UNC System Trends in State Appropriations and Student Affordability

Prepared for the NC Budget and Tax Center at the NC Justice Center

Prepared by: Sally Hodges-Copple

Master of Public Policy Candidate

The Sanford School of Public Policy

Duke University

Faculty Advisor: John Quinterno

Table of Contents

Policy Question

How have changes in state investment in higher education over the last three decades (1986-2017) affected affordability for low- and moderate-income students across the University of North Carolina System?

About the North Carolina Budget & Tax Center

The North Carolina Budget and Tax Center (BTC) conducts non-partisan analysis of state budget and tax policy and monitors state and local economic conditions.[1] The BTC and state policymakers would benefit from a clearer picture of how affordability has changed for students from different socioeconomic backgrounds within the UNC System over the last 30 years and the role that changes in state support for the public university system has played in these changes. The UNC System accounts for a sizeable portion of the state budget – its 2018 appropriation of $2.9 billion accounted for 13 percent of total General Fund spending.[2] While the BTC reported on state cuts to higher education in the decade following the Great Recession[3] and has published analyses of the interrelated trends of declining state funding and rising student debt levels,[4] the organization does not currently have staff resources to dedicate to a longitudinal, in-depth analysis of UNC System trends related to appropriations, tuition revenues, and student affordability. This project aims to help fill that gap and advance higher education finance discussions in North Carolina.

Executive Summary

Extensive academic and policy research has documented a nationwide trend of declining state support for higher education, particularly during recessionary periods.[5] A review of the existing literature shows that North Carolina has paralleled national trends in shifting the responsibility for funding public higher education *away* from society as a whole – via the appropriation of tax dollars – and *toward* individual students and families in the form of tuition and fee payments.[6] As schools receive fewer public resources, they are forced to either cut spending or increase revenue via others means; research regarding the impact of spending cuts and tuition increases on student outcomes indicates that both are detrimental.[7]

Given North Carolina's comparatively low university tuition rates relative to other states,[8] some observers have touted the affordability of the state's public institutions and downplayed the relevance of national trends to the North Carolinian context. To the contrary, this report finds that state appropriations per full-time equivalent student in 2017, the most recent year with complete data, were at their lowest level in North Carolina since 1995. While declines occurred during recessionary periods, the recovery in state support during expansionary periods is taking longer and longer. Students – particularly those from families that have borne the brunt of income stagnation and have been historically shut out from wealth-building opportunities – are increasingly expected to pay out-of-pocket from limited family resources or take on substantial amounts of debt to finance their education. In particular, four key findings have emerged from this study:

1) Appropriations per FTE in 2017 were at their lowest level since 1995 and are taking increasingly longer to recover following economic downturns.

The expansionary period following the 2008 recession defied a previous pattern in which higher education funding in North Carolina would decline during recessions only to subsequently recover during expansions. Even as the economy grew from 2010 to 2017, appropriations per FTE fell 9 percent, or $1,509, dropping to $14,928 from $16,437. Far from recovering during a time of economic growth, appropriations per FTE in the UNC System were 15 percent lower in 2017 than at their pre-recession peak in 2007.

2) Tuition revenue is steadily replacing state dollars in UNC System funding.

In 2017, North Carolina appropriated just $1.71 per FTE for every $1 in net tuition revenue per FTE. This appropriations-net tuition ratio has declined 50 percent since 2001, when the state appropriated $3.41 per FTE for every $1 in net tuition revenue per

FTE. Based on this shift in the relative burden, higher education in North Carolina is on track to become a primarily individual investment that is partially subsidized by the state.

3) Students from lowest income families experienced the greatest hike in out-of-pocket costs.

The best available data points to concerning distributional impacts of the above two trends: North Carolina's lowest-income families – those *least* able to absorb the shift away from state-funded higher education – are precisely the families who have experienced the *greatest* percentage increase in net price over the last decade. From 2008 to 2017, the UNC System's lowest-income students experienced a net price increase of over 100 percent, while its highest-income students experience a net price increase of 25 percent.

4) Increased reliance on student loans and disparities across UNC campuses reflect the legacy of NC's income and wealth gaps.

Since 1999 – the first year in which data is available – UNC System students have increasingly turned to student loans to finance the cost of public higher education. The portion of UNC System students who took out student loans rose from 40 percent in 1999 to 56 percent in 2018. Persistent disparities emerge between the state's Minority Serving Institutions (MSIs) and other campuses. The portion of students receiving loans increased from 55 percent in 1999 to 77 percent in 2018 at MSIs. At non-MSI campuses, meanwhile, just 36 percent of students received student loans in 1999, a figure that rose to 51 percent of students in 2018.

As North Carolina families begin to heal from the dual crises of the COVID-19 pandemic and the associated economic recession, state leaders will confront important budget decisions influencing the trajectory of the state's recovery. While state revenue collections are exceeding worst-case projections,[9] costs – especially in higher education – have risen as well, while other streams of revenues have declined.[10] A post-COVID-19 response that continues to shift burdens onto students may be particularly concerning for students who are less able to absorb these increased costs due to familial job and income losses stemming from the pandemic. Today, North Carolina has the opportunity to more closely examine its *historical* commitment of state dollars to UNC System students relative to its levels of *present-day* investment in a student body that is more racially, ethnically, and socioeconomically diverse than any generation before it.

Background

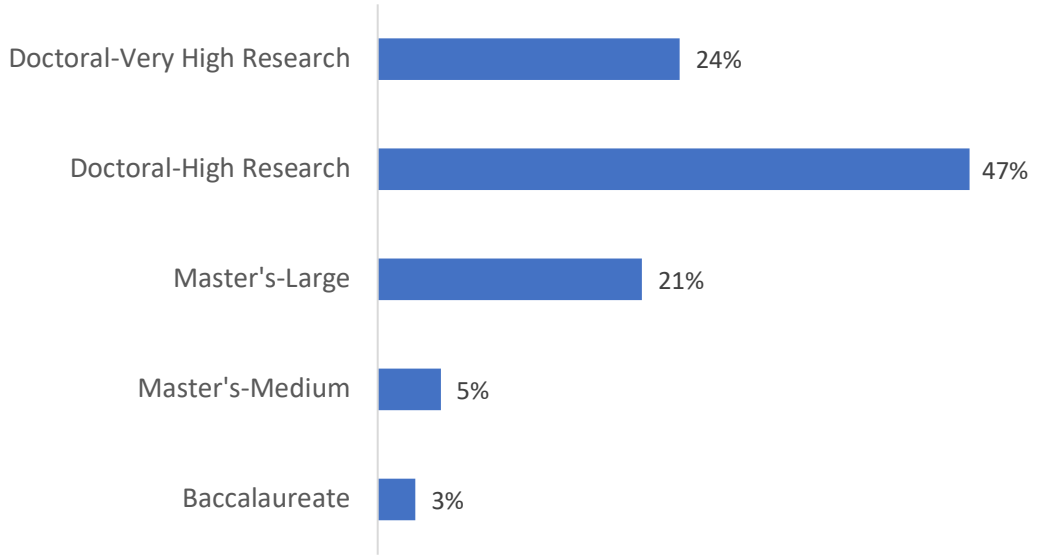
I. North Carolina's commitment to higher education

North Carolina policymakers have long recognized the importance of higher education to personal well-being and the state's economic development by providing extensive funding for public colleges and universities. In 1795, the University of North Carolina-Chapel Hill became the first public college in the United States to open its doors to students. More than a century later, in 1931, the General Assembly created a Consolidated University consisting of UNC Chapel Hill, Woman's College at Greensboro and North Carolina State College at Raleigh. Lawmakers then established the UNC system in 1972, bringing 16 state colleges and universities together under a unified governance structure.[11]

Today, the UNC System enrolls nearly 200,000 students at campuses with varied institutional histories, missions, and activities. Nearly 1 in 5 UNC System students attends a Minority Serving Institution, which include the state's five Historically Black Colleges and Universities and UNC Pembroke, a historically American Indian university. Campuses also vary in their institutional activities, as represented by the Carnegie Classification System, a longstanding framework for grouping institutions of higher education according to their institutional differences. Three percent of UNC System students attend a Baccalaureate College, 5 percent attend a Master's College or University with medium programs, 21 percent attend a Master's College or University with larger programs, 47 percent attend a Doctoral University with high research activity, and 24 percent attend a Doctoral University with very high research activity (see **Figure 1** and **Appendix A**).

Article IX of North Carolina's constitution articulates a prominent role for public funding of the UNC System, stating that "the General Assembly shall provide that the benefits of The University of North Carolina and other public institutions of higher education, as far as practicable, be extended to the people of the State free of expense."[12] Recent scholarship from the Duke Law Journal has meticulously documented the origins and historical context of this language, first adopted in North Carolina's post-Reconstruction 1868 constitution. Prior to the 1868 revisions, UNC was considered an institution for only the wealthiest North Carolinians; following ratification, the Governor declared the university to be "a popular institution…it is now the people's University."[13] In the wake of new state appropriations and the University's reopening in 1875, tuition prices dropped and remained remarkably stable for the next century. Between 1916 and 1995, published annual tuition never exceeded $1,450 in 2017 dollars.[14]

Fig 1. Nearly half of UNC System undergraduates attend a Doctoral-High Research institution



Source: National Center for Education Statistics (Fall 2019 undergraduate enrollment) and Carnegie Classification System. Total enrollment reflects only the 15 campuses included in this study.

Owing to this legacy, North Carolina is still recognized as having among the lowest tuition rates in the country. At $7,260 annually, the state is ranked 4th-lowest for published tuition and fee charges for in-state students at public four-year institutions, compared to a national average of $10,560.[15] State leaders continue to emphasize the need for a well-educated populace, having set a goal for 2 million North Carolinians to complete a postsecondary degree or credential by 2030.[16] At the same time, state leaders are taking steps to preserve the affordability of four-year baccalaureate degree programs offered by the University of North Carolina. In recent years, the state has implemented the NC Promise Tuition Plan, which reduced in-state tuition to $500 per semester at Elizabeth City State University, UNC-Pembroke, and Western Carolina University.[17] The General Assembly also instituted a Fixed Tuition Program in 2016, guaranteeing that tuition rates set during the first semester of a student's enrollment at any UNC System institution will remain unchanged for eight semesters of consecutive enrollment.[18] While the program does not apply to fees or room and board, fee increases are limited to 3 percent per year.

Despite a historical commitment of public funding, the popular goal of affordable higher education exists alongside a decades-long national trend of declining state investment in public colleges and universities. The following section reviews these trends and ultimately points to the need for state leaders to be informed by analysis that not only compares North Carolina to peer states at a single point in time, but that also puts current revenue choices in the context of the state's historical commitment to higher education.

II. North Carolina in the context of national higher education trends

It is important to highlight four key findings that have emerged from national research on higher education finance: 1) the decades-long decline in public funding for higher education, 2) the pressure of the business cycle on state budgets, 3) dramatic increases in tuition revenue, and 4) rising levels of student debt. This project builds upon these findings by analyzing revenue changes within the UNC System and detailing the extent to which trends of decreasing state investment and increasing individual costs hold true in North Carolina. The project also advances beyond comparisons of average values of key measures to assess the distributional impact of revenue changes, both at individual campuses and among students from differing family income profiles.

Public support for higher education has declined across the United States in recent decades

Annual reporting from the State Higher Education Executive Officers Association (SHEEO) – which combines data for both 2- and 4-year public colleges – has firmly documented declining state support for higher education over the last 30 years. State appropriations per FTE, or full-time equivalent student, is one of the most commonly used metrics of a state's investment in higher education. This measure calculates a full-time equivalent enrollment as the sum of full-time students plus the weighted sum of part-time students, and then divides the total level of state funding by FTE enrollment. SHEEO reporting shows that from 1989 to 2019, state and local appropriations per FTE (excluding research, hospitals, and medical education) decreased 14 percent nationwide. In North Carolina the decrease was slightly higher, at 18.7 percent, declining by $2,180 to $9,448 in 2019 from $11,628 in 1989.[19]

A similar decline is apparent in other measures of state support for higher education that take into account a state's capacity to raise revenue for higher education, as assessed by population size and wealth, though data for these metrics lag by one year. In North Carolina, appropriations per capita declined 7.6 percent from 1988 to 2018 (falling from $453 to $418 per person), compared to 10.5 percent nationwide ($339 to $304). Appropriations per $1,000 of personal income declined 27.1 percent in NC ($12.40 to $9.10), compared to 32.7 percent nationwide ($8.30 to $5.60).[20] While the precise measure in question determines whether North Carolina underperforms or overperforms the national average, the overall trend in declining public support relative to North Carolina's student enrollment, total population, and state wealth is apparent.

Higher education funding is the "balance wheel" of state budgets during hard times

A clear relationship has emerged between state appropriations and the business cycle. Research from the Urban Institute has documented that tuition and fee rates increase most rapidly following periods of economic recession. During such times, when state budgets are under greater pressure, appropriations to higher education grow slowly – or even decline – despite increased enrollments of students looking to improve their credentials in a weak labor market.[21] As far back as 1999, budget analysts have described higher education as the "balance wheel in state finance,"[22] meaning its appropriations are disproportionately cut when state fiscal circumstances are weak. Unlike public K-12 systems, higher education is not a compulsory, universal system, and its institutions have the ability to shift costs onto students in the form of tuition and fee increases. These characteristics make higher education systems a frequent target for budget reductions during hard times.

A 2003 Brookings Institution policy brief highlighted the historical relationship among recessionary unemployment, mandatory Medicaid spending, and declining state appropriations to higher education.[23] The brief found that increased state spending on Medicaid explained 80 percent of the decline in higher education funding from 1988 to 1998. Recent business cycles have demonstrated the continued power of the balance wheel effect during recessions, but have also shown funding to be increasingly slow to recover during subsequent expansionary periods. In a 2012 report, the think tank, Demos, found that from 1990 to 2010, higher education funding nationwide did not recover during expansions to the same extent that it had historically, and in fact took increasingly longer to recover following every downturn that had occurred since 1979.[24]

While it is widely known in North Carolina that per-pupil K-12 funding has not returned to pre-recession levels, the same is true of higher education. In 2019, funding per FTE in higher education (both two- and four-year schools) was down 14.5 percent from 2008 in North Carolina, substantially more than the 8.7 percent decrease nationwide.[25] Across multiple measures of state support, North Carolina compared unfavorably even during the recovery period from 2014 to 2019, a period of time following a major overhaul of the state's tax system. While appropriations per FTE increased 9.3 percent in NC during this time, the recovery was greater nationwide (12.1 percent, on average). Measured in terms of appropriations per capita, state support for higher education actually *decreased* 6 percent from 2013 to 2018 (with metrics again lagging by one year) but *increased* 5.3 percent nationwide. Appropriations per $1,000 of personal income decreased 13.9 percent in North Carolina during this time period – a decrease more than three times greater than the national average (4.1 percent).[26]

Increases in tuition revenue jeopardize student access and success in higher education

Dramatic increases in public sector tuition revenue has also emerged as a well-established research finding. The College Board's 2020 "Trends in College Pricing" report showed that, nationwide, the average in-state tuition and fee price in the public four-year sector in 2019-20 was 278 percent higher in inflation-adjusted dollars than in 1990-91.[27] Since the published price may not reflect what students pay after receiving grant aid, measures such as average net price, net tuition revenue, and student share provide additional insight into affordability and cost sharing between the state and its students. Average net price is "the estimated out-of-pocket cost of students and their families to attend college, after accounting for financial aid that doesn't need to be repaid."[28] Net tuition revenue represents an institution's total revenue from tuition and educational fees, net of any allowances (scholarships).[29] Net tuition revenue expressed as a portion of total education revenue represents the "student share" for funding higher education.

From 1989-2019, net tuition revenue per FTE increased 148 percent in North Carolina (rising to $4,725 from $1,902), greater than the 123 percent increase nationwide (rising to $6,902 from $3,092). [30] Over the same time period, the student share at public institutions increased from 14 percent to 33 percent in North Carolina; nationwide the share increased from 25 percent to 46 percent. North Carolina is therefore paralleling – and in the case of net tuition revenue per FTE is outpacing – the national shift to individually-financed higher education.

An increased reliance on tuition revenue has real implications for students' ability to access and successfully complete college. One study found that large tuition increases resulted in declining enrollment at public colleges and universities.[31] Importantly, low-income students are particularly vulnerable in the face of tuition increases: states with the largest tuition increases during the 1980s and early 1990s saw the greatest increase in the college enrollment gap between high- and low-income students.[32] Researchers have also found that financial constraints increase the probability that high-achieving, low-income students will apply to and enroll at less-selective schools.[33] Insufficient state appropriations may lead institutions to not only increase tuition revenue, but also cut spending. This institutional response is also detrimental to students: Urban Institute researchers argue that tuition increases are more likely to impact enrollment, but spending cuts are more harmful for educational quality and student success.[34]

Student debt is growing and varies according to institutional mission

In 2018, Americans owed $1.5 trillion in student loan debt nationwide, with the average borrower graduating with $28,565 in student loans.[35] While North Carolina compared favorably to the national average – with an average student loan debt per borrower of $26,129 – the point-in-time comparison once again obscures concerning trends.

From 2007 to 2017, only 6 states experienced a larger increase than North Carolina in the percentage of graduates with student loan debt, though this analysis included both public and private institutions.[36] A 2019 analysis from the Center for Responsible Lending (CRL) outlines the contours of North Carolina's student debt crisis in even greater detail, reporting that over 1.2 million North Carolinians hold $44 billion in student loan debt, an amount of that tripled between 2008 and 2018.[37]

The CRL report also highlights the influence of racial disparities in income and wealth on student borrowing: while only accounting for 29 percent of total undergraduate enrollment, Black North Carolinians accounted for 44 percent of those who borrowed $26,500 or more for an undergraduate degree in the state. Reporting from the North Carolina Justice Center in 2018 documented that the percentage of college students graduating with debt was higher at public institutions and Historically Black and Minority Serving institutions in North Carolina, relative to their counterparts.[38] Due to these disparities, it is important to pay particular attention to borrowing at the state's five public HBCUs: Elizabeth City State, Fayetteville State, Winston-Salem State, North Carolina Central, and North Carolina A & T.

III. Terminology and Data Sources

This report will use the following terminology to characterize trends in higher education investment and affordability in North Carolina. The source for all measures is the Integrated Postsecondary Data System (IPEDS), a system of interrelated surveys conducted annually by the U.S. Department of Education's National Center for Education Statistics (NCES). Data from IPEDS was accessed via the Urban Institute's Education Data Explorer tool; the most recent data from the Education Data Explorer is from 2017-2018.

Full-time equivalent enrollment (FTE): This measure represents an institution's full-time equivalent undergraduate enrollment, based on fall enrollment. The variable is calculated as the sum of full-time students, plus weighted part-time students by

institutional sector.[39] FTE is used to ensure that any comparison of funding across institutions and time periods accounts for variation in full-time/part-time student enrollment.

State appropriations per FTE: This measure represents an institution's revenue from state and local appropriations, grants, and contracts in a given year, divided by the corresponding FTE. Because UNC System campuses do not receive local appropriations, this is equivalent to state appropriations per FTE.[40] State appropriations per FTE is used to compare the level of public support that is devoted to a post-secondary student across time and across institutions in the UNC System.

Gross tuition revenue per FTE: This measure represents an institution's total revenue from tuition and fees, including any allowances (scholarships) applied to tuition and fees.[41] The Urban Institute's IPEDS Finance User Guide recommends this variable for comparison of tuition revenues in the 1980s and 90s.[42] Because data on net tuition revenue (below) is only available beginning in 2001, gross tuition revenue per FTE is used to examine tuition trends prior to 2001.

Net tuition revenue per FTE: This measure represents an institution's total revenue from tuition and educational fees, net of any allowances (scholarships).[43] The Urban Institute's IPEDS Finance User Guide recommends that most users use this tuition variable.[44] Because net tuition does not include scholarships, it more accurate to compare net tuition to state appropriations – rather than gross tuition to state appropriations – when representing the shift in institutional revenue over time.

Average net price: Net price is "the estimated out-of-pocket cost of students and their families to attend college, after accounting for financial aid that doesn't need to be repaid."[45] Net price is calculated by subtracting the average grant aid awarded (including federal, state, local, and institutional grants) from the average cost of attendance. Students then pay the net price using family contributions, federal loans, private loans, private grants, or work-study. Data on average net price is used to reflect the cost that a student actually confronts in attending college, and has the benefit of being available in disaggregated form according to student family income.

Consumer Price Index: All measures are adjusted for inflation using the Consumer Price Index for All Urban Consumers from the Bureau of Labor Statistics. The Education Data Explorer indexes all figures to 2016 dollars. Indexing for inflation allows dollar amounts (e.g. appropriations and tuition) to be comparable across time.

Methodology

This report draws upon the above measures and data sources to conduct a quantitative analysis of North Carolina's higher education investment and affordability trends over the last three decades. Specifically, the first two portions of the analysis – which examine trends in state appropriations and tuition revenue – use the Urban Institute's Education Data Explorer Tool as its data source. The Data Explorer Tool is an institution-level database that in turn draws data from IPEDS alongside additional postsecondary data sources. Data on each institution's yearly total state appropriation and total gross tuition revenue are available from 1986 to 2017; data for net tuition revenue is available from 2001 to 2017. Using the Data Explorer Tool's annual calculated Full Time Enrollment for each institution, I divide appropriations and tuition revenue by FTE to represent changes in per-student funding and tuition revenues over time. At the institution level, I then divide per FTE appropriations by per FTE net tuition revenue to represent changes in the appropriations-tuition ratio at different campuses over time. The database indexes all dollar amounts to 2016 dollars.

The third portion of the analysis examines changes in average net price at the institution level over time. Data for this section is again accessed from IPEDS via the Data Explorer Tool, and is available from 2008 to 2017. At the institution level, average net price is also available in disaggregated form by student family income bracket. All dollar amounts are again indexed to 2016 dollars. The final portion of the analysis draws its data directly from IPEDS and examines the percent of full-time, first-time undergraduate students who receive loans at each institution.

Trends in appropriations, tuition revenue, and student borrowing are further disaggregated by Carnegie Type and Minority-Serving Institution status. As noted above, prior research has documented lower levels of public funding and higher levels of student borrowing at Historically Black Colleges and Universities. The report therefore breaks out the data for North Carolina's 5 HBCUs, along with the state's one historically tribal university. Furthermore, because tuition nationwide has increased more rapidly at public master's universities than at public doctoral universities, this project also disaggregates according to mission type as categorized by the Carnegie Classification system.[46]

While the UNC System includes a total of 17 campuses, this report includes data for only 15 of those campuses. Due to the North Carolina School of Science and Mathematics' status as a high school and the University of North Carolina School of the Arts' specialized programs and enrollment of predominantly out-of-state students, these two campuses are excluded from the analysis.

Findings

The COVID-19 pandemic has taken an enormous human and economic toll in North Carolina. As the state begins to recover from this crisis, policymakers have the opportunity to take stock of the condition of higher education funding within the context of the state's historical commitment to a well-educated populace. Because state averages often obscure disparities across different students and institutions, North Carolina's funding debates should also discuss any inequitable impacts of changes in public investment on students, families, and institutions with unequal access to private wealth. With the more complete analysis provided by the findings of this report, policymakers can make informed decisions about the trajectory of higher education funding in the UNC System.

The findings of this analysis are grouped into the following four sections: 1) Appropriations, 2) Tuition Revenue, 3) Average Net Price, and 4) Student Debt.

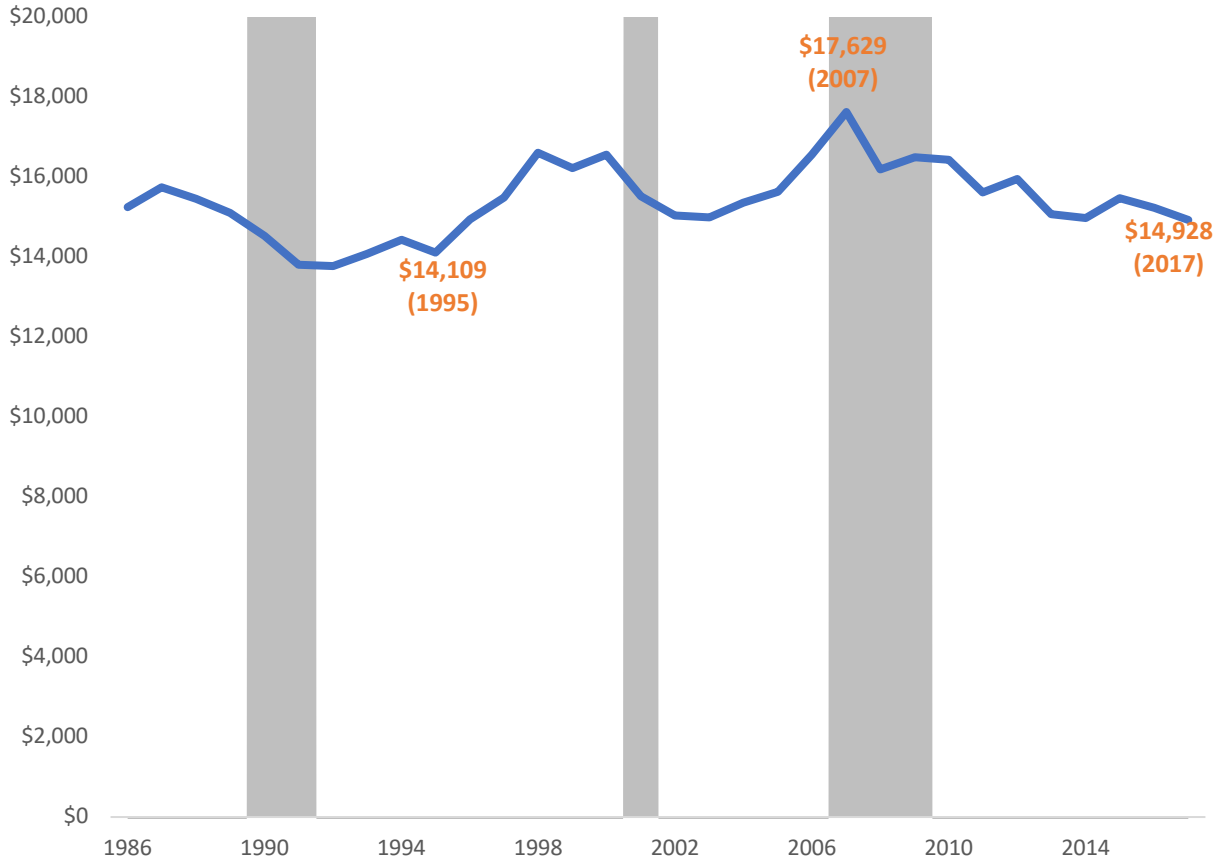
1) Appropriations per FTE in 2017 were at their lowest level since 1995 and are taking increasingly longer to recover following economic downturns.

Education policy discussions in North Carolina often cite the fact that per-pupil funding for K-12 education has never recovered to pre-recession levels, but the same is also true of state funding for the UNC System. **Figure 2** shows that, prior to the Great Recession, state appropriations per FTE peaked in 2007 at $17,629. This was the highest level of per FTE funding since data was first collected in 1986. Funding steadily fell in the 10 years following this peak and sat at $14,928 in 2017, the lowest level since 1995.

Figure 2 also shows the cyclical nature of higher education funding. Over the last three decades, state appropriations to the UNC System have generally increased during times of economic expansion, with the exception of the late 1980s. After bottoming out at $13,776 following the 1990-91 recession, appropriations per FTE steadily increased over the next decade and sat at $16,563 at the onset of the 2001 recession – an increase of 20 percent since 1992. Likewise, the expansionary period from 2002 to 2007 saw appropriations per FTE climb 17 percent, from $15,045 to $17,629.

The expansionary period following the 2009 recession has defied this trend in North Carolina. Even as the economy grew from 2010 to 2017, per FTE appropriations fell 9 percent, from $16,437 to $14,928. Far from recovering during a time of economic growth, appropriations per FTE were 15 percent lower in 2017 than at their pre-recession peak in 2007.

Fig 2. Inflation-adjusted state appropriations per FTE peaked in 2007 at $17,629. Ten years later, they had fallen to their lowest level since 1995.

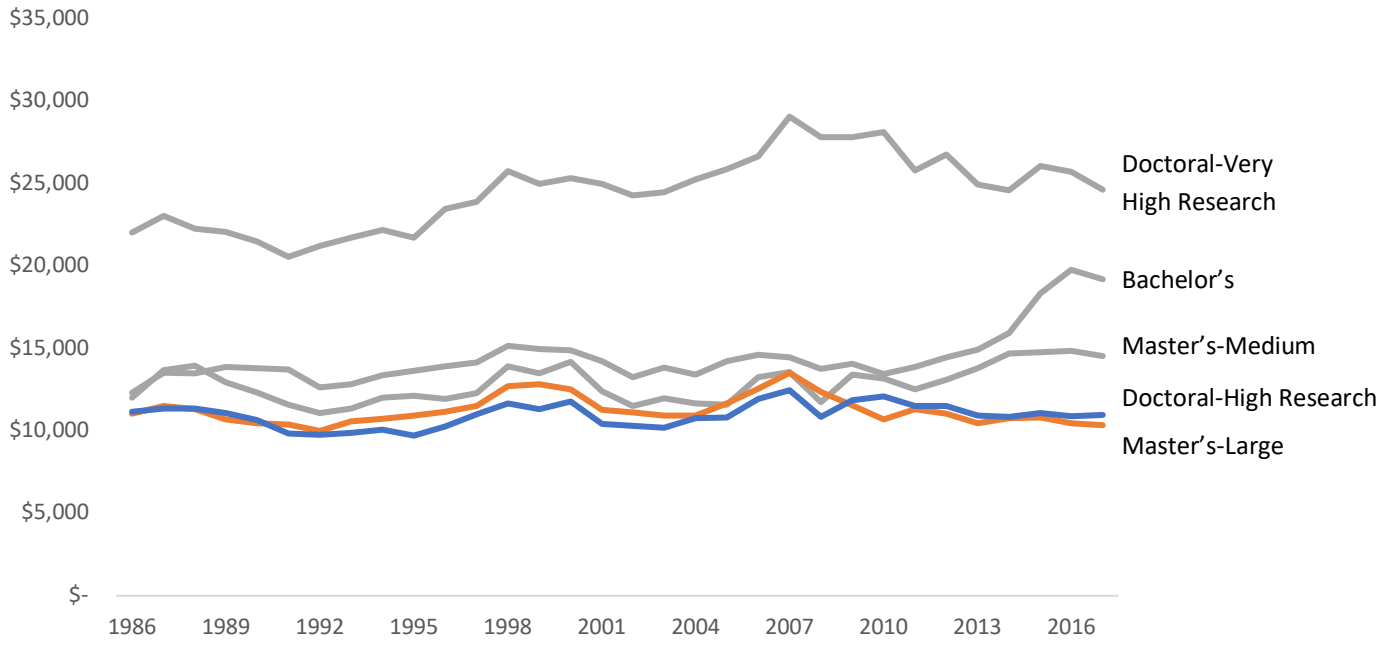


Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

The decline in appropriations per FTE has been widely felt across the UNC System during this period of economic expansion, though the statewide average does obscure some variation across the 15 campuses that are included in this analysis (**Appendix C** provides a full breakdown of trends in state appropriations for all 15 campuses). State appropriations per FTE vary widely according to Carnegie Classification. **Figure 3** shows that "Doctoral – Very High Research" institutions – namely UNC-Chapel Hill and NC State – received very high levels of state funding relative to other UNC System institutions from 1986 to 2017. The recent growth in funding for Bachelor's campuses is driven by Elizabeth City State University and is likely attributable to emergency funds appropriated to stabilize the university in the wake of rapidly declining enrollment.[47] Meanwhile, because the NC Promise Tuition plan was implemented in the 2018-19 school year and appropriations data is only complete as of 2017-18, the impact of this investment is not yet apparent in the available data.

Several of the state's "Doctoral-High Research" and "Master's-Large Programs" campuses have generally trailed other institutions in per-student funding since 1986. In particular, **Figure 4a** shows that NC A&T and ECU have seen their state appropriations decline 18 percent and 15 percent, respectively, since 1986. Among "Master's-Large Programs," Western Carolina, NC Central, and Appalachian State have seen their state funding decline by 18 percent, 3 percent, and 3 percent respectively since 1986.

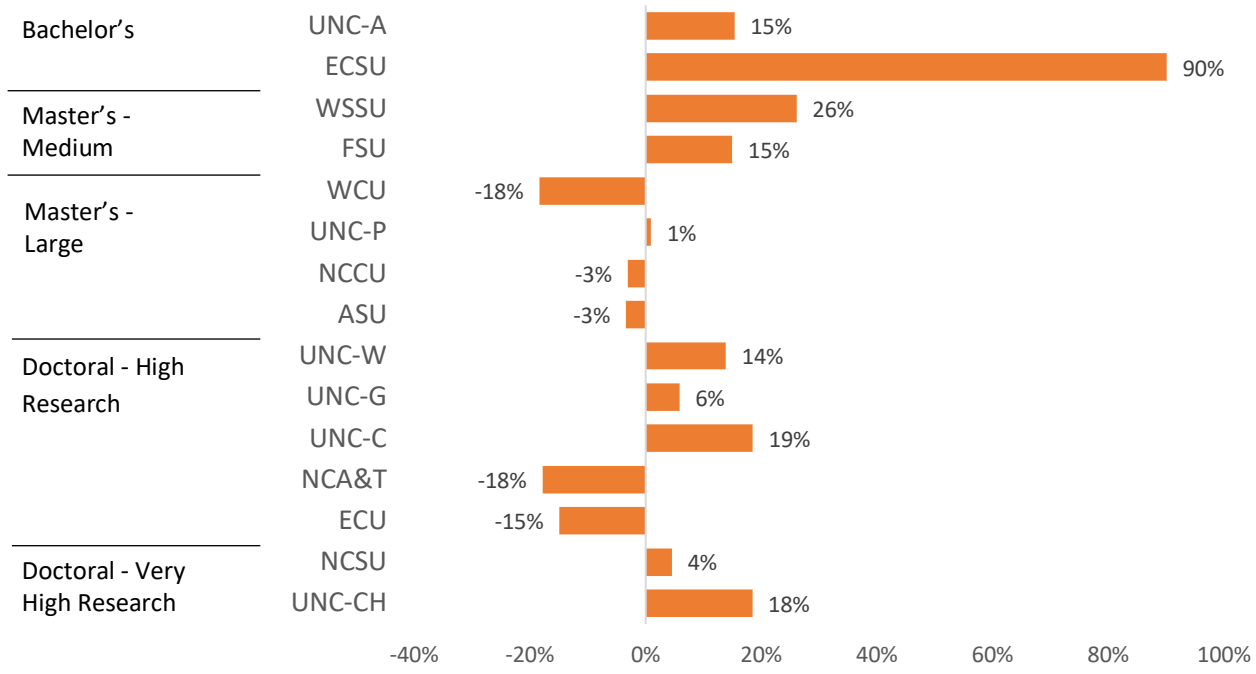
Fig 3. UNC System institutions classified as "Doctoral-High Research" and "Master's-Large Programs" trail other campuses in state appropriations per FTE.



Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

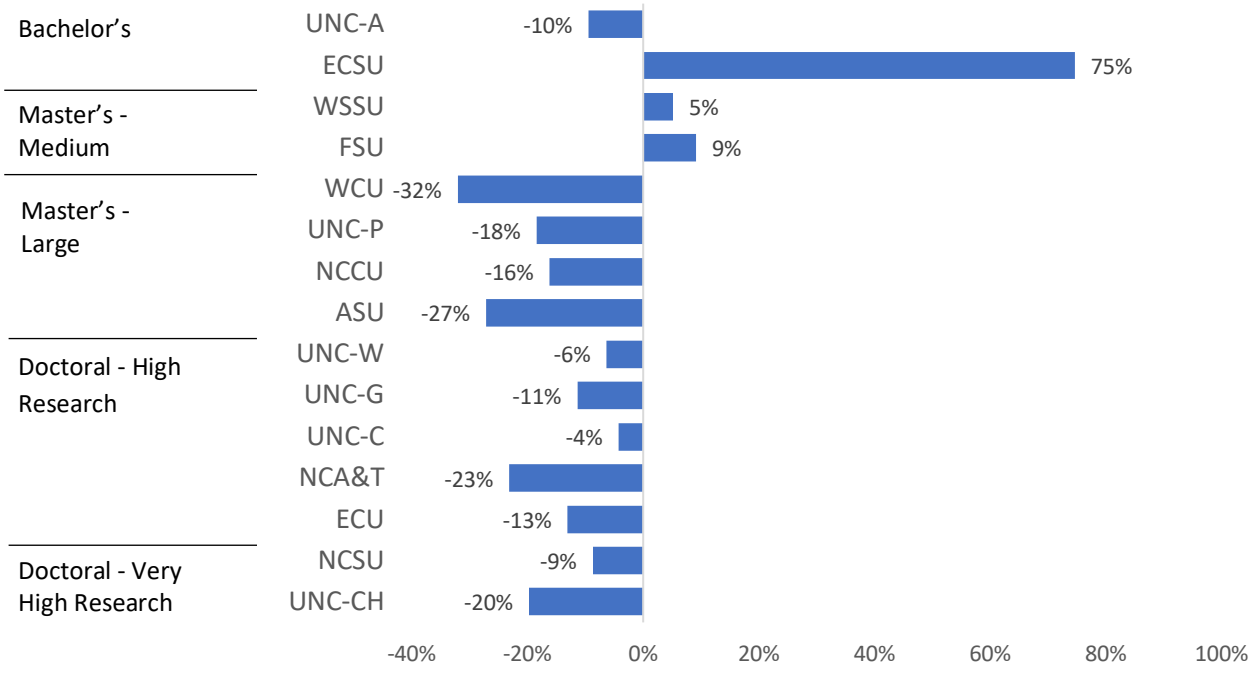
Figure 4b shows that 12 of 15 campuses saw a decrease in funding from 2007-2017. The exceptions were Elizabeth City State, Fayetteville State, and Winston-Salem State, which saw a 75 percent, 9 percent, and 5 percent increase, respectively. Western Carolina University experienced the greatest drop in FTE funding over this 10-year period (32 percent), followed by Appalachian State (27 percent), NC A&T (23 percent), UNC-Chapel Hill (20 percent), UNC Pembroke (18 percent), and NC Central (16 percent). The remaining six campuses saw decreases ranging from 4 to 13 percent, all below the statewide decrease of 15 percent.

Fig 4a. Five campuses experienced a decrease in per student funding from **1986-2017**.



Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

Fig 4b. Twelve campuses experienced a decrease in per student funding from **2007-2017.**



Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

Finally, state appropriations also vary between minority-serving and non-minority serving institutions. **Figure 5a** shows that public funding for MSIs has consistently trailed other UNC System institutions since 1986. Investments in Elizabeth City State University reversed this trend for the first time in 2014, again likely due to stabilization funds. When Elizabeth City State is excluded, however, **Figure 5b** illustrates that the funding gap between MSIs and other institutions narrowed in recent years, but grew again to $1,778 in 2017.

Fig 5a. Per FTE appropriations to MSIs consistently trailed non-MSIs until 2014.

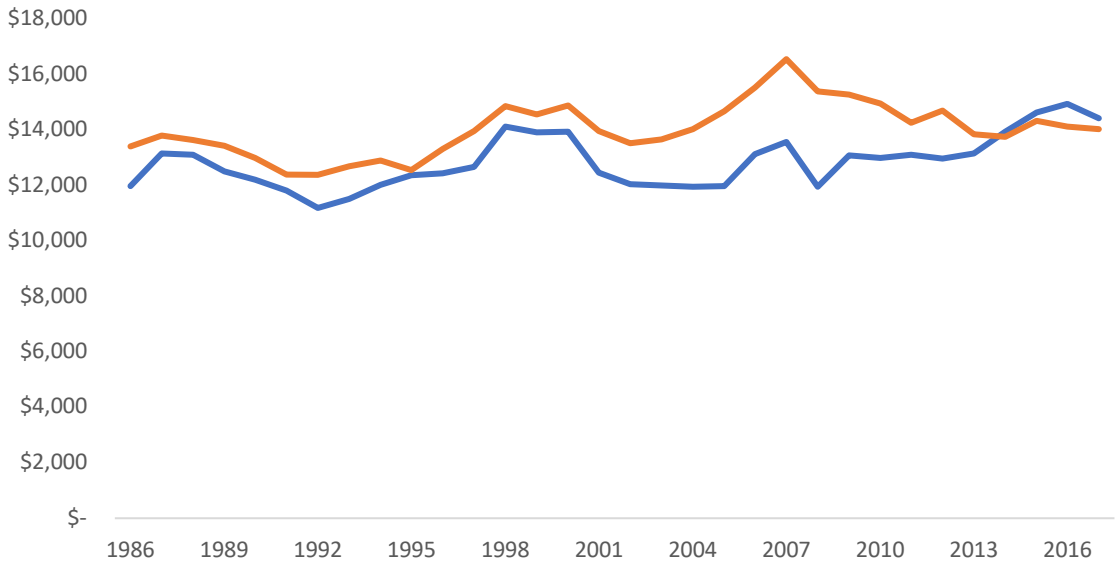
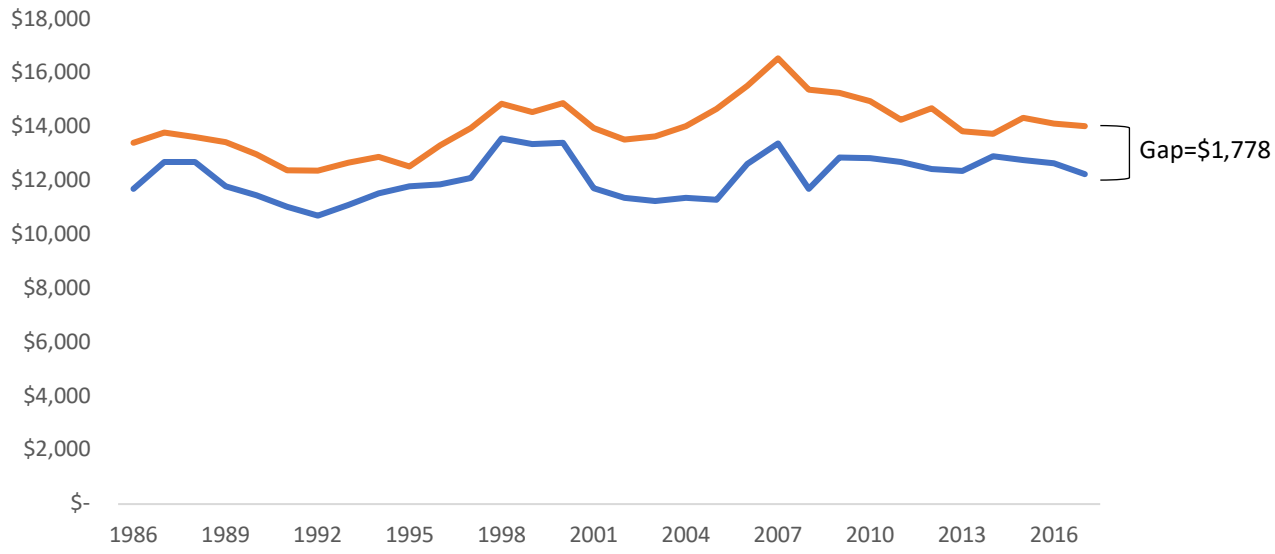


Fig 5b. When Elizabeth City State is excluded, the per FTE funding gap between MSIs and non-MSIs narrowed in 2014, but grew to over $1,700 dollars in 2017.



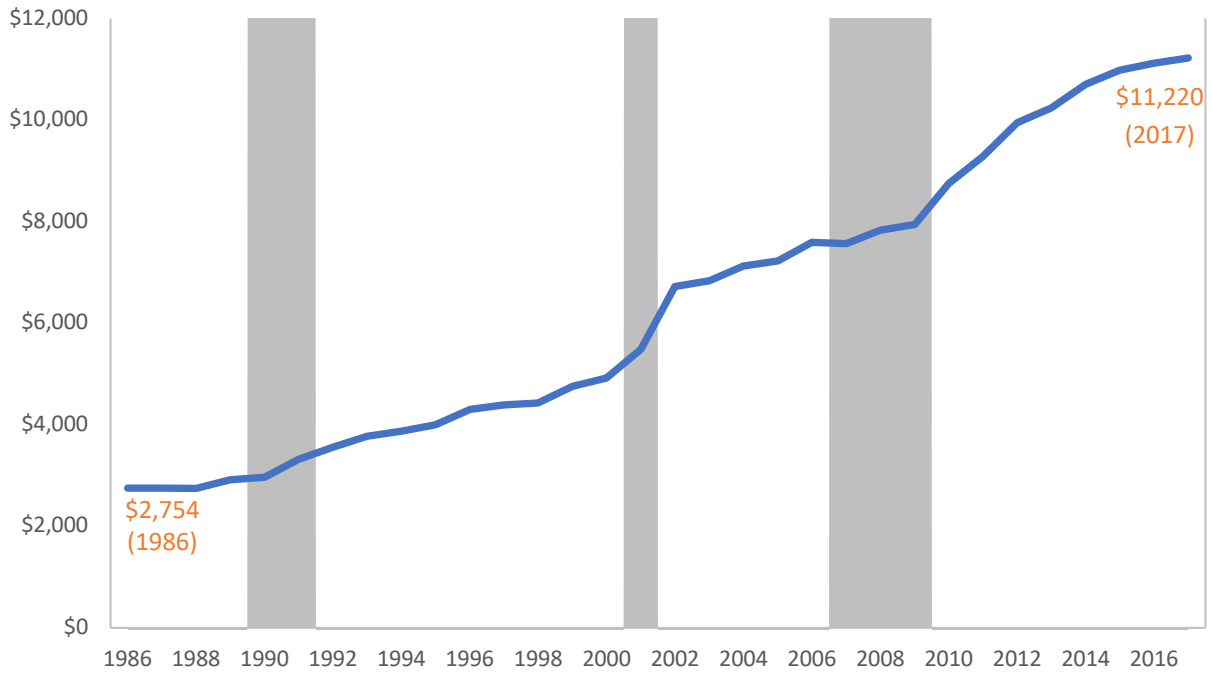
Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

2) Tuition revenue is steadily replacing state dollars in UNC System funding.

At the same time that state appropriations to UNC System campuses have decreased, tuition revenue has climbed. These coinciding trends mean that the cost of higher education in North Carolina is increasingly financed individually by students and families, rather than publicly financed by the state.

Data on gross and net tuition revenue illustrate the shift. In the 1980s and 1990s, IPEDS collected data only on gross tuition and fee revenue. Since 2001, IPEDS has asked institution to also report their net tuition and fee revenue, which excludes discounts and allowances stemming from grant aid.[48] Therefore, gross tuition allows comparison over the longest time horizon, while net tuition is most appropriate for representing the shift in the student burden. As **Figure 6** shows, inflation-adjusted tuition revenue has steadily increased on a per-student basis since the 1980s. Paralleling trends in declining state appropriations, increases in gross tuition revenue per FTE have been particularly sharp following recessions in 2001 and 2008.

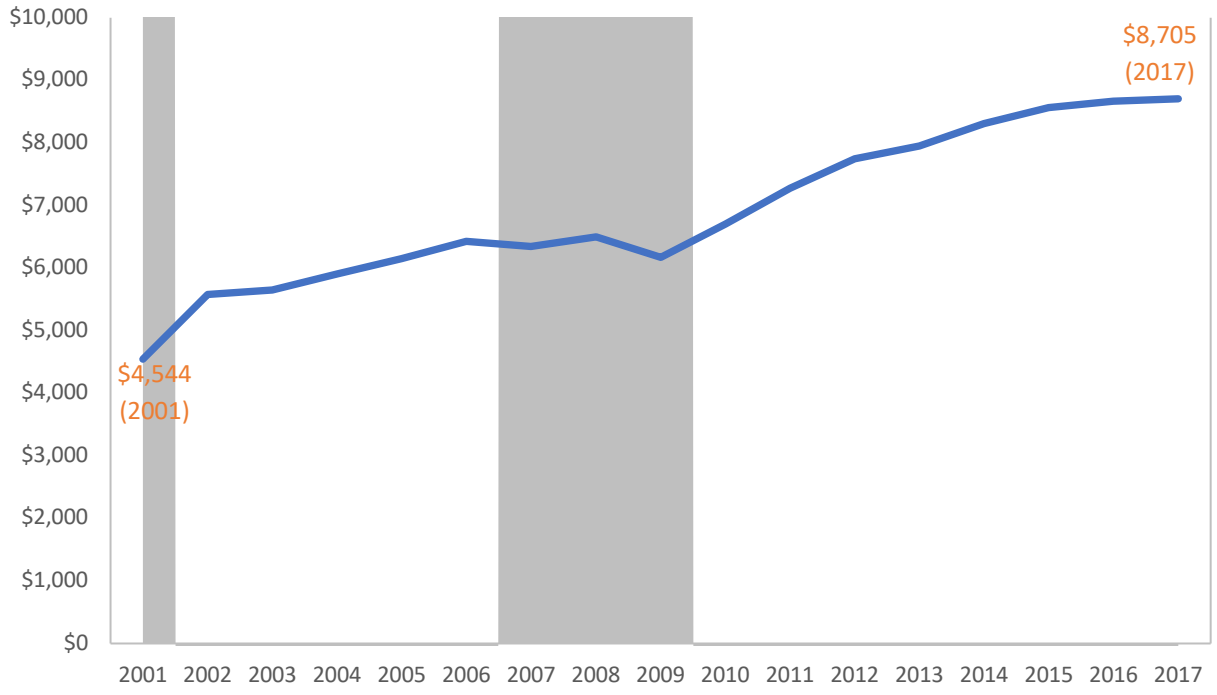
Fig 6. Real gross tuition revenue per FTE has quadrupled at UNC system campuses over the three decades from 1986 to 2017.



Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

Figure 7 represents the trend in inflation-adjusted net tuition revenue per FTE since 2001, which excludes discounts from grant aid such as scholarships and fellowships. Net tuition revenue per FTE nearly doubled at UNC System campuses from 2001 to 2017, with 61 percent of that increase occurring in the aftermath of the Great Recession.

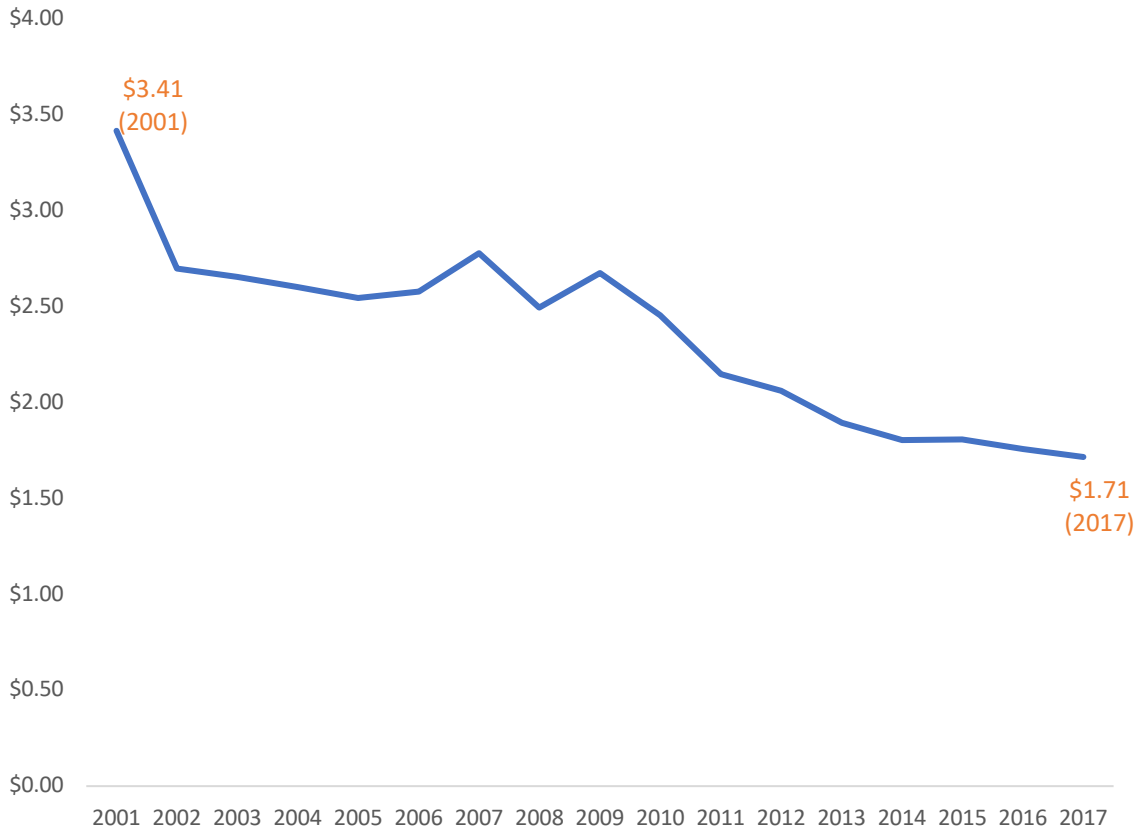
Fig 7. Real net tuition revenue per FTE nearly doubled at UNC system campuses from 2001 to 2017



Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

Net tuition revenue per FTE also provides policymakers with insight into the extent to which public higher education is funded as a public good. While the state's constitution conceives of the UNC System as publicly funded – "to the extent practicable" – students and their families are increasingly bearing the individual burden of funding North Carolina's institutions of higher education. **Figure 8** shows that in 2001, the state appropriated $3.41 per FTE for every $1 in net tuition revenue per FTE. By 2017, the student burden had increased considerably, with the state appropriating just $1.71 per FTE for every $1 in net tuition revenue per FTE. Based on this shift in the relative burden, higher education in North Carolina is on track to become an individual investment that is partially subsidized by the state. As discussed in greater detail below, this shift would represent a fundamental change in the role of the UNC System and would have significant and concerning implications for racial equity in the state.

Fig 8. In 2001, NC appropriated $3.41 in state funds for every $1 in net tuition revenue per FTE. In 2017, the ratio was just $1.71 per FTE for every $1 in student tuition.



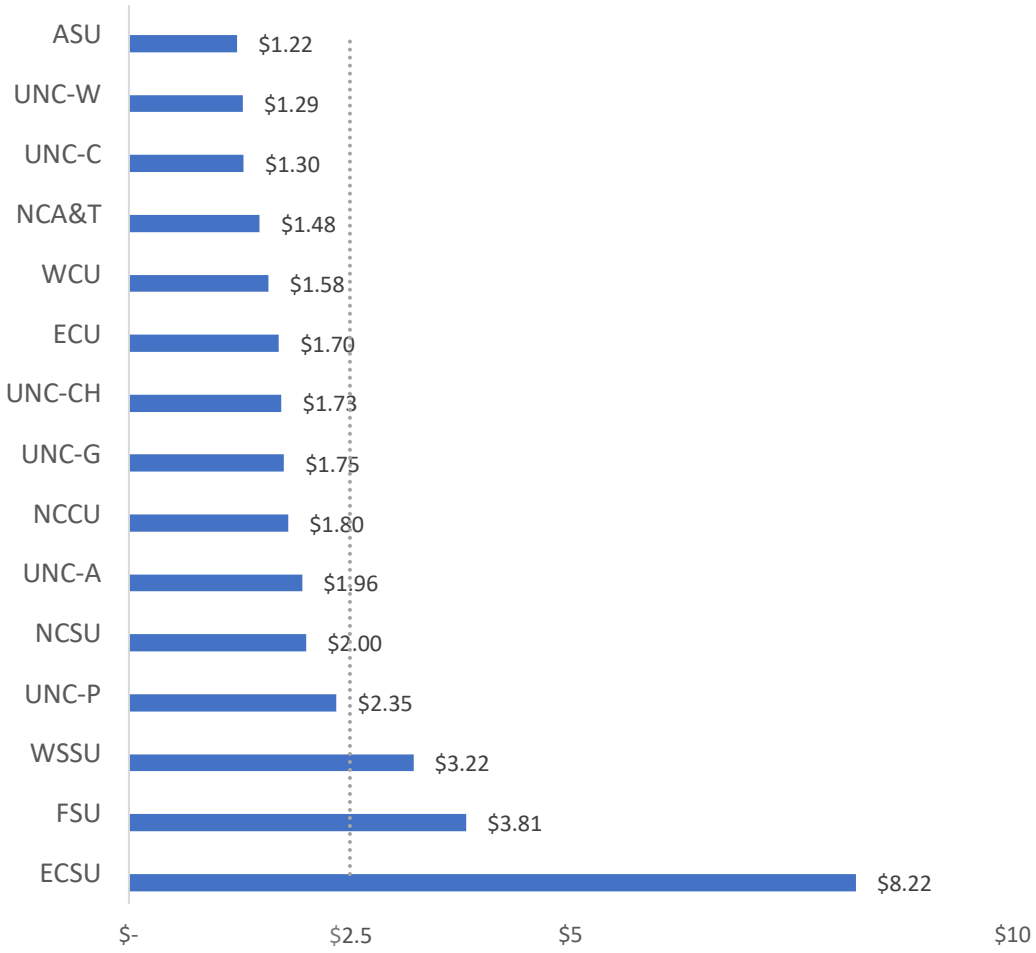
Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

From 2001 to 2017, revenues at all 15 UNC System campuses included in this study exhibited this shift away from state appropriations and towards tuition revenue. **Figure 9** shows the shift in relative revenue at the institution level, sorting the schools from *lowest* appropriations-tuition ratio to *highest* appropriations-tuition ratio in 2017. For instance, in 2017, Appalachian State received $1.22 in state appropriations per FTE for every $1 in net tuition revenue per FTE, while at Elizabeth City State the appropriations-tuition ratio was $8.22 to $1.

In 2001, only two campuses in the UNC System had an appropriation-tuition ratio of less than $2.50 to $1. By 2017, *twelve* UNC System campuses had an appropriation-tuition ratio below this level, with Elizabeth City State, Fayetteville State, and Winston-Salem State being the only exceptions. At some campuses, state appropriations and net tuition revenue have nearly reached parity, with North Carolina A&T, UNC-Wilmington, UNC-Charlotte, and Appalachian State all exhibiting an appropriations-tuition ratio lower than $1.50 to $1 in 2017. From 2001 to 2017, Winston-Salem State University and UNC-Pembroke experienced the largest *shift* in

relative revenue, receiving about $4 *fewer* in state appropriations per FTE for every $1 received in net tuition revenue. While several "Doctoral – High Research" institutions are again represented among those campuses with lower levels of appropriations relative to tuition revenue, further research is necessary to determine the source of variation in this trend among UNC System campuses.

Fig 9. In 2017, the ratio of state appropriations to net tuition revenue was less than $2.50 to $1 at twelve UNC System campuses.



Source: IPEDS, accessed via Education Data Explorer. Indexed to 2016 dollars.

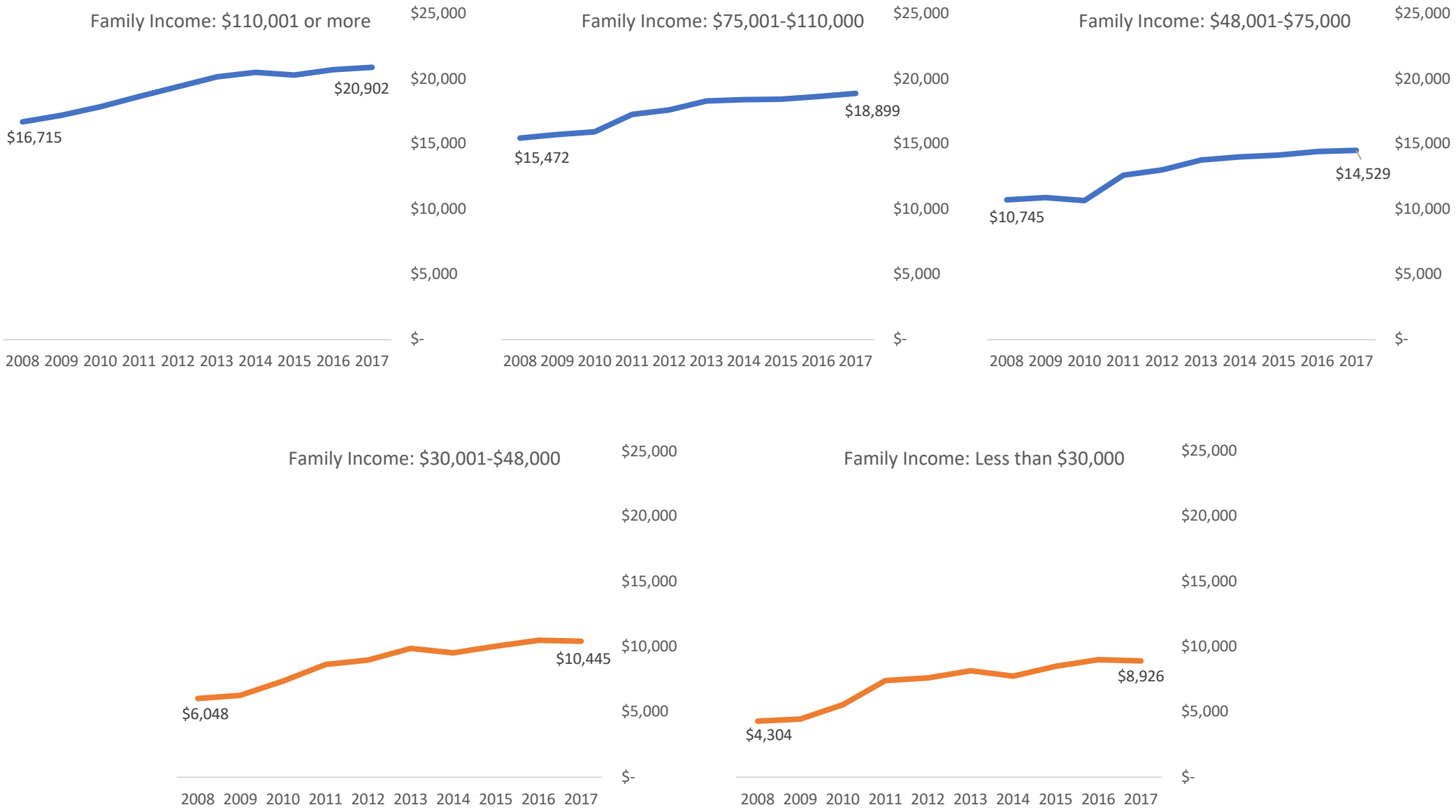
3) Students from lowest income families experienced the greatest hike in out-of-pocket costs.

While changes in appropriations and tuition revenue are helpful for analyzing overall trends in the UNC System's funding sources, net tuition per FTE and the relative student burden are not able to capture the actual dollar amounts that families are paying to enroll at UNC System institutions. For that, average net price must be considered.

Net price also has the benefit of being reported for students from five different income brackets, providing insight into the difficulty that students from varying income profiles may experience in privately financing the full cost of attending college. Average net price is only available since 2008, when colleges became required to report it, and only reflects data for students receiving any form of federal financial aid, such as Pell Grants, FSEOG, federal work-study, of federal student loans. This measure reflects out-of-pocket costs for first-time, full-time undergraduate students during their freshman year, and only includes students who pay the in-state tuition rate. Average net price by income bracket therefore has the benefit of specifically reflecting the higher education costs borne by students and families who reside in North Carolina.[49]

Figure 10 shows that average net price increased sharply for lower-income UNC System students following the Great Recession. In 2008, a freshman student whose family earned less than $30,000 paid $4,304 to fund the cost of attending college. Less than 10 years later, the same student paid an average net price of $8,926 – in other words, nearly 30 percent of the *upper limit* ($30,000) of their family's income. Students from families in the highest income brackets also saw their average net price increase over this time, though to a lesser extent than their lower-income peers. Average net price for the wealthiest UNC System students increased from $16,715 in 2008 to $20,902 in 2017, 19 percent of the *lower limit* ($110,000) of their family's income.

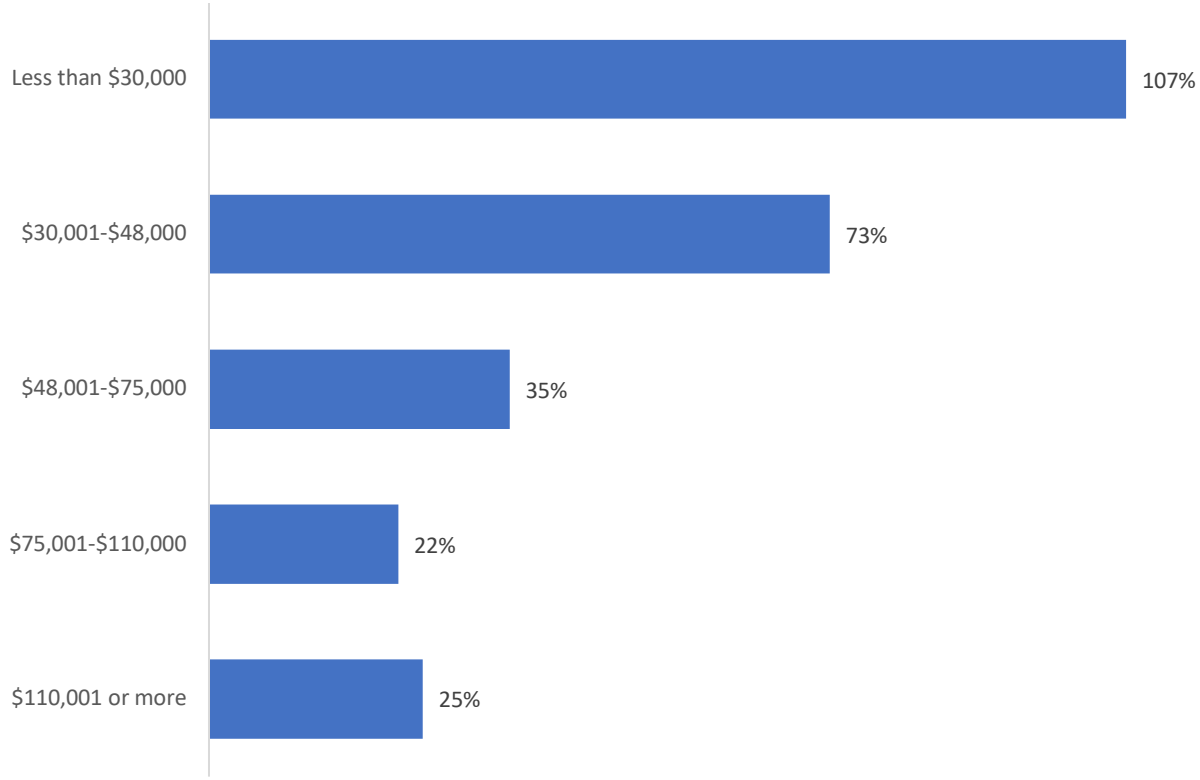
Fig 10. In the years following the Great Recession, the average net price of college increased sharply for the lowest-income students.



Source: IPEDS, accessed via Education Data Explorer. Average net price indexed to 2016 dollars.

Figure 11 further illustrates the regressive nature of average net price increases from 2008 to 2017. Over this time period, the lowest-income students experienced a net price increase of over 100 percent, while the highest-income students experience a net price increase of 25 percent.

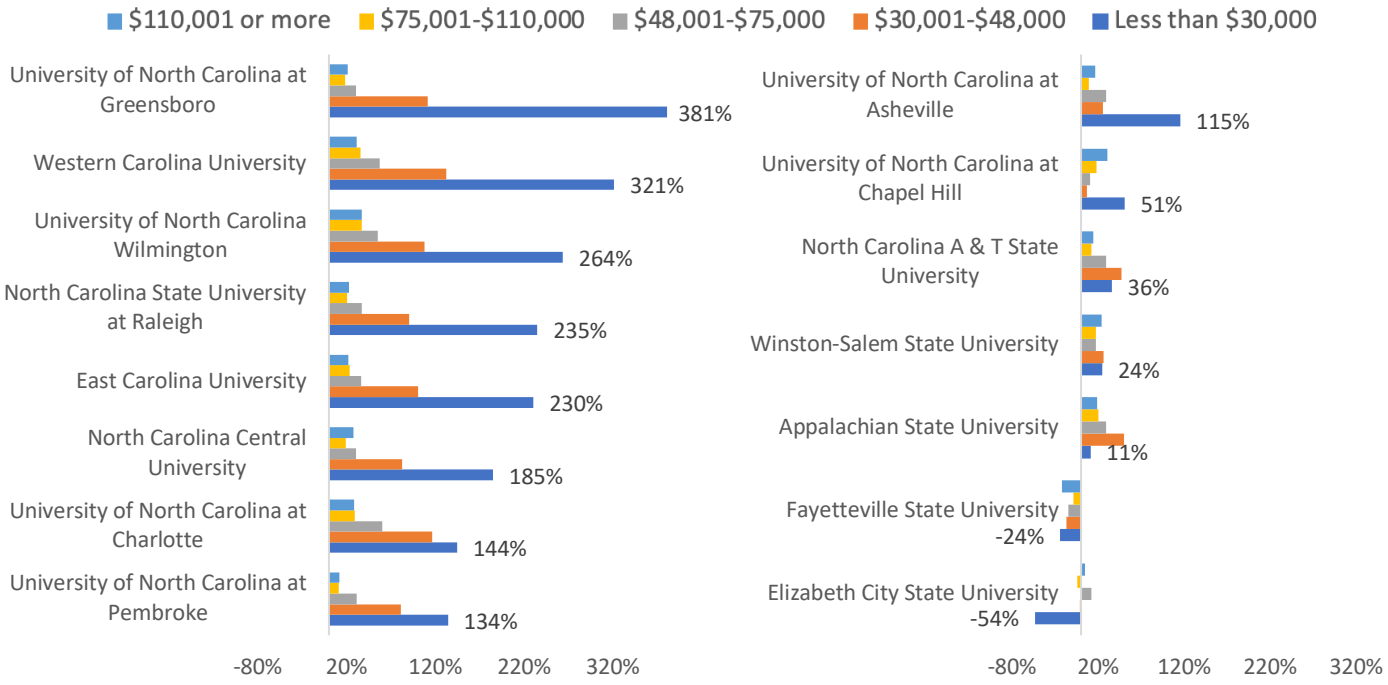
Fig 11. From 2008-2017, the average net price of college more than doubled for UNC System students from the lowest income bracket



Source: IPEDS, accessed via Education Data Explorer. Average net price indexed to 2016 dollars.

As seen in **Figure 12**, this regressive pattern generally holds across campuses, though the scale of the disparity varies greatly. At 10 out of 15 studied campuses, the lowest-income students experienced the greatest percentage increase in average net price. At UNC-Greensboro, out-of-pocket expenses for the lowest-income students increased more than any other campus: 381 percent in just 10 years. The lowest-income students at Western Carolina, UNC-Wilmington, NC State, ECU, NCCU, UNC-Charlotte, UNC-Pembroke, and UNC-Asheville all experienced net price increases greater than 100 percent. At just three campuses – Appalachian State, Fayetteville State, and Elizabeth City State – did the lowest-income students fare best. At Fayetteville State and Elizabeth City State, the lowest income students actually experienced the greatest *decrease* in average net price.

Fig 12. At 10 out of 15 campuses, the lowest income students experienced the largest percentage increase in average net price from 2008-2017.



Source: IPEDS, accessed via Education Data Explorer. Average net price indexed to 2016 dollars.

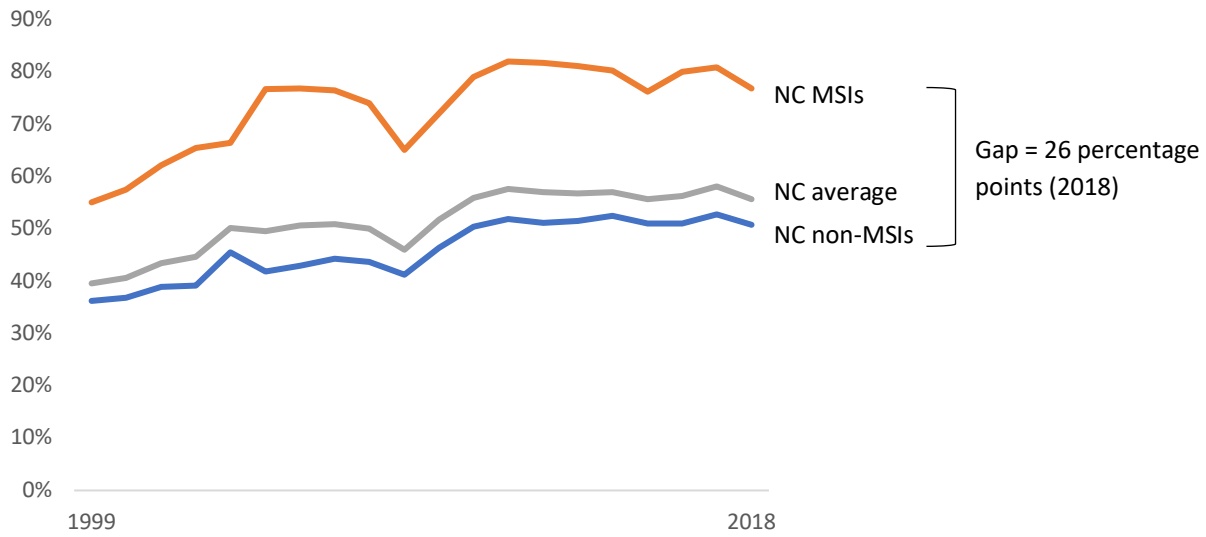
4) Increased reliance on student loans and disparities across UNC campuses reflect the legacy of NC's income and wealth gaps.

Students may turn to a variety of financial resources to help cover the net price of college, such as family contributions, work-study, private grants, and student loans. Income stagnation over the last three decades has limited the ability of North Carolinians to depend upon family contributions to keep up with the rising out-of-pocket college costs. From 1986 to 2018, inflation-adjusted median household income increased just 11 percent in North Carolina, rising from $48,818 to $54,336 (in 2019 dollars).[50] In the absence of sufficient income, few students can afford to draw down family wealth to make up the difference: in 2018, 38 percent of North Carolina households did not have sufficient liquid assets to even subsist at the poverty level for 3 months without an income, a rate that rose to 50 percent for Black families and 63 percent for Hispanic families.[51]

Since 1999 – the first year in which data from IPEDS is available – UNC System students have instead increasingly turned to student loans to finance the cost of public higher education. The portion of UNC System students who take out student loans rose from 40 percent in 1999 to 56 percent in 2018. The overall trend in North Carolina masks important variation among different UNC System campuses. While data on student loans recipients is not available at the individual level – and data at the institution level data is not disaggregated by family income or race/ethnicity – it is clear that rates of borrowing are highest at UNC System campuses that are under-resourced or that enroll students from underserved populations.

In line with previous findings on rates of borrowing at HBCUs, the data show that rates of borrowing at the state's Minority-Serving Institutions (MSIs) are consistently higher than at other UNC System campuses. **Figure 13** shows that the portion of students receiving loans increased from 55 percent in 1999 to 77 percent in 2018 at MSIs. At non-MSI campuses, meanwhile, just 36 percent of students received student loans in 1999, a figure that rose to 51 percent of students in 2018.

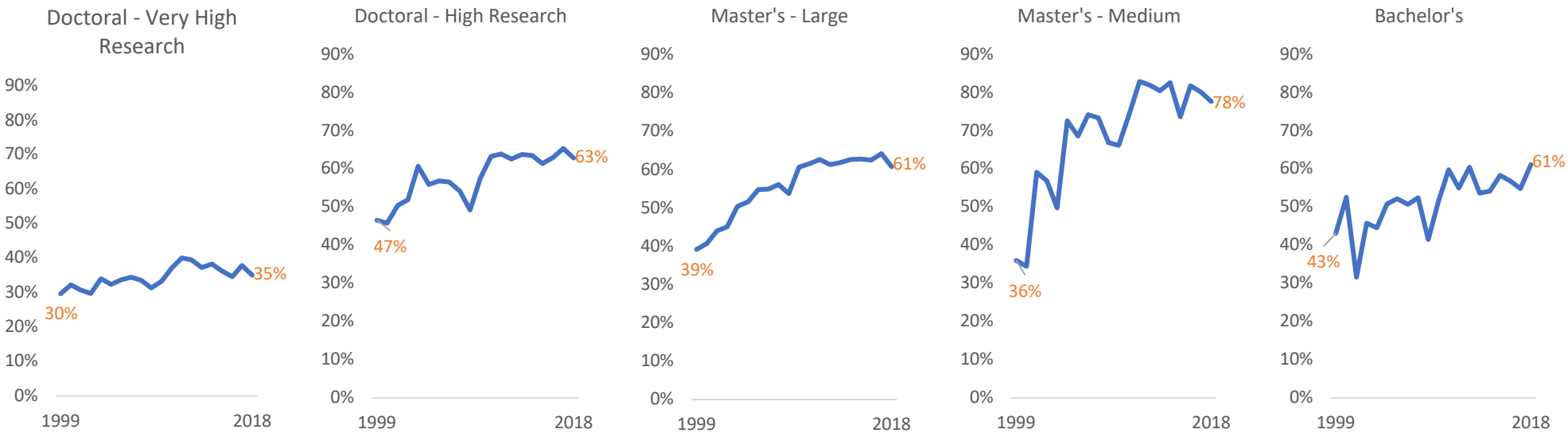
Fig 13. Rates of borrowing are persistently higher at North Carolina's Minority Serving Institutions



Source: IPEDS, Percent of full-time first-time undergraduates awarded student loans

Figure 14 shows that rates of borrowing also vary according to Carnegie type. At the state's two "Doctoral-Very High Research" institutions, borrowing rates increased only very slightly between 1999 and 2018, from 30 to 35 percent. At the states two "Master's-Medium" campuses, meanwhile, borrowing rates more than doubled, from 36 percent in 1999 to 78 percent in 2018. Appendix D provides a full break-down of trends in borrowing rates at all 15 campuses.

Fig 14. Rates of borrowing remained low at "Very High Research" campuses, but more than doubled at "Master's-Medium" campuses.



Source: IPEDS, Percent of full-time first-time undergraduates awarded student loans

Policy Implications

Across the UNC System, North Carolina families are being squeezed between declining state appropriations, rising out-of-pocket college costs, and levels of family wealth and income that are inadequate to fund higher education on an individual basis. The result is a marked increase in student borrowing, with rates of borrowing especially high at the state's Minority Serving Institutions.

Fortunately, North Carolina is well positioned to both understand and meet the needs of its students and families. The state has a long and commendable history of not only touting the public value of higher education, but of funding the UNC System at a level that kept tuition low and affordable for much of the 20th century. While this report shows that the state has lost ground in affordability over the last three decades, recent investments at Elizabeth City State, UNC-Pembroke, and Western Carolina demonstrate the political and financial feasibility of lowering tuition without reducing educational quality. As more recent data becomes available, it will be important to monitor changes in out-of-pocket costs and student borrowing at these campuses. With strong revenue collections, a healthy Rainy Day Fund, and a state economy that is poised to continue growing, North Carolina can afford to reinvest in its public institutions of higher education.

Conclusion

Sustained investment over many decades has made the UNC System a national leader in access, affordability, and excellence. This favorable position, however, depends upon continued public support, and recent trends in declining appropriations have troubling implications for the future of higher education in the state. North Carolina's leaders have always articulated higher education's value as a public good in our state's communities, rather than merely a private investment that individual residents make to advance professionally. Degrees that are increasingly funded through tuition, fees, and student debt represent a stark departure from North Carolina's historical conception of higher education. Policymakers should be concerned that the poorest families are increasingly bearing the burden of funding the UNC System, and that disparities in family wealth and income are being allowed to translate into disparate debt burdens. As we reach the end of a challenging year across our society – including in the higher education sector – it is as good a moment as any to pause, reflect, and recommit to affordability and excellence for the next generation of UNC System students.

Appendix A: Carnegie Classifications and Fall 2019 Undergraduate Enrollment

Campus	Carnegie Classification	Fall 2019 Undergraduate Enrollment
Elizabeth City State University*	Baccalaureate College	1,692
University of North Carolina at Asheville	Baccalaureate College	3,587
Subtotal		**5,279**
Fayetteville State University*	Master's Colleges and Universities – Medium programs	5,644
Winston-Salem State University*	Master's Colleges and Universities – Medium programs	4,646
Subtotal		**10,290**
Appalachian State University	Master's Colleges and Universities – Larger programs	17,518
North Carolina Central University*	Master's Colleges and Universities – Larger programs	6,101
Western Carolina University	Master's Colleges and Universities – Larger programs	10,469
University of North Carolina at Pembroke*	Master's Colleges and Universities – Larger programs	6,353
Subtotal		**40,441**
University of North Carolina Wilmington	Doctoral University - High research activity	14,785
East Carolina University	Doctoral University - High research activity	23,081
University of North Carolina at Charlotte	Doctoral University - High research activity	24,070
University of North Carolina at Greensboro	Doctoral University - High research activity	16,581
North Carolina A & T State University*	Doctoral University - High research activity	11,039
Subtotal		**89,556**
North Carolina State University at Raleigh	Doctoral University - Very High Research Activity	25,973
University of North Carolina at Chapel Hill	Doctoral University - Very High Research Activity	19,154
Subtotal		**45,127**
Grand Total		**190,693**

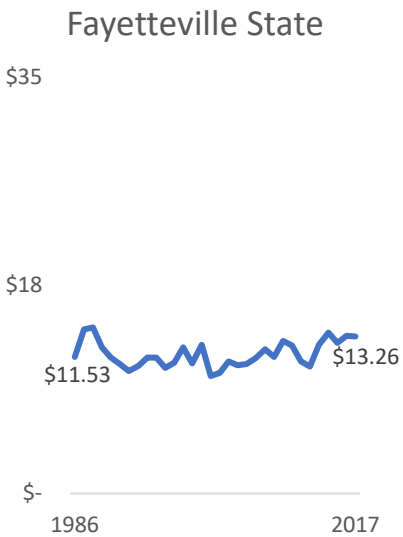
Source: NCES via College Navigator (enrollment) and Carnegie Classification system

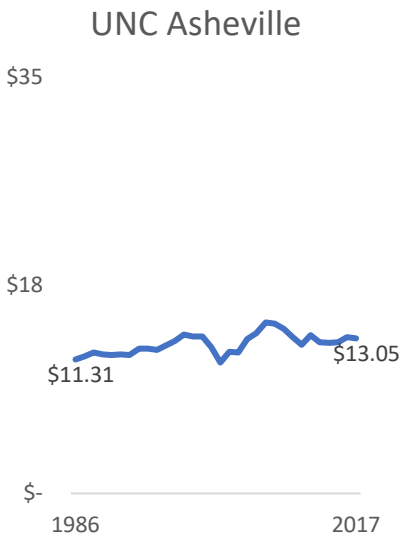
* **Denotes Minority Serving Institution (MSI)**

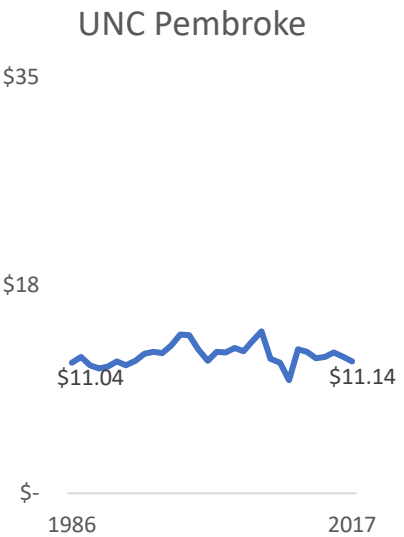
Appendix B: Inflation-adjusted state appropriations per FTE, 2007 and 2017

Campus Name	2007	2017	Change	Percent Change
Western Carolina University	$ 14,784.86	$ 10,041.56	$ (4,743.31)	-32%
Appalachian State University	$ 11,789.80	$ 8,582.79	$ (3,207.01)	-27%
North Carolina A & T State University	$ 12,355.02	$ 9,491.77	$ (2,863.25)	-23%
University of North Carolina at Chapel Hill	$ 34,421.12	$ 27,629.67	$ (6,791.44)	-20%
University of North Carolina at Pembroke	$ 13,659.20	$ 11,142.87	$ (2,516.33)	-18%
North Carolina Central University	$ 13,800.85	$ 11,567.50	$ (2,233.36)	-16%
East Carolina University	$ 15,487.98	$ 13,465.80	$ (2,022.18)	-13%
University of North Carolina at Greensboro	$ 12,531.44	$ 11,107.46	$ (1,423.98)	-11%
University of North Carolina at Asheville	$ 14,416.21	$ 13,045.93	$ (1,370.28)	-10%
North Carolina State University at Raleigh	$ 23,654.63	$ 21,593.14	$ (2,061.49)	-9%
University of North Carolina Wilmington	$ 10,664.59	$ 9,989.33	$ (675.26)	-6%
University of North Carolina at Charlotte	$ 11,241.31	$ 10,763.57	$ (477.74)	-4%
Winston-Salem State University	$ 14,988.03	$ 15,768.86	$ 780.84	5%
Fayetteville State University	$ 12,148.93	$ 13,258.57	$ 1,109.64	9%
Elizabeth City State University	$ 14,479.96	$ 25,284.47	$ 10,804.51	75%

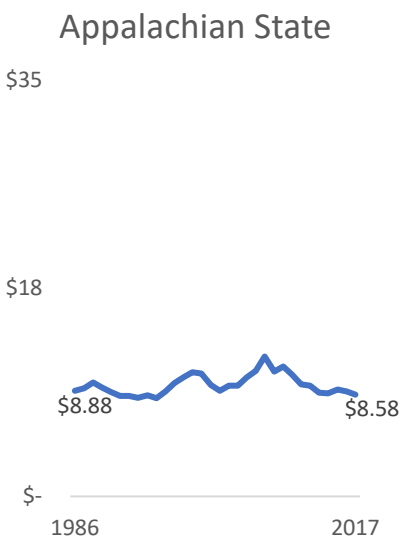
Appendix C: State appropriations per FTE, 1986-2017 (in thousands of dollars)



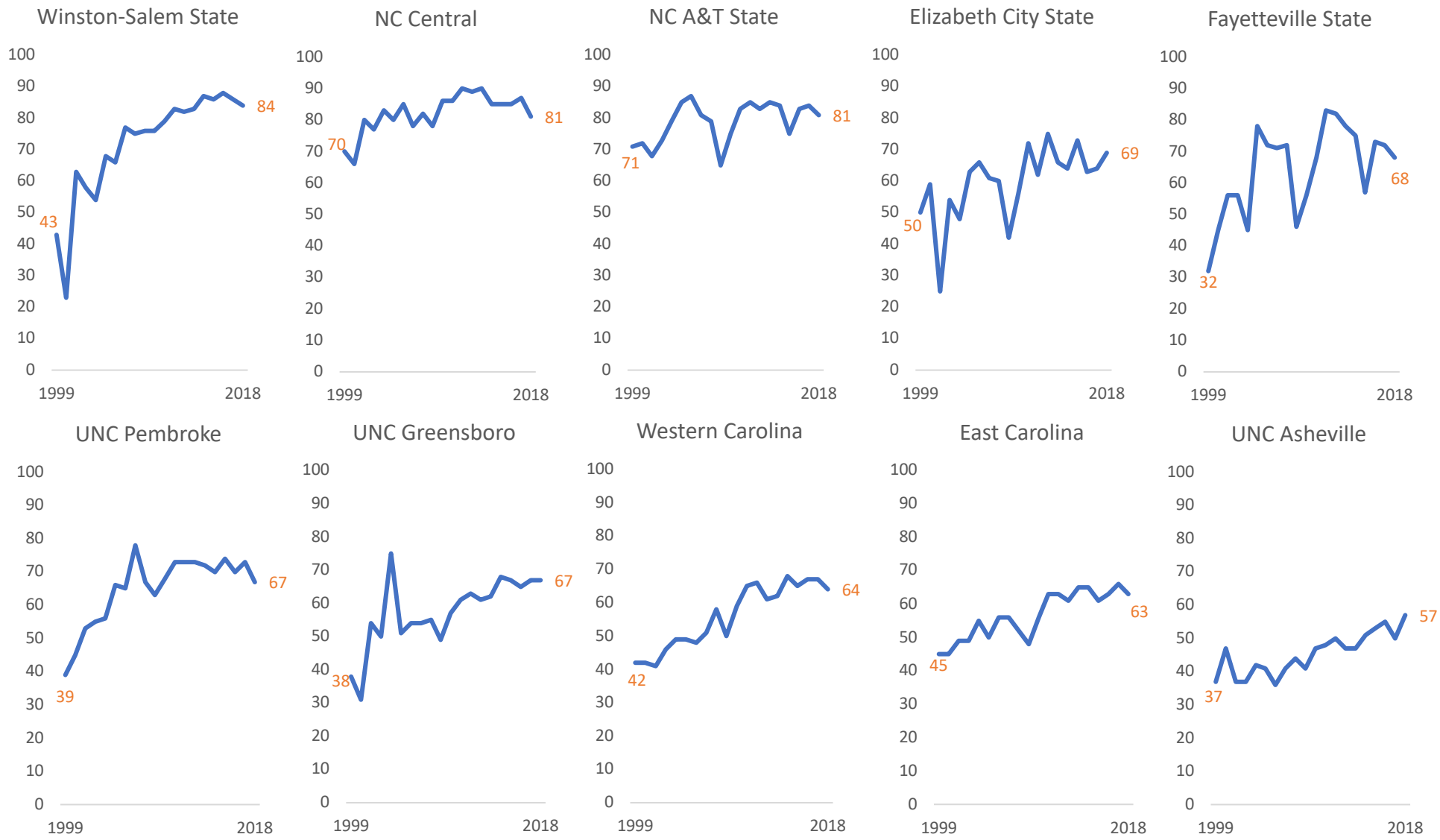




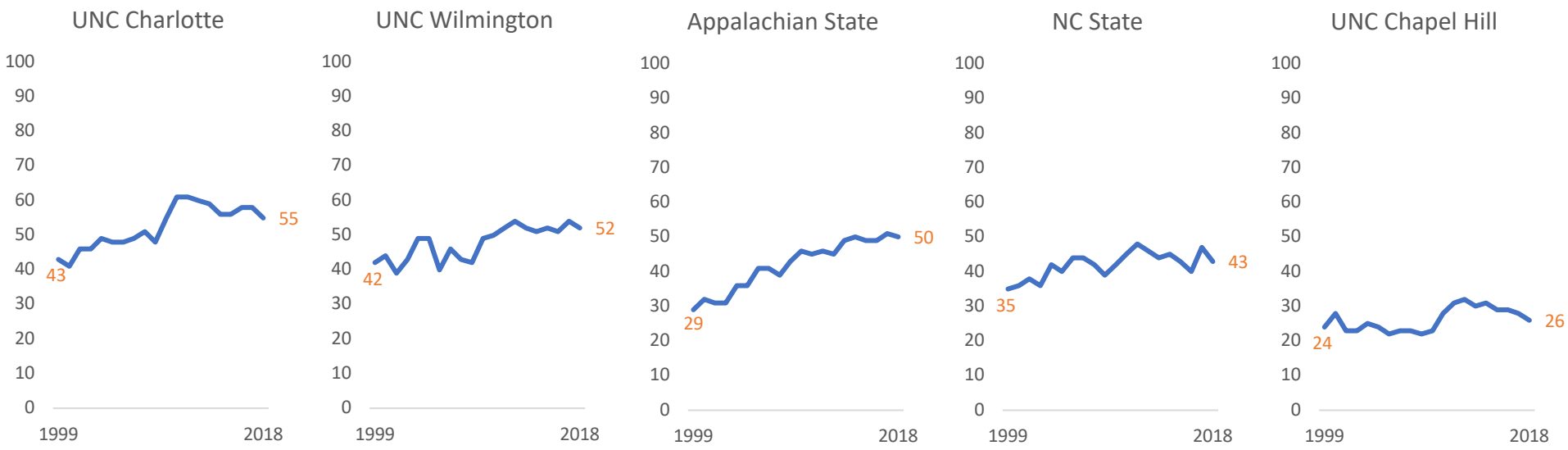
Appendix C: State appropriations per FTE, 1986-2017 (in thousands of dollars)



Appendix D: Portion of students receiving student loans by institution, 1999-2018



Appendix D: Portion of students receiving student loans by institution, 1999-2018



[1] "Budget & Tax Center," *North Carolina Justice Center* (blog), accessed April 11, 2021, https://www.ncjustice.org/projects/budget-and-tax-center/.

[2] "University of North Carolina System 2019 Fact Sheet" (James G. Martin Center for Academic Renewal, 2019), https://www.jamesgmartin.center/wp-content/uploads/2019/06/UNC-System-2019-Fact-Sheet-optimized.pdf.

[3] Alexandra Sirota, "North Carolina's Cuts to Higher Education Are Shortchanging Future Generations," *The Progressive Pulse* (blog), October 4, 2018, http://pulse.ncpolicywatch.org/2018/10/04/north-carolinas-cuts-to-higher-education-are-shortchanging-future-generations/.

[4] Brian Kennedy, "In 2017, N.C. University Graduates Owed an Average of $26,164 in Student Loans," *North Carolina Justice Center* (blog), accessed April 11, 2021, https://www.ncjustice.org/publications/in-2017-n-c-university-graduates-owed-an-average-of-26164-in-student-loans/.

[5] John Quinterno, "The Great Cost Shift: How Higher Education Cuts Undermine the Future Middle Class," 2012, https://www.demos.org/sites/default/files/publications/TheGreatCostShift_Demos_0.pdf.

[6] "State Higher Education Finance FY 2019" (State Higher Education Executive Officers Association, 2019), https://shef.sheeo.org/wp-content/uploads/2020/04/SHEEO_SHEF_FY19_Report.pdf.

[7] Sandy Baum et al., "Tuition and State Appropriations" (Urban Institute, 2018).

[8] "Trends in College Pricing 2020" (College Board, 2020), https://research.collegeboard.org/pdf/trends-college-pricing-student-aid-2020.pdf.

[9] "North Carolina General Fund Revenue Consensus Forecast" (Fiscal Research Division, NCGA, February 11, 2021), https://sites.ncleg.gov/frd/wp-content/uploads/sites/7/2021/02/2021-02-11-Consensus-Revenue-Report.pdf.

[10] Kate Murphy, "Facing 'Deep Financial' Challenges from COVID-19, UNC System Sets Budget Priorities," Raleigh News & Observer, accessed April 24, 2021, https://www.newsobserver.com/news/local/education/article246617593.html.

[11] "History and Traditions," The University of North Carolina at Chapel Hill, accessed April 11, 2021, https://www.unc.edu/about/history-and-traditions/.

[12] "NC Constitution - Article 9 - North Carolina General Assembly," accessed September 11, 2020, https://www.ncleg.gov/Laws/Constitution/Article9.

[13] South Moore, "Practicable and Justiciable: Why North Carolina's Constitutional Vision of Higher Education Is Judicially Enforceable," *Duke Law Journal*, 2018, https://dlj.law.duke.edu/article/practicable-and-justiciable-moore-vol68-iss2/.

[14] Moore.

[15] "Trends in College Pricing 2020."

[16] "The Goal," My Future NC, accessed September 4, 2020, https://www.myfuturenc.org/the-goal/.

[17] "NC Promise," *UNC System* (blog), accessed October 23, 2020, https://www.northcarolina.edu/future-students/nc-promise/.

[18] "Fixed Tuition Program," *UNC System* (blog), accessed October 23, 2020, https://www.northcarolina.edu/impact/affordability-efficiency/fixed-tuition-program/.

[19] "SHEF State Profile for North Carolina," State Higher Education Finance, 2019, https://shef.sheeo.org/state-profile/north-carolina/.

[20] "SHEF State Profile for North Carolina."

[21] Baum et al., "Tuition and State Appropriations."

[22] Harold Hovey, "State Spending for Higher Education in the Next Decade" (The National Center for Public Policy and Higher Education, 1999), http://www.higheredinfo.org/analyses/State_Spending_Hovey.pdf.

[23] Peter R. Orszag and Thomas J. Kane, "Higher Education Spending: The Role of Medicaid and the Business Cycle," *Brookings* (blog), November 30, 1AD, https://www.brookings.edu/research/higher-education-spending-the-role-of-medicaid-and-the-business-cycle/.

[24] Quinterno, "The Great Cost Shift: How Higher Education Cuts Undermine the Future Middle Class."

[25] "SHEF State Profile for North Carolina."

[26] "SHEF State Profile for North Carolina."

[27] "Trends in College Pricing 2020."

[28] "Net Price" (Integrated Postsecondary Education Data System, December 2018), https://nces.ed.gov/pubs2019/2019036.pdf.

[29] "IPEDS Survey Material: Instructions," accessed April 11, 2021, https://surveys.nces.ed.gov/IPEDS_PY/VisInstructions.aspx?survey=5&id=29087&show=all.

[30] "SHEF State Profile for North Carolina."

[31] Steven Hemelt and Dave Marcotte, "The Impact of Tuition Increases on Enrollment at Public Colleges and Universities," *Educational Evaluation and Policy Analysis* 33, no. 4 (2011): 435–57.

[32] Thomas Kane, "Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College?," *National Bureau of Economic Research*, 1995, https://www.nber.org/papers/w5164.pdf?new_window=1.

[33] Eleanor Wiske Dillon and Jeffrey Andrew Smith, "The Determinants of Mismatch Between Students and Colleges" (Cambridge, MA: National Bureau of Economic Research, 2013), https://doi.org/10.3386/w19286.

[34] Baum et al., "Tuition and State Appropriations."

[35] "Student Loan Debt by School by State Report 2019," *LendEDU* (blog), accessed April 16, 2021, https://lendedu.com/student-loan-debt-by-school-by-state-2019/.

[36] Mike Brown, "How Student Loan Debt Has Changed Over a Decade," *LendEDU* (blog), April 30, 2019, https://lendedu.com/blog/student-loan-debt-decade-comparison/.

[37] Julie Barnard and Robin Howarth, "North Carolina's Student Debt: Dimensions of a Crisis" (Center for Responsible Lending, August 2019), https://www.responsiblelending.org/sites/default/files/nodes/files/research-publication/crl-nc-fsl-studentloans-sep2019.pdf.

[38] Kennedy, "In 2017, N.C. University Graduates Owed an Average of $26,164 in Student Loans."

[39] "Education Data Explorer," accessed April 11, 2021, https://urbn.is/eddata.

[40] "Education Data Explorer."

[41] "IPEDS Survey Material: Instructions."

[42] Erica Blom et al., "IPEDS Finance User Guide," *Urban Institute*, 2020, 12.

[43] "IPEDS Survey Material: Instructions."

[44] Blom et al., "IPEDS Finance User Guide."

[45] "Net Price."

[46] Baum et al., "Tuition and State Appropriations."

[47] Jane Stancill, "ECSU Audit Shows Violations in Admissions, Financial Aid," Raleigh News & Observer, March 9, 2016, https://www.newsobserver.com/news/local/education/article65084232.html.

[48] Blom et al., "IPEDS Finance User Guide."

[49] "Net Price."

[50] Current Population Survey, Table H-8: Median Household Income by State

[51] Carolina Small Business, "North Carolina Ranks 43rd among States for Financial Health of Residents," Carolina Small Business, February 15, 2018, https://carolinasmallbusiness.org/2018/02/north-carolina-ranks-43rd-among-states-for-financial-health-of-residents/.