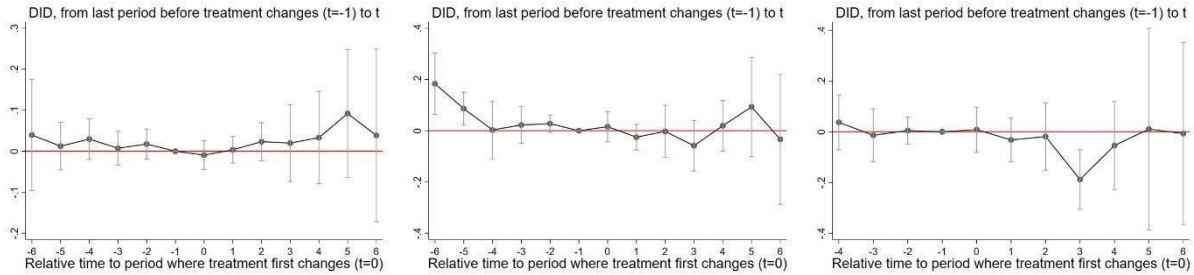
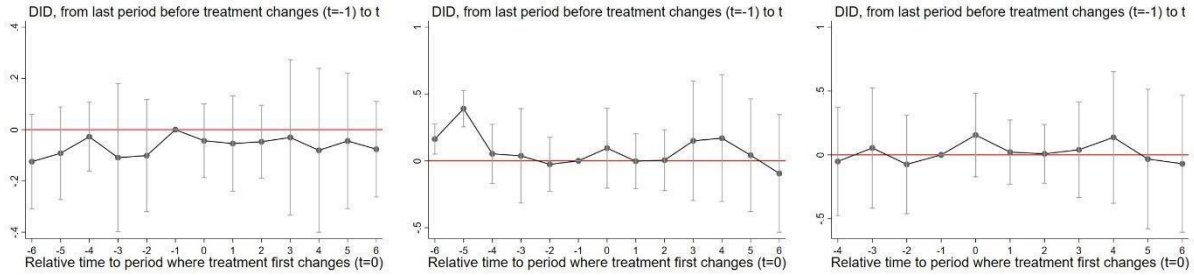


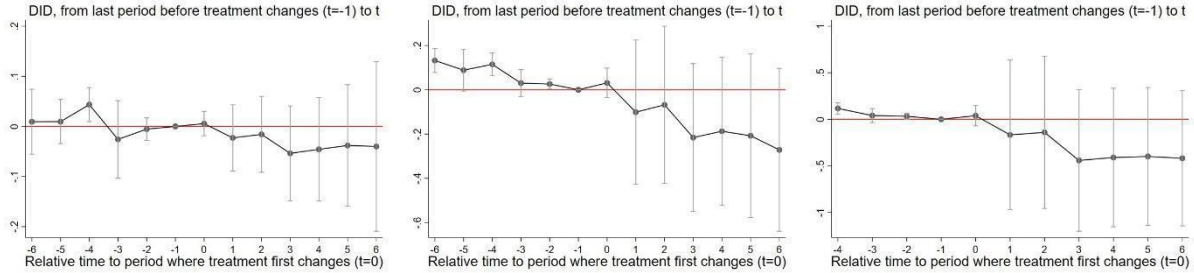
Figure 9: MSI Dynamic Treatment Effects, by Dosage and Control

10 Percent Reset	20 Percent Reset	30 Percent Reset

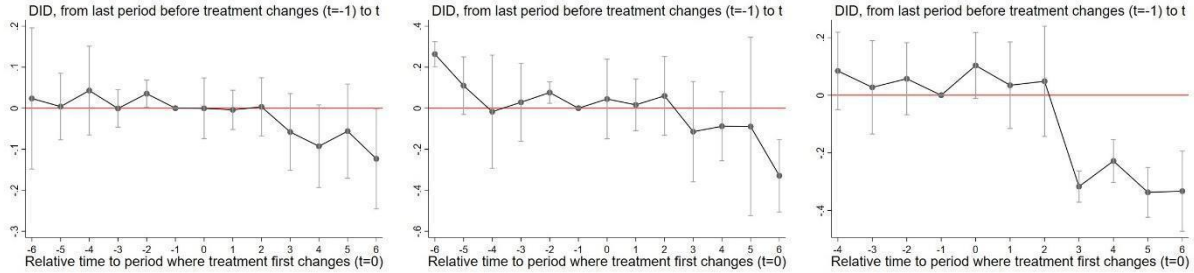
Public MSIs - Applications



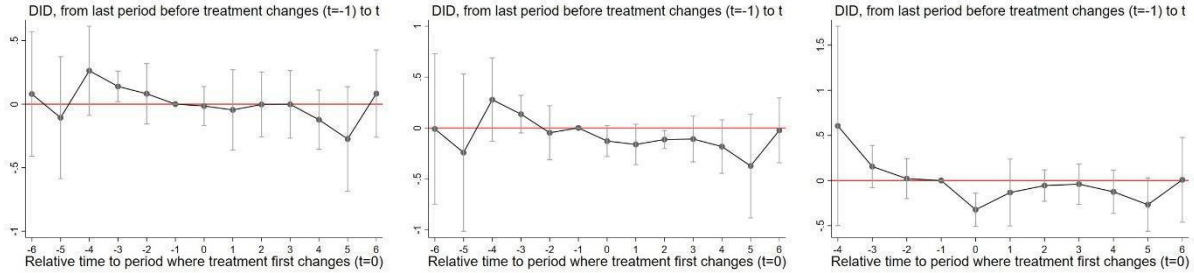
Public MSIs – Fall Enrollment



Public MSIs – Pell Enrollment

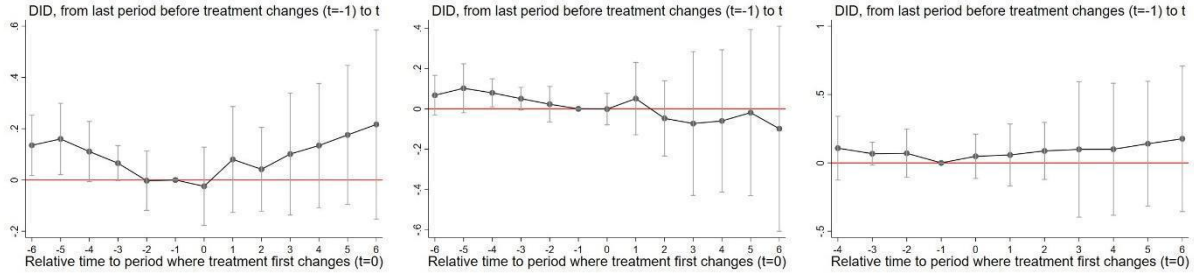


Private MSIs – Applications

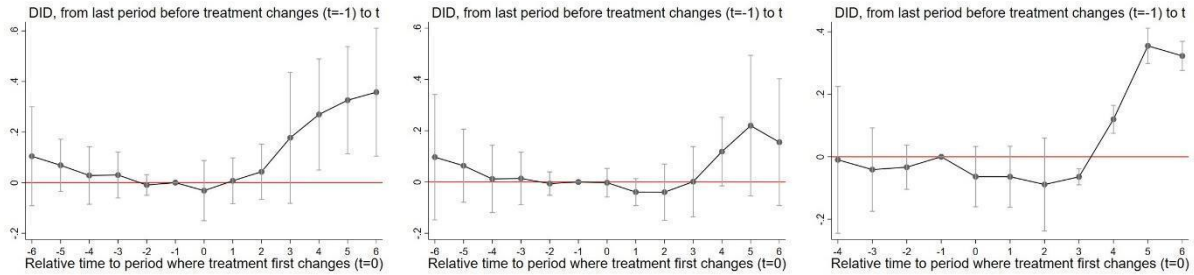


(Figure 9 continued)

Private MSIs – Fall Enrollment



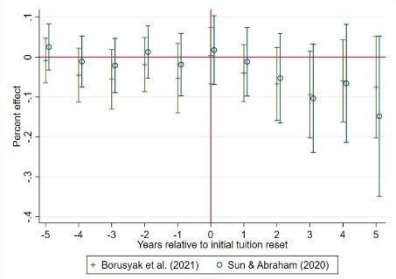
Private MSIs – Pell Enrollment



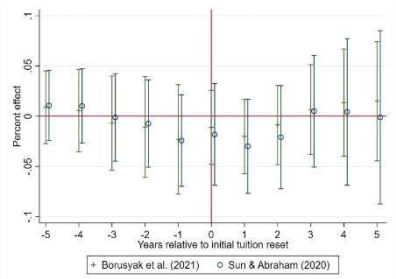
Appendix

Figure A1: Robustness Checks for Full Sample

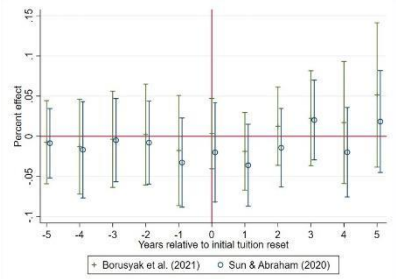
Applications



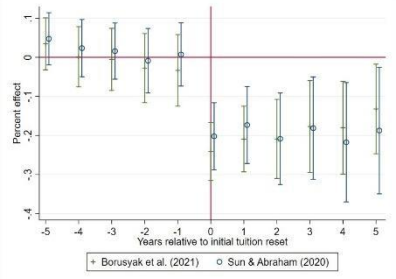
Fall Enrollment



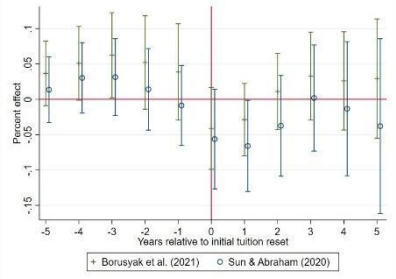
Pell Enrollment



Institutional Aid per FTE



Tuition Rev per FTE



Total Tuition Rev

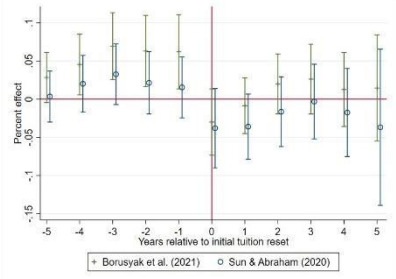
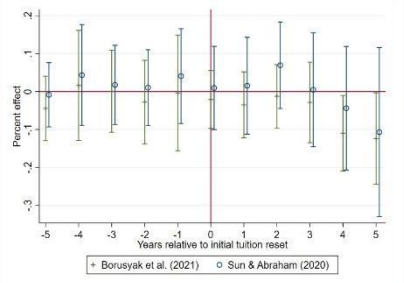
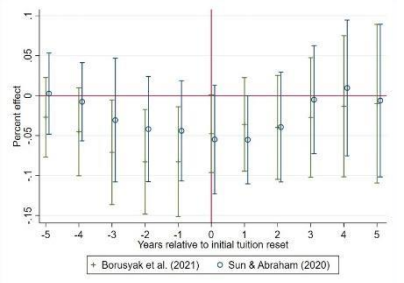


Figure A2: Robustness Checks for MSIs

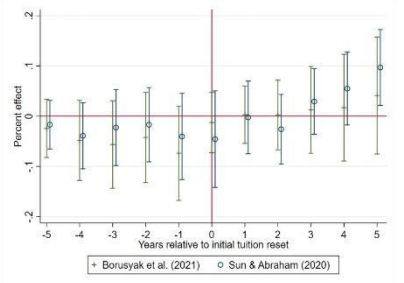
Applications



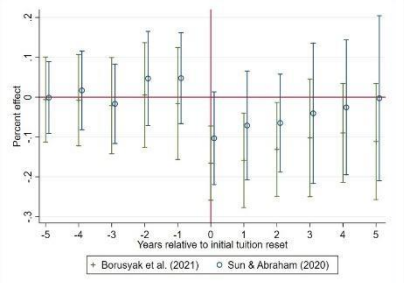
Fall Enrollment



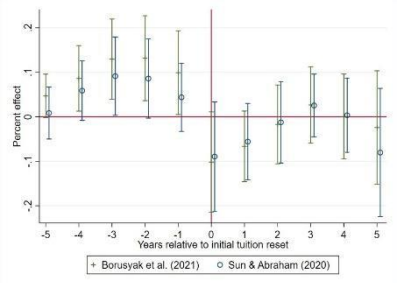
Pell Enrollment



Institutional Aid per FTE



Tuition Rev per FTE



Total Tuition Rev