

The Great Student Swap

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Abstract

For the last twenty years, nearly every flagship university in the U.S. has been decreasing its share of in-state students and enrolling more students from out of state, a phenomenon I call the “Great Student Swap.” Using data from the Integrated Postsecondary Education Data System (IPEDS), I examine every “flagship” public university by comparing incoming first year students from 2002 through 2018 (those who would have graduated in the spring 2022 assuming the traditional four-year timeframe for completion). I find that the share of out-of-state students has risen by an average of 55 percent since 2002 and that 48 of the 50 flagships experienced a growth in their share of out-of-state students. The average decline in in-state students was 15 percent, and five states swapped more than one out of every five in-state students for an out-of-state student. Each state’s flagship experience can be seen in the Figure 1 infographic.

My detailed analysis of a subset of 16 states finds that the share of out-of-state students attending their flagships grew by 41 percent, slightly less than the average out-of-state student growth across the 50 states. For these states, I document the growing gap between in-state and out-of-state tuition and the decline in state governmental support. I find suggestive evidence that the decline in support is greater in states that have swapped their own students for out of staters at a faster rate. I hypothesize that schools are caught in a cycle where they compensate for the decline in state funding by enrolling more lucrative out-of-state students. Increased recruitment of out-of-state students, in turn, may lead to less local political support and further erosion in state funding.¹

Despite the general increase in out-of-state students attending flagship universities, I find that a few schools have stabilized their in-state enrollments. The University of North Carolina at Chapel Hill is the only flagship that has both a majority of in-state students

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One overlooked aspect contributing to debt is the growth in out-of-state enrollment in public universities. Out-of-state tuition can be twice as high as in-state prices, driving up student debt and university tuition revenue. During this time period the sticker tuition price difference between in- and out-of-state schools has been rising while the share of in-state students is falling.

(82 percent) and has not increased its out of state student share during our sample time frame. The University of Texas at Austin's share of in-state students fell from 91 to 89 percent, but retains one of the highest shares of in-state students of any flagship. As I detail, both universities are subject to state requirements that have effectively minimized the Great Student Swap. I also consider a few non-flagship schools in three states within the 16-state sample that reveal similar changes in the composition of the student bodies at two (Michigan State and New Mexico State), while finding that the University of Nevada, Las Vegas went in the opposite direction and increased its share of in-state students.

Introduction

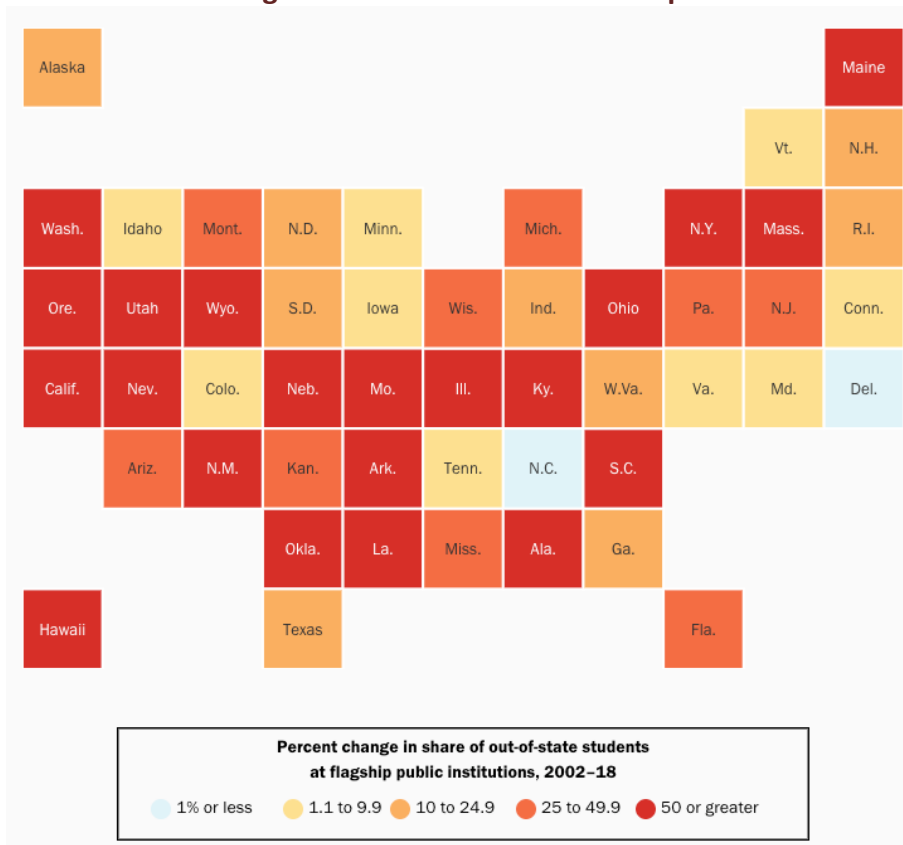
Public flagship universities in the U.S. are engaged in a "Great Student Swap" and the result is that the share of students who are from out-of-state has increased significantly at flagship schools across the country over the past two decades. The Great Student Swap is occurring as tuition and fees at America's higher education institutions have increased. It has made a college degree far more expensive for many Americans, and it has left those who did attend with \$1.7 trillion in student debt.² One overlooked aspect contributing to student debt is the growth in out-of-state enrollment in public universities. Out-of-state tuition can be more than twice as high as in-state prices, driving up student debt and university tuition revenue. During this time period the sticker tuition price difference for in- and out-of-state students has been rising while the share of in-state students is falling.

Using data from the Integrated Postsecondary Education Data System (IPEDS), I explore trends in student body compositions, tuition costs, and state and local appropriations for public universities and colleges across the country. I focus the analysis on public flagship universities. Flagships account for one in nine undergraduate students (11 percent).³ They can play a critical role in providing affordable, high-quality degrees and promoting social mobility.⁴ Flagships are generally the leading four-year public institutions in their respective states⁵ and usually the oldest.⁶ Ten of the top 50 national universities in 2021 are public flagship schools according to U.S. News & World Report rankings.⁷ Attending a flagship university can improve lifetime outcomes. One study found that attending a flagship can increase earnings by up to 20 percent relative to the most similar students who were barely rejected and of whom roughly five out of six attended another in-state university.⁸ Flagships also often offer student programs aimed at helping low-income students succeed, such as the University of Texas (UT) at Austin's Longhorn Opportunity Scholarship, which has been shown to improve graduation rates and earnings for low-income students.⁹ For America's higher education system to promote social mobility, its flagships need to be accessible to low-income students.

In the analysis, I categorize students as either being in-state or out-of-state. Out-of-state students include international students who make up a small but growing share of the population at some universities. I focus on undergraduate students, specifically first-time, first-year students.

As Figure 1 details, flagship universities in 48 out of 50 states have experienced declines in their share of in-state students between the first-year classes of 2002 and 2018. The average decline was 15 percent, and five states swapped more than one out of every five in-state students for an out-of-state one. The University of Alabama had the largest decline during this period, reducing their share of in-state students by over 50 percent.

Figure 1: The Great Student Swap



Source: Author’s calculations using IPEDS 2002 and 2018 Fall Enrollment data for first-time freshmen.

Notes: While not every state designates one of its public four-year universities as a flagship, many research studies use one flagship per state. The flagship is the leading and often oldest four-year public institution I use a list similar to the one used by Gerald D., & Haycock, K. (2006) *Engines of inequality: Diminishing Equity in the Nation’s Premier Public Universitas*, Education Trust. View the interactive map at: <https://www.brookings.edu/interactives/student-swap-map/>

Across all 50 schools, out-of-state students' share of the incoming class grew by an average of 55 percent. This growth was widespread, as two-thirds of states (33) increased their out-of-state enrollment by more than 20 percent. The University of California, Berkeley had the largest increase at 197 percent. The percentage increases for out-of-state students are generally higher than the declines of in-state students as the vast majority of flagship schools remain majority in-state. This makes sense as after all, state public universities were founded with a goal to educate students of their own state.

Admissions are a zero-sum game once class size is fixed and hence any increase in out-of-state comes at the expense of fewer in-state students. Universities decide who to admit, and they can choose in-state or out-of-state students. I assume for this analysis that student preferences to remain in state or to attend college out of state did not change during the time period and that flagship universities have more qualified student applicants than space and hence select their student body. Some universities are more selective than others, as is well documented. Generally speaking, flagship universities are the most prestigious in their state and hence offer the best "in-state value" for most students.

Only two states did not follow the national trend. The University of North Carolina (UNC) at Chapel Hill remained consistent at 82 percent in-state admissions. As discussed in greater detail below, this is the result of a state requirement from the 1980s that requires all North Carolina public colleges and universities to have no less than 82 percent of students be in state. Thus, UNC-Chapel Hill was constrained and could not change their own admissions rates between in- and out-of-state students. The other school is the University of Delaware, where in-state share grew ever so slightly from 39.0 percent to 39.3 percent.¹⁰ Delaware is an outlier in terms of how heavily out of state its student body was in 2002 (ranking second), and despite the movement by other flagships over the past two decades, Delaware remained among the most out-of-state student heavy in 2018 (ranking fourth). Thus, while Delaware did not increase its out of state share during the time period of the study, it is materially different from UNC-Chapel Hill at 82 percent in state or UT Austin where the in-state share fell slightly from 91 to 89 percent.

I believe the Great Student Swap explains part of the national increase in student debt:¹¹ Since out-of-state tuition is significantly higher than in-state tuition, more out-of-state students means more students are paying higher prices. This challenges the idea that increased costs for college are part of a worthwhile trade-off for a more educated (and presumably more productive) society. Swapping students between schools does not

increase total educational attainment. It does mean higher revenue for in-state schools that swap in-state for out-of-state students.

The California State Auditor examined changes in the University of California system enrollment in a report entitled “The University of California: Its Admissions and Financial Decisions Have Disadvantaged California Resident Students.”¹² The report, issued in 2015, “Concludes that over the past several years, the university has undermined its commitment to resident students. Specifically, in response to reduced state funding, the university made substantial efforts to enroll nonresident students who pay significantly more tuition than residents.”¹³ In addition to linking the change in University of California admissions policies to the changes in state funding, the report also made clear the impact on California students’ abilities to attend the University: “The university’s decision to increase the enrollment of nonresidents has made it more difficult for California residents to gain admission to the university.”¹⁴

For students who would have gone to their own in-state school but are now crowded out and must seek college elsewhere, it means a difficult choice: attend an in-state non-flagship (often, though not always, a decrease in college “prestige” or quality) or attend either a public out-of-state school or private school and face a higher cost (both in tuition and likely room and board). There is another group of students for whom the swap may or may not be beneficial: the out-of-state students who are now accepted into an out-of-state public school. For these students, the Great Student Swap may lower the cost of college, had they been considering a private school that was more expensive, or it may have raised the cost of college had they instead attended their own in-state school or a private school that was less expensive than an out-of-state public school.

Many states have tightened the ability for out-of-state students to establish residency. For example, the University of Colorado tightened residency requirements in 2013.¹⁵ As the University of California, Berkley financial aid office states, “Many nonresident students believe they can easily establish California residency after their first year and pay in-state fees in subsequent years. Students physically present in California solely for educational purposes will not be eligible for resident classification regardless of the length of their stay in California.”¹⁶ The amount of student aid provided to students who are out-of-state is another factor in the total cost of college for out-of-state students that is not widely reported and hence cannot be factored into this analysis. To the extent that some schools provide such assistance, it would lower the cost for out-of-state students, but reduce the amount of financial aid available to other students.

Finally, there is the question of the income level of families in both categories: those whose kids are being swapped out and those whose are being swapped in. A recent report from the Third Way think tank argues that the increase in out-of-state students is part of a conscientious hunt for students from wealthier families willing to paying higher tuition. The study argues:

many state flagship universities are increasingly unrepresentative of the socioeconomic and racial diversity of the state they serve, in large part because they enroll a growing number of affluent, out-of-state students. This systematic preference for wealth, at times independent of merit, reveals how incentives created by policy decisions and unstable funding streams can distort the enrollment priorities of public universities—with powerful and far-reaching consequences for socioeconomic and racial equality in college access.¹⁷

The report authors found that, “Many state flagship universities seem to be expending more resources finding affluent, middling out-of-state students than they expend on finding high-achieving low- and middle-income students in their own state.”¹⁸ This could be another example of “dream hoarding,” an argument put forward by Richard Reeves examining how upper-middle class families are able to tilt existing structures toward their and their children’s advantage.¹⁹

Contextualizing the size and reach of flagship universities, all public universities, and private selective and non-selective schools is important to assessing likely impacts. There are approximately four times as many students enrolled in public flagship universities as in private selective colleges and universities (2.6 million versus 626,000).²⁰ Non-flagship public universities have more than twice the number of students enrolled as flagships (5.5 million). Finally, enrollment at private, non-selective universities are roughly equal in size to public flagships (2.8 million). It is impossible to know precisely what options students who are being swapped face in selecting colleges. Substantial heterogeneity is likely, both within students and within states, particularly given the delta in selectivity and prestige associated among flagships and within states between flagships and non-flagships. However, given that public universities combine for 8.1 million students while private nonprofit four years have less than 3.5 million, it would require a substantially skewed result for most of the swapped students to be choosing between public flagships and private universities, particularly private selective schools.

A thought experiment: Imagine that all flagships had kept the same share of in-state students as they had in 2002 through 2018 and that out-of-state students paid the full

out-of-state tuition differential. For just the 16 states in the sample, the Great Student Swap may have increased the total tuition paid by students by \$57 billion. Considering these are only 16 of the 50 public university flagship schools and that there are many more public colleges and universities swapping students besides flagships, the Great Student Swap plays a far larger role in the explosion of the cost of college than these data might suggest.²¹

Sample Selection

Having shown the Great Student Swap phenomena is the norm across the country, I turned to a sample of states for an in-depth analysis on tuition, appropriations, and student debt. The goal of this sample is to choose states/schools that should be uncorrelated with each other in terms of admissions decisions, are generally representative of America, and feature variation across a range of factors including geography, population, and racial and socio-economic diversity. Geography is particularly important as there are reasons to believe that states near each other may have higher education systems that behave similarly, as discussed later in the paper regarding state university consortia. State size is also important as there may be reasons that smaller or larger population or geographic area states have flagship universities that could behave differently.

The goal of a sample is to be uncorrelated between entities chosen and representative of the full group. Randomization is the most common technique used in sample selection, but randomization is a means to achieve these goals, not an end in itself. When the sample is states, randomization becomes more challenging: Should states be given the same probability of being selected regardless of population (California versus Wyoming) or be weighted? If not randomization, then an alternative technique that achieves the goal of non-correlation and representation is required.

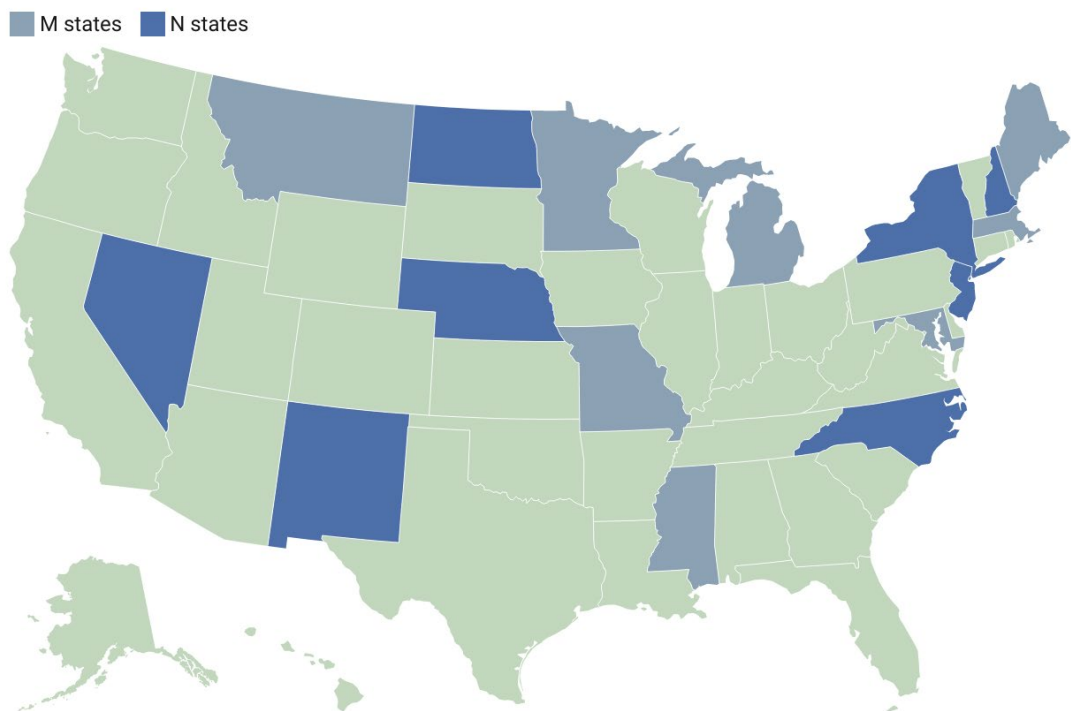
I selected states that begin with the letters M and N. Why M and N? I began this inquiry with interest into his home state of Maryland and then broadening to the eight states that begin with the letter M. The M states form a diverse albeit small sample, so the letter N was added, as it is sequential, happened to also include eight states, and increased the diversity and representativeness of the sample. N also included Nevada where I was discussing the work during time at Brookings Mountain West.

The M and N technique satisfy the goals of uncorrelation and representation. There is no reason that M and N states should materially differ from the nation as a whole. Within

the sample there is no reason to think that states that begin with the word “New” or “North” should be correlated amongst themselves, which happen to be the two most common words that state names begin with. Thus, I expect no correlation between M and the N or within each group.

The group of sixteen states forms a representative sample of the country. Figure 2 presents a map of the country highlighting the sample states, demonstrating geographic diversity across the nation and a mix of big, medium, and small states. In terms of individual state characteristics, exactly half of the sixteen are above the median state population for the nation, and half are below, showing a mix of big and small states by population. Table 1 provides relevant descriptive statistics for the sample states showing a representative mix of racial, ethnic, and socio-economic factors.

Figure 2: M- and N- States are Representative Samples of the U.S.



Source: Created with Datawrapper.

Table 1: Descriptive Statistics for M- and N- States in the U.S., 2002 and 2020

Variable	Year	M+N States	U.S.
Median Household Income	2002	\$78,309	\$73,657
	2020	\$86,239	\$82,700
Attended at Least 1 Year of College	2002	39%	38%
	2020	50%	48%
Median Age	2002	36	36
	2020	40	39
White	2002	71%	67%
	2020	64%	60%
Black	2002	14%	12%
	2020	14%	12%
Hispanic	2002	8%	13%
	2020	13%	19%

Source: Author's calculations using Current Population Survey for 2002 and 2020.

The data show that the M and N sample are both representative of the country on numerous dimensions and should be uncorrelated with each other in terms of the variables being considered: flagship university admissions patterns, state and local government funding, and tuition. As a robustness check, I compared the flagship schools in the sample to all fifty states. At the beginning of the time period studied (2002), nine of the sixteen had above the national median share of in-state students, while seven were below the median. One of the 16 states, North Carolina, is precluded from student swapping, a fact not known when the sample was chosen and would bias the results toward less evidence of student swapping. The other state later identified to have a requirement to prevent significant out of state enrollment increases (Texas) was not chosen. In addition, the one other state that did not increase out-of-state student share (Delaware) was outside of the sample. Given a fairly large sample (16 of 50 states, or 32 percent) the outcome that one of the three states that did not follow the national trend is understandable. Further research into the student swapping phenomenon may want to examine other states in greater detail if there are concerns regarding the sampling technique used.

Flagship schools in the sample experienced declines in state and local government funding. They have also grown their share of out-of-state students. I hypothesize that a reinforcing cycle is at play. Schools accept relatively fewer in-state students. This reduces local political support, leading to cuts in governmental funding. Faced with fewer funds,

state universities respond by taking more profitable out-of-state students and fewer in-state ones. The cycle repeats as “state policy controls often limit the growth of resident tuition price. Therefore, public universities have an incentive to grow nonresident enrollment in order to grow tuition revenue.”²²

The data and analysis below are consistent with this hypothesis. There may also be alternative factors at play that others may point to explain the facts observed. I welcome increased attention to the changing composition of public university student bodies and the consequences on student debt. If alternative hypothesis can be shown to better explain this phenomenon, then I look forward to seeing data to support that hypothesis. This paper explores our hypothesis.

The remainder of this paper first presents trends in student body compositions and tuition costs, then discusses state and local government support and school financial aid trends. Finally, I offer policy recommendations to curtail the Great Student Swap.

Swapping in-state students for out-of-state ones

Using data on the freshman class enrollment by four-year increments from 2002 to 2018, I find a consistent decline in the share of in-state students at public flagships. On a combined basis, the 16 sample states have seen a decline of in-state student shares from 75 percent to 64 percent and a corresponding increase in the share of out of state students from 25 percent to 36 percent. Data is only available on enrollment, not on offers of acceptance. This analysis assumes that the ratio of enrolled students to accepted students has not changed between in- and out-of-state students over the sixteen-year period from 2002-2018. If there have been substantial changes in student selection decisions between in- and out-of-state schools and not in admissions offers, that would be an alternative factor at play. Flagship universities could release additional data on admissions offers to answer this question. Information regarding the family income of out of state students accepted would provide insight into whether these swaps are being driven by the desire to achieve greater tuition, for example by focusing on wealthy out of state students likely to not require financial aid. Research from the Jack Kent Cooke Foundation found that in 2014 the average family income for a student at University of Michigan-Ann Arbor was \$200,000, roughly four times Michigan’s median income which was then \$48,400.²³

Among the sample schools, the total number of in-state students has remained relatively constant. To the extent these flagships schools have increased enrollment to meet

growing demographic and societal demands, nearly all of the growth in the size of the student body has come from out-of-state students. In 2002, among all 16 schools, there were a combined 52,672 first-year students, of whom 39,568 were in-state students and 13,104 were out-of-state students. In 2018 there were 66,424 first-year students, of whom 43,896 were in-state and 22,528 were out-of-state. The size of the student body at each school is subject to different constraints, but in general, as a state's college-age population grows, one expects the number of spaces at universities to rise. Individual state's college age populations may shrink over specific time periods, future in-depth analysis or follow up work on specific states should examine that state's demographic changes. One also expects the number of university spots to grow as more and more Americans choose to attend college each year. Nationally, this was the case during this time period, although it varies significantly between states and not all states saw these increases. In the context of these trends, the near-constant number of in-state students at flagship schools represents a diminishing opportunity for people to attend their home state's flagship university as increased out-of-state enrollment crowds out in-state enrollment at prestigious public universities.²⁴

This is not just a trend in the aggregate but a process that is happening across the board. Table 2 shows the enrollment trends for each school in the sample. Not a single school has increased its in-state student share from 2002 to 2018. The largest decline in the in-state share of students occurred at the University of Maine; the share of students who are Maine residents has fallen by nearly one-third from 80 percent in 2002 to 54 percent in 2018. At this rate, the University of Maine should be majority out-of-state in a few years, a sharp contrast from 2002, when 80 percent of students were in-state. The University of Mississippi has experienced a decline of over 20 percent of in-state students and is now majority out-of-state. The University of Michigan-Ann Arbor may be the most competitive school in the sample, judging by college rankings and admissions acceptance rates,²⁵ but it too has seen a sharp increase in out-of-state students, swapping one out of six Michiganders for a higher tuition paying out-of-state student between 2002 and 2018. The University of Maryland, College Park and University of Minnesota have experienced the smallest declines in the sample.

Turning to states that begin with the letter N there are similar changes. The University of North Dakota has seen its share of in-state enrollment fall by 20 percent, which is similar to the University of New Hampshire. The University of Nebraska-Lincoln, like the University of Maine, began at just over 80 percent in-state and had fallen to 69 percent by 2018, a decline of roughly one out of every six students, which is similar to the University of Nevada, Reno (UNR). Some of the N states like University of New Mexico

and Rutgers University-New Brunswick (the flagship for New Jersey) had smaller declines of around one out of every 14 in-state students being swapped.

Table 2: In-State Student Share, 2002 and 2018

School	2002	2018	Percentage Point Change
M States			
University of Maine	80%	54%	-33
University of Maryland, College Park	66%	64%	-2
University Massachusetts Amherst	87%	70%	-20
University of Michigan-Ann Arbor	65%	53%	-19
University of Minnesota	66%	65%	-2
University of Mississippi	55%	43%	-21
University of Missouri	82%	68%	-18
University of Montana	75%	66%	-11
N States			
University of Nebraska-Lincoln	82%	69%	-16
University of Nevada, Reno	85%	73%	-15
University of New Hampshire	52%	42%	-20
Rutgers University-New Brunswick	90%	83%	-7
University of New Mexico	89%	83%	-7
Stony Brook University	91%	77%	-15
University of North Dakota	47%	37%	-22
University of North Carolina at Chapel Hill	82%	82%	-

Source: IPEDS Fall Enrollment Survey.

UNC-Chapel Hill stands out as the only school to not reduce its in-state student share. The explanation for UNC-Chapel Hill is simple: the state mandated the University have at least 82 percent in-state enrollment.²⁶ I go into more detail below as to why that policy is a good idea, noting that UNC-Chapel Hill is among the most competitive and elite public universities in the nation, a position that has not changed over the last twenty years.

More out-of-state students means more money from students, but what about overall?

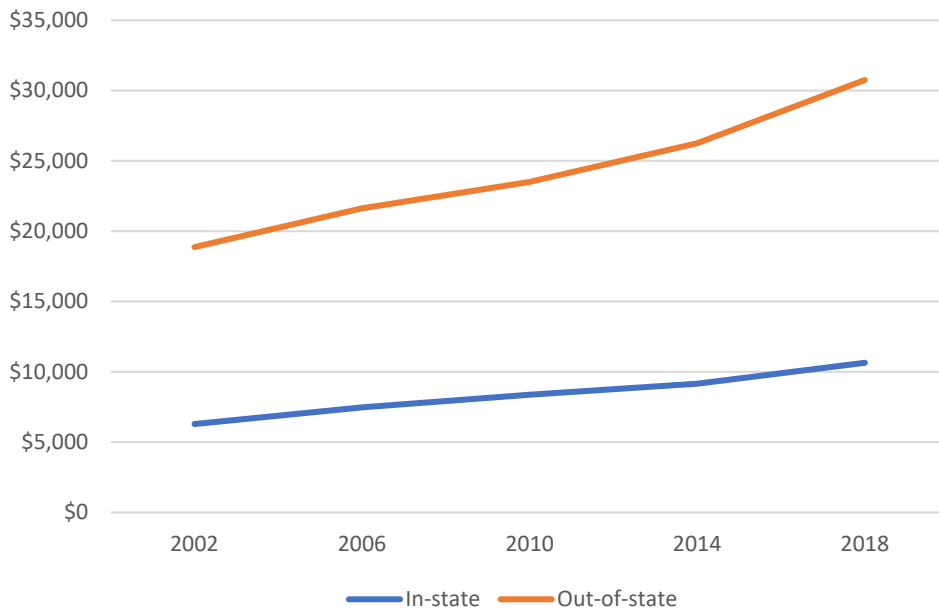
While both in-state and out-of-state tuition has increased significantly across all schools in the sample, it is important to note that the gap between the two has grown over time. For example, in 2002, in-state tuition at the University of Montana was \$5,723. By 2018 in-state tuition had grown 32 percent to \$7,534. During that same period, out-of-state tuition increased at twice the rate (64 percent) rising from \$15,628 to \$25,583. Put

another way, in 2002 an out-of-state student paid 2.7 times as much tuition as an in-state student, but in 2018 that figure was 3.4.

The University of Montana is representative of a ubiquitous trend. Figure 3 shows the average in-state and out-of-state tuitions for the schools surveyed. In 2018, average out-of-state tuition in the sample was almost three times as high as the average in-state tuition. In other words, an out-of-state student pays in one year what many classmates pay over three years for the same college education.

Even in schools where both tuitions have grown at similar rates, the difference between the costs have compounded to shocking levels. From 2002 to 2018, in-state and out-of-state tuition at the University of North Dakota grew at the same exact rate: 74 percent. But because of the different initial base levels, out-of-state students paid over \$12,000 more in tuition than in-state students by 2018. In 2002, they paid around \$7,000 more. Out-of-state students are more and more profitable for schools relative to their in-state peers. The financial incentive to swap students is increasing.

Figure 3: In-State and Out-of-State Tuitions, 2002-2018



Source: IPEDS Institutional Characteristics Survey.

Note: Inflation-adjusted to 2020 dollars using the Bureau of Labor Statistics CPI.

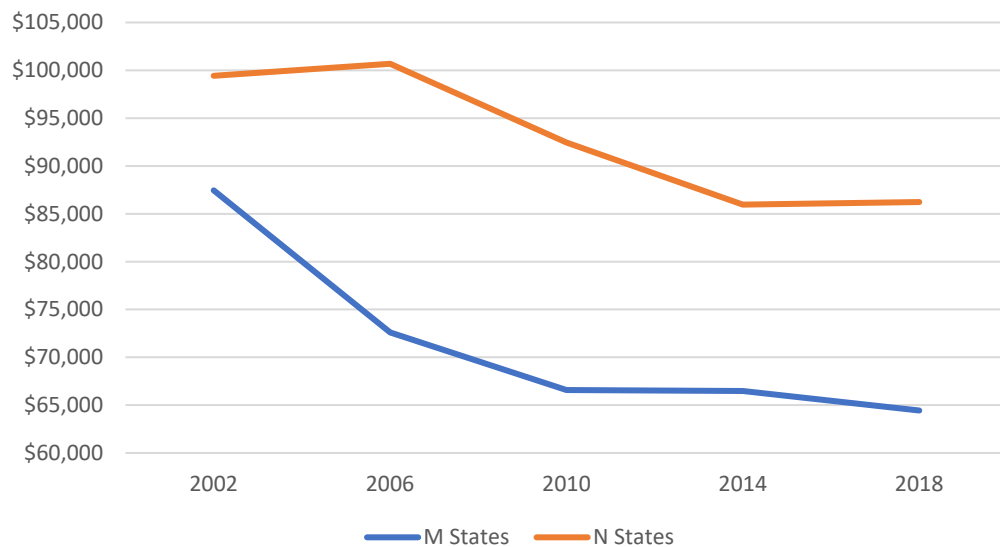
State and local appropriations decline

There is a chicken and the egg phenomenon occurring, and I do not attempt to solve what came first, the increase in out-of-state enrollment or declining state and local funding. I document the magnitude and speed at which this phenomenon is occurring, and its consequences as college tuition continues to increase. Considering this cycle sheds light on the continued political momentum behind cutting state funding for public higher education and the decline in in-state students, as well as providing examples of states attempting to get out of this vicious cycle.

I measured state spending for public universities using average state appropriations per student using IPEDS data adjusted for inflation. Figure 4 shows the average state appropriations per student at the 16 flagship universities in the sample, as well as splitting them between M-state and N-state schools from 2002 to 2018. I separate the sample of 16 into two groups of eight in order to see if there is any correlation between decline in in-state student share and decline in state and local support.

Across the 16 states examined, state government support fell on average by \$18,111 (19 percent) per student from 2002 through 2018. Separating the sample, I see that in M states, state government support has fallen by \$23,016 (26 percent) per incoming freshman while in N states support has declined by a smaller amount of \$13,207 (13 percent).

Figure 4: Appropriations Per Incoming Freshman, 2002-2018

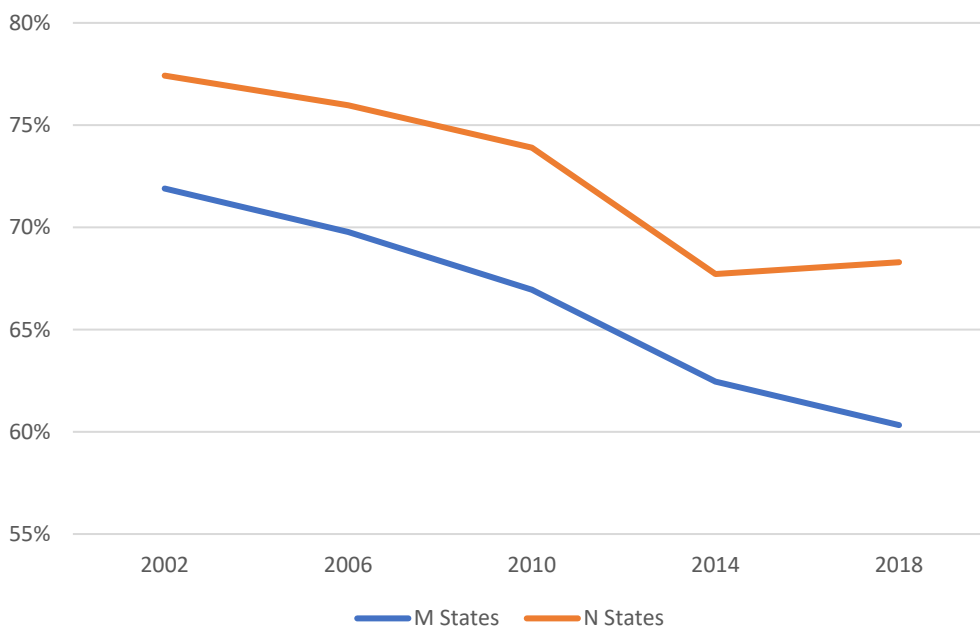


Source: IPEDS Institutional Characteristics Survey.

Note: Inflation-adjusted to 2020 dollars using the Bureau of Labor Statistics CPI.

Having seen the difference between the two groups in government support, I consider the in-state share trends for M and N states over time. In M states, the share of students that were in state dropped steadily from 72 percent to 60 percent. This is equivalent to removing one out of six in-state students and replacing them with someone out-of-state. Every single M-state flagship school saw a decrease in in-state enrollment during this period. In N states, the share dropped from 78 percent to 68 percent, where it has remained since 2014. This is roughly equivalent to replacing one out of every eight in-state students with an out-of-state one. The decline in M states was larger and their starting point for in-state students was also lower.

Figure 5: In-State Student Share, 2002-2018



Source: The Integrated Postsecondary Education Data System (IPEDS) Fall Enrollment Survey.

M-state schools experienced a steeper decline in state and local government support than N-state schools, and M-state schools also had a greater increase in their share of out-of-state students. This is by no means dispositive proof, but it provides some preliminary evidence that the magnitude of the decline in state and local support is related to the magnitude of the Great Student Swap. The political logic behind this hypothesis is that serving fewer students from the home state reduces political support among local families for higher levels of funding for that state’s public higher education. The assumption is that rejection from the flagship school for otherwise qualified students feeds into this perception. It is possible that students and families perceive other reasons for rejection (affirmative action, legacy preference, income bias, etc.). As universities

accept a smaller share in-state students, and assuming application rates are constant, they inherently reject more in-state applicants. If this hypothesis is correct, then these schools find themselves in a vicious cycle: Their student body is increasingly out-of-state, which undermines local political support and reduces the appropriations they receive. Schools then rely more heavily on their tuition to cover their costs and turn to more profitable out-of-state students.

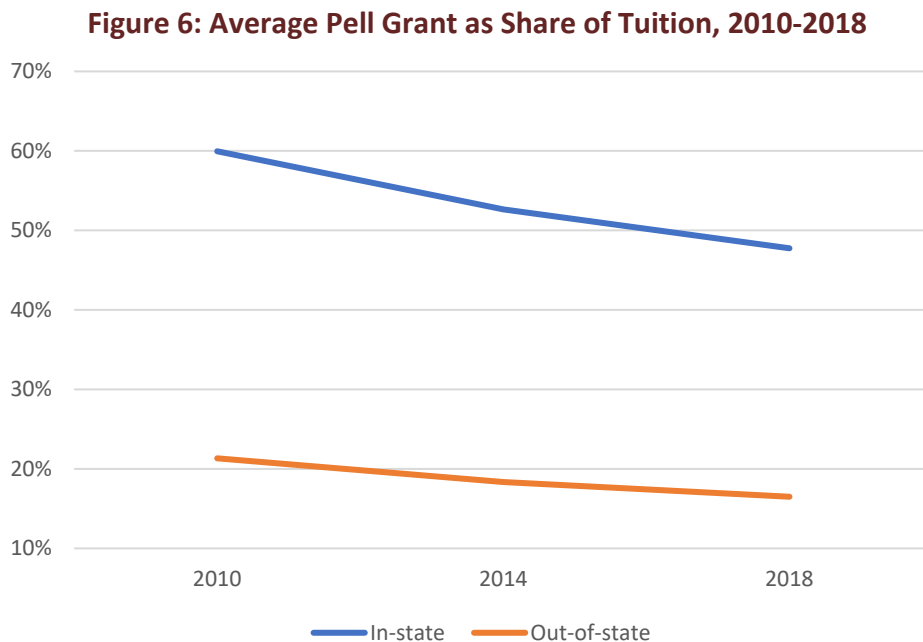
There are reasons to believe this cycle is especially disadvantaging minority students. Research published in the *Journal of Higher Education* in 2016 found that, “Growth in the proportion of nonresident students was also associated with a decline in the proportion of URM [Underrepresented Minority] students. This negative relationship was stronger at prestigious universities, universities in states with large minority populations, and universities in states with affirmative action bans.”²⁷ Their research links revenue pressure at public research universities (which include many flagships) as they write:

Though founded with a commitment to access, public research universities face pressure to increase tuition revenue and to recruit high-achieving students. These pressures create an incentive to recruit nonresident students, who tend to pay more tuition and score higher on admissions exams, but who also tend to be richer and are less likely be Black or Latino.²⁸

Great Student Swap undermines the efficacy of government funding in higher education

The rising cost of higher education does not just affect students and their families; it burdens federal and state governments as well. Since 2002, federal and state governments have spent more to help students afford college. Government spending and loan support has been more than offset by the Great Student Swap taking place.

To see how rising tuition costs have undermined the efficacy of government funding for higher education, consider Pell grants, the primary form of federal government aid. In 2010, the average Pell grant was around \$4,200. By 2018, it was just over \$4,800. However, that increase is basically equal to the rate of inflation. Adjusting for inflation the average Pell grant has been flat from 2002 through 2018 at approximately \$5,000. But as Figure 6 shows, the share of tuition covered by Pell grants has declined steadily—especially for in-state students.



Source: IPEDS Institutional Student Financial Aid Survey.

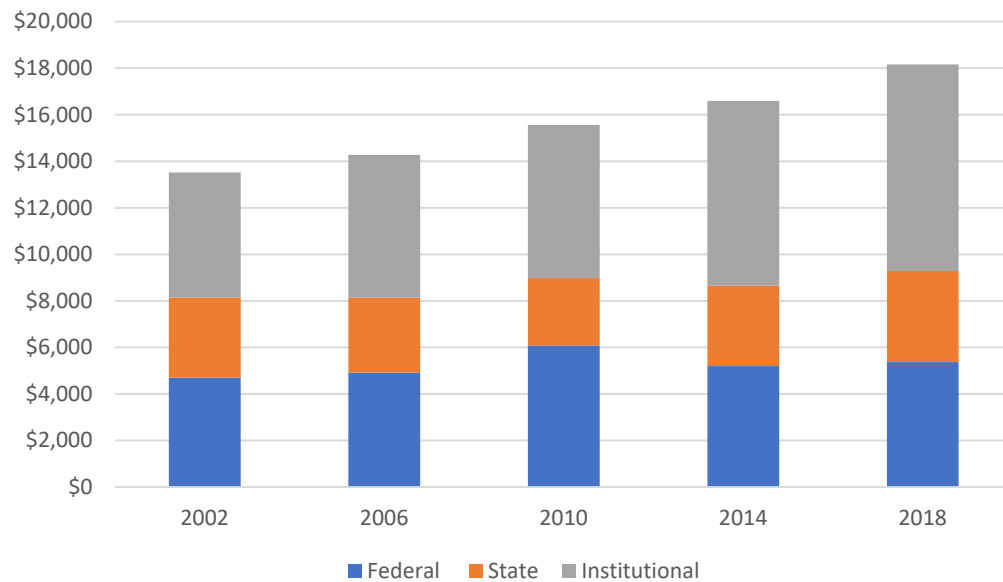
For out-of-state students, Pell never covered much more than 20 percent of tuition, a sharp contrast to the 60 percent of in-state tuition Pell once covered. The idea that the federal government’s Pell grant would cover the majority of a student from a lower-income family attending their in-state public university remains mostly true. However, once you leave the state, that ceases to be true. Out-of-state students have never been able to rely solely on Pell funds to cover tuition costs. The Great Student Swap further weakens the Pell grant’s ability to cover a significant portion of tuition costs for low-income students as more students for whom Pell grants could cover a larger share of tuition may choose out-of-state schools with higher tuition. Not every student will be impacted by this as some students prioritize lower tuition and when blocked from flagships go to non-flagship in-state options. To the extent that flagships do provide greater long run benefits these students are thus losing on a different dimension.

Turning from federal aid to state-level aid, I find that state aid to students increased in net as well. Figure 7 shows the average amount of aid given to each student over time broken down by aid type. The increases in federal and state aid combined do not keep up with the growth in tuition cost over the same time period.

The third type of aid, which comes from the educational institutions themselves, has become increasingly important. Universities stated financial aid awards have grown: the average student in 2002 received \$3,680 from their institution, by 2018 they were getting

\$8,534. While these figures portend good news, there are good reasons to question whether they are real or imaginary support.

Figure 7: Average Amounts of Aid per Student by Aid Type, 2002-2018



Source: The Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics Survey.

Note: Inflation-adjusted to 2020 dollars using the Bureau of Labor Statistics CPI.

There is a “sticker price” phenomenon where higher education costs are somewhat similar to buying a car; the stated cost is not what most people pay. Given the substantial increases in tuition prices, particularly for out-of-state students, it is unclear how much of this increase in educational institution assistance is illusory. Further research using data on net cost would help answer this question and give greater insights into the consequences of the Great Student Swap.

Furthermore, high sticker prices can deter low-income, Black, and Latino students from applying to schools even if substantial amounts of tuition aid are provided. It is well known that high-achieving, low-income students attend selective colleges at far lower rates than well-off students with similar levels of achievement. There is evidence that part of that gap can be explained by the complexity and uncertainty of college prices. [A recent study](#) found that when low-income, high-performing students received a letter pledging four years of free tuition at a flagship university, application and enrollment rates more than doubled.²⁹ Notably, the students in the study already qualified for free tuition; the letter simply highlighted this aid and reduced uncertainties about the costs of attending. High

sticker prices deter people from higher education, even when institutional aid is offered after enrollment. The presentation of the cost of higher education matters.

Policies that work

Requiring schools to admit in-state residents

In 1986, the University of North Carolina's Board of Governors enacted a rule³⁰ capping the freshman class as no more than 18 percent out-of-state. Although not a state law, the rule has been actively enforced. When UNC-Chapel Hill slightly exceeded its permitted rate³¹ of out-of-state students, the Board of Governors fined UNC-Chapel Hill \$1 million. As a result, UNC-Chapel Hill has been an institution focused on educating North Carolinians.

UNC-Chapel Hill is an elite academic institution. It is regularly ranked among the top public universities³² for undergraduate education and among the top overall universities³³ for undergraduates in the nation. As a highly selective school with a 23 percent acceptance rate and admitted students achieving high test scores, the school is able to fill its student body with high-performers through a highly competitive process that relies heavily on in-state applicants.

North Carolina is not alone in mandating its state universities accept in-state students. Texas passed legislation in 1997 that guaranteed admission³⁴ to every Texas public university for every Texas high school student that graduated in the top ten percent of their high school class, which had a major impact on Texas' flagship university, UT Austin.

From 2002 to 2018, the freshman class at UT Austin has remained almost entirely in-state (91 percent and 89 percent for 2002 and 2018, respectively). Despite increasing the freshman class size by 1,000 students, the 10-percent law admitted too many students relative to the number of available slots. Therefore, as of 2017, UT Austin automatically admits the top 6 percent³⁵ of students in each high school class. The 6 percent standard has been extended until the fall of 2022. The result has been a relatively constant and high share of in-state students at UT Austin.

Like UNC-Chapel Hill, UT Austin has remained an elite academic institution that is both selective and competitive. These two mandates have worked. They have kept these two major state universities focused on educating students from their state. These universities have maintained their elite status, high rankings, and selective student body despite requirements that have effectively kept the schools over eighty percent in-state.

Has focusing on in-state students held off state budget cutbacks? UNC-Chapel Hill has maintained the same level of state government support, adjusted for inflation, as it did in 2002. In fact, for many of the years between 2002 and 2018 state support rose, even after adjusting for inflation. Thus, over the 16 years covered in this study, there was generally more state government support for UNC-Chapel Hill students than at the outset. Quite a difference from most of the schools in this study, which on average saw a 20 percent decline in state appropriations per freshman.

The same is not the case at Texas. Although on a non-inflation adjusted state government support rose, once adjusted for inflation it fell by 12 percent, or approximately 0.67 percent per year. That, however, is far better than the University of Michigan-Ann Arbor where state support, adjusted for inflation, fell by more than three times as much (38 percent). It is hard to observe counterfactuals in this context, but given the general anti-government spending push in Texas state politics, it is conceivable that the decision in the 1990s to effectively require UT Austin's freshman class to be almost 90 percent Texas residents increased UT Austin's political clout and reduced pressure to further cut state government subsidies³⁶.

A final note about Texas' 10-percent admission policy is that it may be successful in promoting racial diversity. The law was originally passed in 1997, one year after a federal appeals court barred Texas public universities from considering race in admissions.³⁷ Lawmakers designed the 10-percent plan to ensure that its top public universities remained diverse despite the ban on affirmative action policies.

Guaranteeing admissions to the same share of top students at each high school in the state means that the top students at every school, whether in a largely white or heavily minority district, will have an opportunity for admission. Since many high schools unfortunately remain racially segregated in Texas,³⁸ the 10-percent plan provides a pipeline of potential students from heavily minority communities to attend Texas' flagship university. Studies show that while the 10-percent plan may not be as effective at promoting racial diversity as race-based policies³⁹ (i.e., affirmative action), it still improves access for Black and Latino students significantly. Again, further research is needed, but UT Austin's high ranking of in-state students (second among all flagships) and diverse student body bodes well should other states consider emulating Texas' approach.

Multi-State Exchanges:

Many states have formed multi-state agreements creating different consortia providing some level of benefits for students to attend schools not in their state but as part of the

consortia. The three large consortia operating within the sample states are the Western Undergraduate Exchange (WUE),⁴⁰ the New England Regional Student Program,⁴¹ and the Midwest Student Exchange Program.⁴² In addition to these, the Universities of Minnesota and North Dakota have created a bi-state reciprocity agreement.⁴³

The general outlines of these programs provide a hybrid tuition rate (lower than out-of-state, but higher than in-state) for students to attend schools in other partner states. These exchanges require students to be admitted through the regular process before they qualify for reduced tuition. The exchanges do not necessarily apply to every public college or university in a state.

WUE bills itself as the largest exchange system in the country, featuring over 160 public colleges and universities in 16 states and territories. Participating schools pledge to offer tuition breaks to eligible students from other states that are no more than 150 percent of their own in-state tuition. Students who qualify for the WUE program pay rates that cannot exceed 150 percent of the rate paid by in-state students, exclusive of fees and room and board.

WUE claims to have saved students \$503 million⁴⁴ in reduced tuition in the 2021-2022 academic year. Evaluating this claim is challenging because it is not clear they are using the correct counterfactual.⁴⁵

WUE is a significant player in the out-of-state student world within our sample. At the University of New Mexico, 204 out-of-state students⁴⁶ were part of WUE in the 2019-2020 academic year. Given that the school averages around 450 out-of-state students per class and that roughly half of all University of New Mexico students graduate within six years,⁴⁷ it seems reasonable to estimate that between 10 to 15 percent of out-of-state students at the University of New Mexico are part of WUE. That figure may be low if WUE students are more likely to graduate on-time, or if WUE students who take longer to graduate eventually become New Mexico residents and can transition to in-state. Although some WUE schools have created substantial barriers for students attempting to transition residency to the state where they are attending college.⁴⁸ That figure may also be an underestimate if WUE students have higher drop-out rates after the first year and return back to their home state. These are topics that a future study more focused on multi-state exchanges should examine.

For this study, it is useful to note that at the University of New Mexico, the majority of WUE students are from California (110). Only two other states have even 10 percent of

WUE students: Arizona (24) and Washington State (20). Nevada only sends four students to the University of New Mexico through WUE. California students comprise 92 percent of WUE students at UNR; 1,509 out of 1,635. The next highest state is Washington at 28 (less than 2 percent of WUE enrollment).

California exports the most WUE students, 17,893, but imports very few. Only 878 students from all other WUE states enter one of the 16 participating California schools, which are almost exclusively California state schools. The only participating University of California school is the Merced campus, which has only four total WUE students. On net, the WUE system exports 17,015 California students to participating schools. The next largest state participating in WUE is Washington, which was far more balanced, exporting 4,619 students and importing 3,862.

Table 3 shows the number of students going to and from the four states in the sample that participate in WUE. California is included because it plays a major role in the exchange, exporting a large number of students and importing very few. I also highlight the school in each state that takes in the most students through the exchange, which is often, but not always, the flagship.

Table 3: Number of Students Exported and Imported in WUE States, 2019-20

State	Export	Import	Net Import	Main participating school
Nevada	1,849	3,603	1,754	University of Nevada, Reno
New Mexico	928	620	-308	University of New Mexico
North Dakota	515	1,889	1374	University of North Dakota
Montana	1,031	2,567	1,536	Montana State University, Bozeman
California	17,893	878	-17,015	Humboldt State University

Source: Western Interstate Commission for Higher Education enrollment data, 2019-2020.

Whether this is a good or bad system for reducing the cost of college largely depends on assumptions about whether local students would have stayed in-state to attend a local public school, attended a private school, or whether they would have gone out-of-state to another public university without the exchange. This is particularly true for California, which is almost exclusively an exporter of students. Many of the implications from the trends highlighted in this paper depend on how students make their decisions regarding in-state versus out-of-state schools. Future research should aim to better understand prospective students' price sensitivities as well as other factors that affect the in-state versus out-of-state choice.

Two other multi-state exchanges are prevalent in the sample, the New England Regional Student Program (RSP) and the Midwest Student Exchange (MSE). Similar to WUE, the MSE offers students a hybrid tuition price of 150 percent of in-state tuition if you are a resident of one of the qualified states. MSE also offers a 10 percent tuition discount for some participating private universities. RSP is more complex with differing tuition “discounts” applied by each school for qualifying students from fellow New England states. For example, the University of Massachusetts Amherst offers a discounted out-of-state tuition that is 182 percent of what in-state students pay, while at the University of Maine the tuition discount is 170 percent of in-state tuition.⁴⁹

Bilateral tuition reciprocity agreements exist between many states. Minnesota has such agreements with North Dakota, South Dakota, Wisconsin, Iowa, and even the Canadian province of Manitoba. These agreements go back over 50 years, well before the Great Student Swap started and before the explosion of tuition costs. The prevalence of these bilateral exchanges is somewhat idiosyncratic, and the universities involved can vary substantially between flagships and community colleges. For example, Minnesota swaps around 200 students in total with Iowa under the program, but more than 10,000 participating Minnesotans opt to go to school in North Dakota, while Minnesota schools receive more than 8,000 students from Wisconsin.

Table 4: Minnesota Student Export and Import, 2018-19

State	Export to MN	Import from MN	Net Import
Iowa	75	131	56
Manitoba*	34	152	118
North Dakota	3874	10332	6458
South Dakota	1100	3322	2222
Wisconsin	8257	13362	5105

Source: Minnesota Office of Higher Education Tuition Reciprocity Annual Report 2020.

*Manitoba is a Canadian province

The unresolved question is whether these exchange programs are reducing total educational costs. This depends on the assumption of their impact on both marginal school decisions by students and admissions decisions by universities. If lower tuition revenue from neighboring states out-of-state tuition incentivizes colleges to increase the total number of out-of-state students, it is possible that these programs could exacerbate the Great Student Swap. One way to better test the impact of these exchanges would be if states participating in them were required to accept a fixed share of in-state students (like in North Carolina). It would then be interesting to see if admissions officers would

give weight to whether out-of-state students were participants in these exchanges (which would result in less tuition revenue than non-participating out-of-state students) as they target admissions for a fixed number of out-of-state slots.

One consequence of these programs is added complexity. Qualification for exchange participation generally requires knowledge the program exists, an affirmative application by the student or their family, and varying overlay requirements. It would be interesting to know what share of eligible students do and do not participate in these exchanges, what share of applications are rejected, and what the racial and ethnic breakdown is for each. There are reasons to suspect that added complexity in receiving aid has disparate outcomes racially and is more challenging for lower-income students and students from homes with less family support. Bureaucracy can be challenging for anyone, parent or child.

One recommendation is that all multi-state exchanges eliminate the application process (streamlining is a second-best alternative). Schools generally know where their students are from and reducing the burden to qualify for discounted tuition matters, particularly if the goal of the exchange is lowering the cost of college, not helping universities better market to and increase their share of out-of-state students. The allure of offering students “more choices” and “better prices” is powerful. However, in the context of the cost of college, discounted out-of-state tuition is almost always more expensive than full-price in-state.

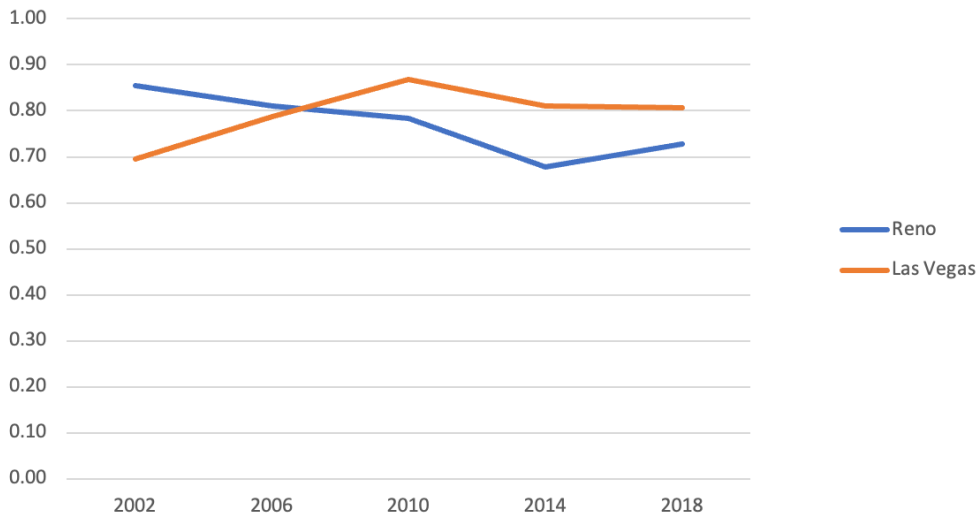
Non-Flagship Schools

A full analysis of non-flagship schools is beyond the scope of this paper. However, I examine a few. The University of Nevada, Las Vegas (UNLV) has gone a different direction, increasing its share of in-state students. Beginning in 2002 with an already high base of 70 percent, UNLV added 1,605 more students from Nevada, ending 2018 with 81 percent of its first-year class hailing from Nevada. Over the sample time period UNLV swapped one-third of its out-of-state students with in-state students.

UNLV’s admissions decision to admit more Nevadans came at a cost. I calculate that had UNLV remained only 70 percent in-state they would collect \$7.3 million more in tuition from their freshman. This equates to over \$29 million per year when looking at all four years of students (even more if you consider a longer time period for students to graduate). This assumes students would have paid full-sticker costs, so to the extent that tuition discounts are applied this figure may decline.

UNLV’s achievement is notable compared to the other large public university in the state, UNR. UNR has engaged in the Great Student Swap, moving from an 85 percent Nevadan first-year class to 73 percent (see Figure 8). UNLV is not the flagship school, and in many states there are substantial differences in perceived school quality metrics between flagships and other public universities. This does not seem to be as much the case in Nevada. For instance, both schools are classified as Carnegie R1 institutions.

Figure 8: In-State Student Share for UNLV and UNR, 2002-2018



Source: The Integrated Postsecondary Education Data System (IPEDS) Fall Enrollment Survey.

UNLV is a more selective school, or at least not less selective, than UNR by many metrics. In 2019 UNLV admitted 81 percent of applicants, UNR 88 percent. UNR’s test scores among admitted students are slightly higher: UNR’s ACT range is 21 to 26 while UNLV’s is 19 to 25. UNLV’s selectivity remains relatively constant from 2002, when it admitted 79 percent of applicants. Given that in-state students have always made up a large share of the UNLV student body, it seems fair to conclude that the rise in in-state student share has not triggered an overall decline in school selectivity.

UNLV has more low-income students than UNR. In 2010, a quarter of UNLV undergraduates (25 percent) and almost a quarter of UNR undergraduates (24 percent) received Pell grants. By 2018, that number remained nearly unchanged for UNR (26 percent), while it increased substantially to 37 percent for UNLV. This suggests that over time, UNLV has increased its share of low-income students while sustaining its academic rigor and increasingly serving its in-state population. Other research has shown greater economic mobility coming from UNLV as it ranked 108th nationally on one mobility index compared to UNR’s ranking of 295th.⁵⁰

UNLV has increased institutional aid targeted to Nevadans. In 2020 UNLV created a new Tuition+ Award program⁵¹ to give eligible Nevadan students a grant toward 12 credit hours and fees per semester plus \$1,000 toward books for the year. The university set aside \$12 million for this program which importantly covers some costs that Pell grants do not.

UNLV's decision to focus more on helping Nevadans is particularly important given its geographic location. UNLV is in the heart of the state's biggest region. The Las Vegas metro area has 74 percent of the state's population. Reno has only 15 percent in comparison. Because geography presents the opportunity for some students to save on room and board by living with their parents, UNLV's decision to lean into in-state students is more impactful than had the opposite happened where UNR increased its in-state share while UNLV decreased.

There may be more schools doing what UNLV is doing, an area ripe for further research. I only examined a few major non-flagships to see if others were increasing out-of-state students or leaning in for more in-state students as UNLV does. Michigan State and New Mexico State have decreased their share of in-state students (by 11 and 17 percent respectively). Only looking at three non-flagship schools in three states where there is a clear second largest/most selective non-flagship is too small to extrapolate greater insights. However, it does generate more questions. For example, in Michigan and New Mexico, where their flagship and largest non-flagship public universities are both reducing in-state students, it begs the question of where Michiganders and New Mexicans are able to go to a public university in their home state. Given the large heterogeneity between states in university structure, it is hard to compare non-flagships across states. Further research is needed before drawing any conclusions regarding non-flagship public university changes in in-state student enrollment.

Conclusion

The Great Student Swap is ubiquitous among flagship schools. Forty-eight out of 50 flagship public universities have decreased their share of in-state students between the incoming classes of 2002 and 2018. By swapping in-state students for out-of-state students, universities gain more revenue. The result is more debt for students, higher costs for parents, and no greater educational attainment for society. A back-of-the-envelope estimate suggests that the student swap accounts for \$57 billion in greater tuition costs from 2002 through 2018 in the 16 sample schools alone.

The analysis presented here is suggestive of a vicious cycle between state governments and their flagship universities. Universities feel budget-constrained and are shifting enrollment away from in-state students to get higher tuition revenue from out-of-state students. State legislators presumably see lower support for the state school as their constituents' children are not being accepted. Political support falls and university budgets are cut. The cycle repeats.

My data does not make it clear which of the trends initiated the cycle. However, the answer to that question is not directly relevant to solving the problem. The problem is that the cost of college has risen too high while flagship public universities, designed to offer a less-expensive, high quality educational opportunity for residents of their state, are swapping in-state students for those out-of-state. State schools need to return to their mission of educating students from their own state. State governments need to prioritize higher education and ensure their residents have the ability to obtain a college degree from an in-state school at a reasonable cost. However, absent policy intervention, this cycle is poised to continue.

To end this cycle, state universities need to focus on serving their own state students. States have successfully attacked this problem this in two ways:

- A direct mandated percentage of accepted students from in state, like North Carolina
- A requirement for acceptance of top performing high school students in their state, like Texas.

These recommendations are consistent with the finding of the California State Auditor who recommended, "that the Legislature consider amending state law to limit the percentage of nonresidents the university can enroll each year and consider basing the university's annual appropriation upon the university following this requirement."⁵² State legislatures need to realize that unwinding the Great Student Swap will require a prioritization of higher education in state budgets. They should expect that with greater in-state enrollment, public support for public higher education will also rise.

Leadership is necessary to reverse both the trend in enrollment and in governmental support for higher education. Then, perhaps a virtuous cycle can begin where greater acceptance of local students leads to greater political support, more funding for public higher education, and lower costs of college for students. There is promise that is happening as just this year the University of California system increased admissions of California residents by 1.2 percent following new legislation dedicating \$82 million

specifically to add over 5,500 Californians to the system, with specific funding focused on the flagship Berkeley and several others.⁵³

Universities need not wait on legal mandates to change their admissions policies and prioritize more in-state students. Hopefully such a change will be rewarded with greater political support coming from their state government. Prioritizing in-state students has worked for UNC-Chapel Hill, UT Austin, and UNLV, and can for many more public universities.

Endnotes

¹ This is similar to the hypothesis Jaquette and Curs evaluate using data from 2002-2013 for all public universities. indicating “empirical support for assertions by scholars that state disinvestment in public higher education compels public universities to behave like private universities by focusing on attracting paying customers” (535). See, Ozan Jaquette and Bradley R. Curs, “Creating the Out-of-State University: Do Public Universities Increase Nonresident Freshmen Enrollment In Response to Declining State Appropriations?” *Research in Higher Education*, 56 (January 2015), pp. 535-565.

² Perry, A. M., & Romer, C. “Student debt cancellation should consider wealth, not income,” Brookings Institution, February 25, 2021, www.brookings.edu/essay/student-debt-cancellation-should-consider-wealth-not-income/.

³ Ozan Jaquette, *State University No More*, Jack Kent Cooke Foundation, May 2017, www.jkcf.org/wp-content/uploads/2018/06/Cooke_Foundation_State_University_No_More.pdf.

⁴ Ibid.

⁵ Danette Gerald and Kati Haycock, *Engines of Inequality: Diminishing Equity in the Nation's Premier Public Universities*. The Education Trust, 2006, <https://edtrust.org/wp-content/uploads/2013/10/EnginesofInequality.pdf>.

⁶ While not every state designates one of its public four-year universities as a flagship, many research studies assign one flagship per state. For this paper, we use a list of 50 flagships similar to the one used by Gerald and Haycock, *Engines of Inequality* and others.

⁷ U.S. News & World Report, “The Best National University Rankings,” 2022 (www.usnews.com/best-colleges/rankings/national-universities).

⁸ Mark Hoekstra, “The Effect of Attending the Flagship State University On Earnings: A Discontinuity-Based Approach,” *Review of Economics and Statistics*, 91 (November 2009), pp. 717–724.

⁹ Rodney J. Andrews, Scott A. Imberman, and Michael F. Lovenheim, “Recruiting and Supporting Low-Income, High-Achieving Students at Flagship Universities,” *Economics of Education Review*, 74, (February, 2020), 101923.

¹⁰ There is no clear reason why Delaware is an outlier, but one possibility is that it is a small state whose student body was already majority out-of-state in 2002 so it did not have much room to fall. Delaware also skews slightly older than the national average in population with fewer college age population according to the US Census Fact Finder.

¹¹ A.J. Hess, “How student debt became a \$1.6 trillion crisis.” CNBC, June 6, 2020, www.cnn.com/2020/06/12/how-student-debt-became-a-1point6-trillion-crisis.html.

¹² California State Auditor, *The University of California Its Admissions and Financial Decisions Have Disadvantaged California Residential Student*, Report 2015-107, March 2016. Note the State Auditor report is about the entire University of California system, not just its flagship.

¹³ Ibid.

¹⁴ Ibid, pg. 3

¹⁵ Sarah Kuta, “CU ‘beefs up’ process for students seeking in-state tuition,” Daily Camera, November 7, 2013, www.dailycamera.com/2013/11/07/cu-beefs-up-process-for-students-seeking-in-state-tuition/.

¹⁶ UC Berkeley, “Berkeley Financial Aid & Scholarships, Meeting Nonresident Costs,” 2022 (<https://financialaid.berkeley.edu/how-aid-works/meeting-nonresident-costs/>).

¹⁷ Ozan Jaquette and Crystal Han, *Follow the Money: Recruiting and the Enrollment Priorities of Public Research Universities*, Third Way, March 2020, www.thirdway.org/report/follow-the-money-recruiting-and-the-enrollment-priorities-of-public-research-universities.

¹⁸ Ibid

¹⁹ Richard Reeves, *Dream Hoarders* (Washington: Brookings Institution Press, 2018).

²⁰ Unless otherwise noted, data presented in this paragraph are from Jaquette, *State University No More*.

²¹ A note on this figure, which has some significant assumptions behind it. This calculation sums total tuition costs for every student in our sample of M and N flagship public universities had each school kept the same share of in-state students that they had in 2002 and is not adjusted for inflation. The figure assumes that every student paid full tuition (both in- and out-of-state). In this regard the figure is an overstatement. However, this figure does not include interest payments on the amount that was borrowed, or the potential savings some students could realize if they could live with their parents while attending their in-state flagship, which makes the full cost borne by the students even higher.

²² Jaquette and Curs, “Creating the Out-of-State University.”

²³ National Center for Education Statistics, “Digest of Education Statistics, 2015, Table 102.3,” 2022 (<https://nces.ed.gov/programs/digest/>).

²⁴ The author found no causal effect for non-prestigious schools. They define prestigious schools as the 17 public schools in the U.S. News’ top 50 schools ranking. Among the flagships identified in this study, 10 are among the U.S. News & World Report top 50 schools. To determine if out-of-state enrollment had a direct causal effect on crowding out in-state enrollment among our sample schools, a separate analysis similar to Jaquette and Curs, “Creating the Out-of-State University” would have to be conducted.

²⁵ U.S. News & World Report. “University of Michigan--Ann Arbor,” 2021 (www.usnews.com/best-colleges/university-of-michigan-ann-arbor-9092).

²⁶ Bailey Pennington, “The admissions ratio: The UNC System’s 82-18 split,” UNC Media Hub, May 18, 2016, <http://mediahub.unc.edu/university-ratio-unc-systems-82-18-split/>.

²⁷ Ozan Jaquette, Bradley R. Curs, and Julie R. Posselt, “Tuition Rich, Mission Poor: Nonresident Enrollment Growth and the Socioeconomic and Racial Composition of Public Research Universities,” *The Journal of Higher Education*, 87 (September/October 2016), pp. 635-673.

²⁸ Ibid.

²⁹ Susan Dynarski, C.J. Libassi, Katherine Micheltore, and Stephanie Owen, “Closing the Gap: The Effect of a Targeted, Tuition-Free Promise on College Choices of High-Achieving, Low-Income Students,” NBER Working Paper Series, 2018, <https://doi.org/10.3386/w25349>.

³⁰ Pennington, “The admissions ratio.”

³¹ Ibid.

³² U.S. News & World Report, “Top Public Universities,” 2022 (www.usnews.com/best-colleges/rankings/national-universities/top-public).

³³ Emilie Poppelt, “Carolina ranked the third best public school in the nation by the Wall Street Journal and Times Higher Education,” UNC-Chapel Hill, September 5, 2019, www.unc.edu/posts/2019/09/05/carolina-ranked-the-third-best-public-school-in-the-nation/.

³⁴ The University of Texas at Austin, “Top 10 Percent Law,” UT News, April 27, 2021, <https://news.utexas.edu/key-issues/top-10-percent-law/>.

³⁵ The University of Texas at Austin, Office of Admissions, “Admission Decisions,” 2022 (<https://admissions.utexas.edu/apply/decisions#:~:text=Automatic%20admission%20to%20UT%20Austin,fall%202021%20and%20spring%202022>).

³⁶ Note that the UT system also receives revenue from in-state oil revenue that has increased significantly during the last decade, although questions have been raised as to how much of those funds go to supporting students. See, Neena Satija, “UT System oil money is a gusher for its administration – trickle for students,” Texas Tribune, August 21, 2017, www.texastribune.org/2017/08/21/ut-system-oil-money-gusher-its-administration-and-trickle-students.

³⁷ Scott Jaschik, S. “Who Benefits From 10% Plans?” Inside Higher Ed, January 19, 2021, www.insidehighered.com/admissions/article/2021/01/19/report-questions-benefits-10-percent-admissions-plans.

³⁸ The Source, “Segregation Still Exists in Texas Schools,” Texas Public Radio, January 2, 2019, www.tpr.org/show/the-source/2019-01-02/segregation-still-exists-in-texas-schools.

³⁹ Mark C. Long, “Affirmative Action and Its Alternatives in Public Universities: What Do We Know?” *Public Administration Review*, 67 (April 2017), pp. 315–330.x

⁴⁰ Western Interstate Commission for Higher Education, “Western Undergraduate Exchange (WUE),” 2022. (www.wiche.edu/tuition-savings/wue/).

⁴¹ New England Board of Higher Education, “What is Tuition Break?” 2022 (<https://nebhe.org/tuitionbreak/>).

⁴² Midwestern Higher Education Compact, “Midwest Student Exchange Program,” 2021 (<https://mseph.mhec.org/>).

⁴³ University of North Dakota, “Residency and Reciprocity Tuition,” 2022 (<https://und.edu/one-stop/tuition-fees/residency.html>).

⁴⁴ Western Interstate Commission for Higher Education, “Western Undergraduate Exchange (WUE),” 2022. (www.wiche.edu/tuition-savings/wue/).

⁴⁵ It appears the WUE savings estimate is based on the assumption that every WUE student would have chosen to go to the same out-of-state school and paid the full out-of-state tuition price. This is unlikely for several reasons. First, many students are price sensitive when selecting schools and would have not chosen to go out-of-state absent WUE. As WUE prices are generally higher than in-state tuition, deciding to go out-of-state through WUE is still generally more expensive for tuition than in-state.

Furthermore, tuition alone is not the only cost of attending college. Room and board are a significant expense, sometimes greater than tuition at some public colleges and universities. Going out-of-state usually means that you cannot live at home and students have to pay more for room and board, relative to the option of living at home and attending a local in-state public option. Granted that is not always an option for everyone, particularly for those attending flagship universities, but it is for some and the WUE savings do not account for the extra cost of living expenses. Finally, public universities offer both merit and need-based aid packages to out-of-state students. WUE reflects savings off the full tuition (sticker) price for out-of-state schools. It is not clear how much student aid would have been offered to qualifying WUE students absent the WUE program.

⁴⁶ Western Interstate Commission for Higher Education, “WUE Enrollment by State and Institution (2019-20),” 2022 (www.wiche.edu/wp-content/uploads/2020/07/WUE_Enrollment_by_State_and_Institution_2019-20.pdf).

⁴⁷ University of New Mexico-Main Campus, “UNM Graduation Rate & Retention Rates,” 2022 (www.collegefactual.com/colleges/university-of-new-mexico-main-campus/academic-life/graduation-and-retention/).

⁴⁸ For example see, UNLV, “Western Undergraduate Exchange (WUE),” 2022 (www.unlv.edu/finaid/scholarships/wue).

⁴⁹ New England Board of Higher Education, “Participating Colleges and Universities 2020-21 Annual Full-Time UNDERGRADUATE Tuition Rates,” Regional Student Program (RSP)/Tuition Break, https://nebhe.org/info/pdf/tuitionbreak/2020-21/2020-21_RSP_TuitionBreak_TuitionRates-UNDERGRAD&GRAD.pdf.

⁵⁰ Peter Grema, Saha Salashi, Caitlin J. Saladino, and William E. Brown Jr., “Economic Mobility Index of Public R1 Universities in the Mountain West,” Higher Education Fact Sheet No. 25, The Data Hub and at Brookings Mountain West and The Lincy Institute, August, 2022, https://digitalscholarship.unlv.edu/bmw_lincy_he/21/.

⁵¹ Juliet V. Casey, “UNLV to Offer New Tuition+ Award Program for Nevada Residents,” UNLV News Center, September 9, 2019, www.unlv.edu/news/release/unlv-offer-new-tuition-award-program-nevada-residents.

⁵² California State Auditor Report 2015-107

⁵³ Teresa Watanabe, “UC admits record number of Californians and far fewer out-of-state students,” *Los Angeles Times*, August 10, 2022, www.latimes.com/california/story/2022-08-10/uc-admits-record-number-of-california-first-year-students-narrows-entry-to-nonresidents.

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