

WHAT IS THE ECONOMIC IMPACT OF “BRAIN DRAIN” IN MISSISSIPPI?



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Executive Summary

“Brain drain” is the loss of educated and professional people to other states. College and high school graduates make up smaller proportions of the population in Mississippi than in almost all other states, which exacerbates the negative impacts of the brain drain problem on the state’s economy.

Brain drain takes two primary forms. One is *gross brain drain*, as defined above. The other is *net brain drain*, which occurs when the number of educated or professional people who move out of a state in a given period exceeds the number of educated or professional people who move into a state in the same period. Most states experience gross brain drain on an annual basis. American Community Survey data from the U.S. Census show that from 2010 to 2019, between 2.7 and 3.7 percent of Mississippi residents aged twenty-five and older with at least a bachelor’s degree moved out of the state. Similarly, data show that for residents of the states that border Mississippi as well as for Florida and Texas, between 1.9 and 3.5 percent of residents aged twenty-five years and older with at least a bachelor’s degree moved from their respective states each year from 2010 to 2020. Thus, gross brain drain in Mississippi is similar to that of other states in the region. However, among the states that border Mississippi as well as Florida and Texas, Mississippi experienced a net brain drain of residents aged twenty-five years and older with at least a bachelor’s degree in eight out of ten years from 2010 to 2019. The state lost an average of approximately 1,200 of these residents each year during the period, the only state in the group to lose residents for the decade. The only other states among this group to experience any years of net brain drain were Arkansas, which experienced one year of net brain drain in 2019, and Louisiana, which experienced three years of net brain drain from 2017 through 2019.

We investigate the impacts to the Mississippi’s economy if the state experiences neither brain drain nor brain gain over the next decade. Importantly, we do not specify a policy change that could result in this outcome, but only the outcome itself in a manner similar to the research of Deller (1995). We assume 1,200 residents each year from 2023 through 2032 are employed in the state at annual wages typical for Mississippi according to the U.S. Bureau of Labor Statistics. Using the Tax-PI software from Regional Economic Models, Inc., we find that the total population in Mississippi would increase by more than the 1,200 residents annually beginning in 2025, and that employment would increase by more than 2,000 jobs each year from 2023 through 2032. In addition, the results find the average annual increase in the state’s real gross domestic product (GDP) from 2023 through 2032 would equal about \$181 million, equivalent to 0.2 percent of Mississippi’s real GDP in 2021. We also find personal income in the state would increase each year of the period by an average of \$177 million, about 0.1 percent of personal income in the state in 2021.

This report establishes that the addition of college graduates to Mississippi’s population would lead to improved economic outcomes for the state. The report does not address *how* Mississippi can reduce or reverse its net brain drain by increasing the number of college-educated residents. Research indicates no single policy measure is likely a panacea to reduce or reverse net brain drain. However, policies that focus on factors important to all demographics such as a strong local economy and relatively low cost of living as outlined by Fiore et. al (2015) are likely key to retaining or capturing human capital. Other areas of emphasis include the education system and overall quality of life in the state.

WHAT IS THE ECONOMIC IMPACT OF “BRAIN DRAIN” IN MISSISSIPPI?

Following the release of the 2020 U.S. Census—which initially indicated Mississippi lost population over the previous decade—the issue of “brain drain” in the state received increased attention from local media, elected officials, and others. For example, the Office of the State Auditor recently released a report that noted only 50 percent of graduates from public universities in Mississippi worked in the state three years after graduation (White, Piazza, and Reeves, 2022). The term brain drain is defined by Merriam-Webster (n.d.) as “the departure of educated or professional people from one country, economic sector, or field for another usually for better pay or living conditions.” We examine in this paper the nature and scope of the brain drain problem in Mississippi and compare the situation to other states in the region. In the last section of the paper, we conduct an experimental analysis of the potential effects to the Mississippi economy if the state’s migration patterns of college-educated individuals were similar to those of other states in the region.

As stated in the definition above, brain drain pertains to “educated or professional people.” We identify who these individuals are in Mississippi before initiating an analysis. Figure 1 depicts the share of each state’s population aged twenty-five and above who held at least a bachelor’s degree in 2020. This share for Mississippi’s population was 22.8 percent, which ranked forty-ninth among all states, ahead of only West Virginia. The share was just over 10 percentage points less than the share for the U.S. of 32.9 percent. The state with the largest share of its population aged twenty-five and older with a bachelor’s degree was Massachusetts, where the rate was 44.5 percent—almost twice the share in Mississippi.

Figure 1 indicates the smaller proportion of college graduates in the population of Mississippi than in almost all other states, which exacerbates the negative impacts of the brain drain problem on the state’s economy. In other words, proportionally, Mississippi has fewer educated or professional people to lose than most states.

Gross Brain Drain

As noted by the Social Capital Project in its 2019 report, brain drain takes different forms. One is *gross brain drain*, which is the definition cited previously. The Social Capital Project also describes this type as a state’s loss of “homegrown” talent.” The other type is *net brain drain*, which occurs when the number of educated or professional people who move out of a state in a given period exceeds the number of educated or professional people who move into a state in the same period. In other words, the *emigration* of educated individuals from a state exceeds the *immigration* of educated individuals to a state. While both types are important, net brain drain has the most significant implications for a state’s economy, as we explain in the following paragraphs.

Table 1 lists the number of residents aged twenty-five and older with at least a bachelor’s degree who moved out of one state to another state in the past year. Table 1 uses data from the American Community Survey of the U.S. Census Bureau (2020) and includes data for Mississippi, the four states that border Mississippi, Florida, and Texas. The table includes the latter two states because they represent two of the largest and strongest economies in the region over the last decade. In Mississippi, an average of about 13,000 college-educated residents aged twenty-five years and over moved out of the state each year from 2010 through 2019. As a percentage of total college graduates over age twenty-five living in the state, the share who moved out ranged from 2.7 percent to 3.7 percent per year over this period. Although these rates were slightly higher, they appear comparable to the rates of emigration in

other states in the region. In percentage terms, the rates of emigration of college-educated residents aged twenty-five years old and older who moved out of the other six states in Table 1 fall into a relatively narrow range of 1.9 percent to 3.5 percent across all years from 2010 to 2019.

Based on the data in Table 1, the rate at which college graduates aged twenty-five and older move out of Mississippi appears materially no different than other states in the region. Therefore, in other words, all states in Table 1 experienced gross brain drain from 2010 to 2019. As the Social Capital Project report notes, gross brain *gain* is uncommon. Furthermore, even in states where the absolute number of college-educated residents aged twenty-five and older who emigrated increased substantially from 2010 to 2019, these emigrees as a share of total college-educated residents was little changed. In Texas the number of college-educated residents aged twenty-five and older who left the state in 2019 was 65.6 percent higher than in 2010, yet as a percentage of total college graduates aged twenty-five and older the share who left the state increased from 1.9 percent to 2.3 percent. In Florida the number was 49.6 percent higher in 2019 than in 2010, but the share increased only from 2.4 percent to 2.6 percent. In all seven states in Table 1, college-educated residents aged twenty-five and older as a share of the total population aged twenty-five and older was higher in 2019 than it was in 2010. However, the share was only 2.8 percentage points higher in Mississippi, while in the other six states the increase in the share ranged from 3.6 to 5.6 percentage points.

Net Brain Drain

The patterns of gross brain drain in Florida and Texas, which experienced some of the strongest economic growth among all states over the last decade, look similar to the pattern of gross brain drain in states that experienced much less economic growth over the same period, such as Alabama, Louisiana, and Mississippi (U.S. Bureau of Economic Analysis, 2022). The data in Table 2 indicate why *net* brain drain, rather than *gross* brain drain, has the most significant economic implications for a state.

Table 2 lists for each year from 2010 to 2019 the difference between the number of individuals aged twenty-five and older with at least a bachelor's degree who moved from a state and the number of these individuals who moved into the state. The rates reflect this difference as a share of the total number of college-educated residents in the state each year. In Mississippi, this difference is negative in eight of ten years from 2010 through 2019. The only other states in Table 2 where this difference was negative in at least one year from 2010 to 2019 are Arkansas and Louisiana. In Arkansas this difference was negative only in 2019 and in Louisiana this difference is negative in 2017, 2018, and 2019. Mississippi is the only state in Table 2 where the total change in college-educated residents aged twenty-five and over from 2010 through 2019 due to migration is negative, as the state lost approximately 12,000 of these residents during the decade. The last line of Table 2 also indicates net emigration equals -17.1 percent of the total change in college-educated residents aged twenty-five and older in Mississippi from 2010 to 2019. In all other states in Table 2, net emigration accounts for at least a positive 7.9 percent of the total change in college-educated residents aged twenty-five and over from 2010 through 2019. In Texas, net emigration represented 49.4 percent of the increase in this group of residents from 2010 through 2019, while in Florida 64.2 percent of the increase in this group was accounted for by net emigration. Thus, migration has a positive effect on the number of college-educated residents aged twenty-five and over from 2010 through 2019 in six states in Table 2, but in Mississippi migration has a negative effect on the number in this group. It is the only state among the seven to experience net brain drain over the decade.

The results in Table 2 do *not* imply the total number of college-educated residents in Mississippi decreased from 2010 to 2019. The state's public and private colleges and universities produce thousands of graduates each year and this "natural increase" contributed to the total increase in the number of college-educated residents aged twenty-five and older over the decade of 70,232 according to Census data. As noted previously, this number is smaller by 11,999 residents due to net migration over the period. The percentage increase in college-educated residents aged twenty-five and older in Mississippi from 2010 to 2019 was 18.9 percent, a growth rate of less than 2.0 percent annually. In contrast, the percent increase in this group for the other six states in Table 2 from 2010 to 2019 ranged from 24.3 percent to 41.2 percent. If Mississippi had retained the total 11,999 residents lost to net migration from 2010 to 2019—in other words, if the state had experienced neither net brain drain nor net brain gain—the percent increase in college-educated residents aged twenty-five and older would have equaled 22.1 percent. The state's rate of population growth from 2010 to 2019 for this group would still rank last among the states in Table 2, but this rate would be much closer to the growth rates of neighboring states.

Potential causes of brain drain

Why does Mississippi consistently experience net brain drain when surrounding states do not? We cannot answer this question directly without surveying those who leave the state or who choose not to move to the state. However, several potential explanations developed by researchers for net brain drain in general may prove instructive. One likely factor is the U.S. has become increasingly segregated by education. Fifty to sixty years ago a relatively small percentage of the U.S. population received a college education. According to the Census Bureau (2000), in 1970 only 10.7 percent of the U.S. population aged twenty-five years and older held at least a bachelor's degree. Moreover, for the most part this population was distributed evenly throughout the country. Today this population share is over four times larger, but it is also much more concentrated in the nation's urban centers (Domina, 2006). This demographic shift has profound implications for the Mississippi economy given the college-educated share of the state's population is one of the smallest in the country. In addition, Mississippi lacks a thriving urban area in contrast to most adjoining states and states in the southeast region. The capital city of Jackson is the largest city in the state, but its population continues to shrink while adjoining suburbs grow. The city's population peaked at almost 203,000 in 1980 according to the decennial Census, and as of 2020 the population was just under 154,000 (1982, 2021), a decrease of nearly one fourth. In addition to the national suburbanization trend, Jackson's growth and development have been beset by crime and infrastructure issues (Aldridge, 2015; Gates, 2022). Nevertheless, as of 2020 Jackson's population is more than double that of the state's next largest city, Gulfport.

Other research suggests that rural residents who desire to improve their human capital are more likely to leave their communities. In a national survey of rural high school students, Meece et al. (2014) found that "lower educational and occupational aspirations were reported by youth with strong attachment to a rural lifestyle, more positive perceptions of local economic opportunities, and residential aspirations to remain close to their home community." However, in another survey of rural high school students Byun et al. (2012) found that students who were more interested in attending college were influenced by parents and teachers with similar expectations for them; these findings held when controlled for sociodemographic variables. More importantly, the authors "found little evidence suggesting that the number of siblings and the proportions of students eligible for free lunch and of minority students are related to educational aspirations of rural youth . . ." Notably, therefore, at least a subset of research suggests underlying demographic or social characteristics are not necessarily an absolute determinant of

educational aspirations, and that these aspirations can be influenced by primary and secondary social groups.

A survey of students in Pennsylvania summarizes much of the economic research on brain drain by concluding that “those who believed they could find work in their current community were less likely to aspire to be living elsewhere, whereas youth who believed they would need to move to get a job or pursue higher education were more likely to aspire to relocate” (Theodori and Theodori 2015). Similarly, Fiore et. al (2015) found in their survey of graduating seniors from public universities in Iowa that the cost of living and strength of the local economy were the most important attributes of communities. They observe, “This finding suggests that students seeking to relocate after graduation consider employment opportunities, affordability of living, and vibrancy in the local economy as being most important.” Marré (2014) notes that wages tend to be lower in rural areas for jobs with the same level of educational attainment compared to urban areas, and that jobs in rural areas typically require a lower level of skills relative to urban areas. He mentions that educational attainment in rural areas is increasing. However, the gap between the share of urban residents with college degrees and the share of rural residents with college degrees is also growing, as seen in Figure 2. In 2000, 26.2 percent of urban U.S. residents aged twenty-five and older had at least a bachelor’s degree, compared to 14.9 percent of the same group of rural U.S. residents, a difference of 11.3 percentage points. By 2019, the share of urban U.S. residents aged twenty-five and older with at least a bachelor’s degree was 34.7 percent, while the share of rural U.S. residents of the same group equaled 21.0 percent—a difference of 13.7 percentage points.

Economic impact of brain drain: an experiment

What is the impact to Mississippi’s economy from the loss of college-educated residents? Answering this question directly is difficult. However, we develop a hypothetical scenario where Mississippi does not lose college-educated residents because of net emigration each year in an effort to quantify the effects of this loss. Specifically, we assume each year in this scenario the state does not lose 1,200 residents aged twenty-five years and over who have at least a bachelor’s degree. We assume this number based on the data in Table 1, which indicates Mississippi lost an average of 1,200 college-educated residents annually from 2010 through 2019 due to net migration. Thus, we attempt to measure the state’s economy when neither net brain drain nor net brain gain occurs. Importantly, we do not identify any specific policy action or other measure that prevents the net migration of 1,200 residents from the state each year. Developing such a policy is beyond the scope of this study but creating this hypothetical scenario should provide insight into the economic impact to the state of the loss of college-educated residents.

Conceptually, we base our scenario in part on the work of Deller (1995), who used software by Regional Economic Models (REMI), Inc., to evaluate the economic impact of a hypothetical increase in the number of retirees locating in Maine. He concludes, “There can be little doubt that the attraction of retirees into an area will result in an economic boost.” Specifically, Deller finds an increase in the number of retirees leads to an increase in the number of jobs in the area as well as an increase in population that exceeds the number of immigrating retirees.

The software we use to conduct this analysis is the dynamic fiscal and economic impact model known as Tax-PI, also produced by REMI, Inc. This model includes elements of input-output and general equilibrium models, among others. The version of the Tax-PI model we use is calibrated specifically to the economic and fiscal environment in Mississippi. REMI, Inc., (2022) claims Tax-PI “captures the direct,

indirect, and induced fiscal and economic effects of taxation and other policy changes over multiple years.” The *direct* effect is the change the user specifically enters into the model, which in this case is precluding the loss of 1,200 college-educated residents. The *indirect* and *induced* effects, in turn, are those forecast by the model that occur because of the direct effect. Tax-PI also provides results on an annual basis for a specified number of years into the future. Essentially the model can evaluate the economic effects from a policy change relative to a baseline scenario that assumes a continuation of current policies. The key point in our analysis is we specify the direct effect of the policy change but not the policy change itself. The Tax-PI model uses this direct effect to forecast the resulting indirect and induced effects. Like Deller (1995), we assume no costs to the policy change for which we analyze the direct effect. As he notes, the existence of such costs could reduce the multiplier effects.

We assume in our scenario that all 1,200 college-educated residents who remain in Mississippi each year rather than move to another state are employed within Mississippi. The number of jobs in the state as modeled by the Tax-PI software is increased by 1,200 each year for ten years beginning in 2023. The Tax-PI model allocates these jobs across sectors based on historical trends. Table 3 lists the allocation of these jobs each year by sector. Over the ten-year period, on average almost 55.0 percent of these jobs are added in five sectors. The top three sectors for additional jobs are Construction, Retail Trade, and State and Local Government. An average of between 11.0 percent and 12.0 percent of the total jobs added each year are found in each of these sectors. Similarly, on average just over 10.0 percent of the total increase in employment each year is found in Health Care and Social Assistance as well as Accommodation and Food Services. The next largest numbers of jobs are found in the Manufacturing and Administrative, Support, Waste Management, and Remediation Services sectors.

In terms of compensation, because our scenario assumes these 1,200 residents are college-educated, we specify a higher annual wage than the median annual wage in Mississippi. According to the American Community Survey of the Census Bureau, the median annual wage of a worker with a high school diploma was \$28,512, while the median annual wage of a worker with a bachelor’s degree was \$44,626. We conservatively specify an average annual wage in 2023 for each of the 1,200 residents that is the midpoint between these two wages, which equals \$36,569. Therefore, the total additional compensation in 2023 is about \$43.9 million. Importantly, we do not assume each of these 1,200 residents will earn annual wages comparable to those of college graduates in other states but rather will earn wages similar to those of college graduates currently working in Mississippi. The average annual wages are adjusted for inflation each year through 2032.

Table 4 lists the impacts of retaining college-educated residents on the Mississippi economy. Noticeable in the second column of Table 4 is the annual increase in population beginning in 2025 exceeds the additional 1,200 residents. In fact, by 2030 the annual increase in population is more than double the initial increase in residents. The average annual increase in population from 2023 to 2032 is slightly more than 1,900 residents. Therefore, the implicit population multiplier equals 1.6 ($1,917 \div 1,200$). Following Deller (1995), this multiplier value means that for every 100 college-educated residents who remain in the state, an additional 60 residents also will move to the state. Some of these college-educated residents who remain in Mississippi will create new jobs themselves, which leads more individuals to move to the state to gain employment in these new jobs.

The second column of Table 4 lists the change in employment each year from 2023 through 2032. Notably, total employment increases by an average of 2,343 jobs per year across a relatively narrow range. This average increase in employment is almost double the number of residents who do not move

from the state and results in an implicit employment multiplier of approximately 2.0 ($2,343 \div 1,200$). In other words, the model implies that for every 100 college-educated residents who remain in Mississippi, about 100 jobs will be created. These jobs are in addition to those held by the college-educated residents who stay in the state. The difference between the employment multiplier and the population multiplier, as Deller notes, implies some portion of these additional jobs will be filled by current Mississippi residents, potentially increasing the state's relatively low labor force participation rate.

The estimated increase to real gross domestic product (GDP) for Mississippi that occurs each year from 2023 to 2032 due to the retention of 1,200 college-educated residents is listed in the fourth column of Table 4. Like population and employment, the gain in real GDP is larger each year. The average annual increase in real GDP from 2023 through 2032 is slightly more than \$181 million, which equals 0.2 percent of Mississippi's real GDP in 2021.

The last column of Table 4 lists the estimated change in personal income in Mississippi each year from 2023 through 2032 that results from 1,200 college-educated residents remaining in the state. As with real GDP and population, the increases to personal income are larger each year through 2032. The average annual increase in personal income over the period is approximately \$177 million, which equals 0.1 percent of personal income in Mississippi in 2021.

Reducing net brain drain and conclusion

The results of Table 4 provide a means of quantifying the negative impacts of the loss of 1,200 college-educated residents per year on the Mississippi economy. First, real output is 0.2 percent smaller per year when college educated residents aged twenty-five and over are lost at the rate of the previous decade. Similarly, personal income in the state is lower by 0.1 percent per year. These impacts are potentially understated due to our use of conservative annual wages for this group. Second, net brain drain decreases employment and population by more than the initial reduction. At the rate of the loss of college educated residents aged twenty-five and over of the previous decade, employment is approximately 0.2 percent lower per year and the state's total population is lower by nearly 0.1 percent per year based on 2021 data. Thus, the results of Table 4 demonstrate the degree to which net brain drain is a drag on the Mississippi economy. While these negative impacts might appear relatively small, the lack of economic growth in the state since the end of the Great Recession makes these effects more acute than in most states (U.S. Bureau of Economic Analysis, 2022).

Thus, establishing that more college graduates as a portion of the state's population leads to improved economic outcomes is relatively straightforward. The Mississippi economy unmistakably gains from improving the overall level of human capital in the state. This evidence leads to the question of how Mississippi can increase the number of college-educated residents to reduce or reverse its net brain drain. As noted previously, given its complexity this question is beyond the scope of this study. However, through years of research economists have reached several general conclusions that we briefly summarize below.

Research indicates no single policy measure likely exists as a "silver bullet" to reducing or reversing net brain drain. As Table I indicates, many states experience gross brain drain. Yet Mississippi was the only state in this group where the number of college-educated residents who emigrated from the state exceeded the number of college-educated residents who immigrated to the state over a ten-year period. In this respect, policies that focus on factors important to all demographics such as a strong local

economy and relatively low cost of living as outlined by Fiore et. al (2015) are likely key to retaining or capturing human capital. Other areas of emphasis include the education system and overall quality of life in the state.

Other studies find support for state-funded, merit-based financial aid programs to reduce the loss of college graduates. Theodori and Theodori (2015) propose schools and communities provide information and resources on careers to students in the local area who are interested in remaining, an effort that is already happening in Mississippi. They note that many positions needed in the local economy may require further training beyond high school but not a four-year degree. The authors state, “Entrepreneurship opportunities should also be made a priority for young people who want to stay in their home communities but who desire a career that is not available in their hometowns.” Marré (2014) makes similar recommendations, such as “. . . building on existing assets, such as natural amenities or built capital, identifying ways to improve the skills of the existing workforce and attract college-educated workers . . .”

In summary, a consistent finding that emerges across the literature is that policies that focus on improving economic and educational opportunities as well as the overall quality of life in a region—something that appeals to all population groups—likely offer the best long-term prospects for reducing or reversing net brain drain. Importantly, state and local officials should keep in mind the economic costs of any policy enacted to prevent net brain drain in Mississippi to achieve the realization of the economic benefits that we find.

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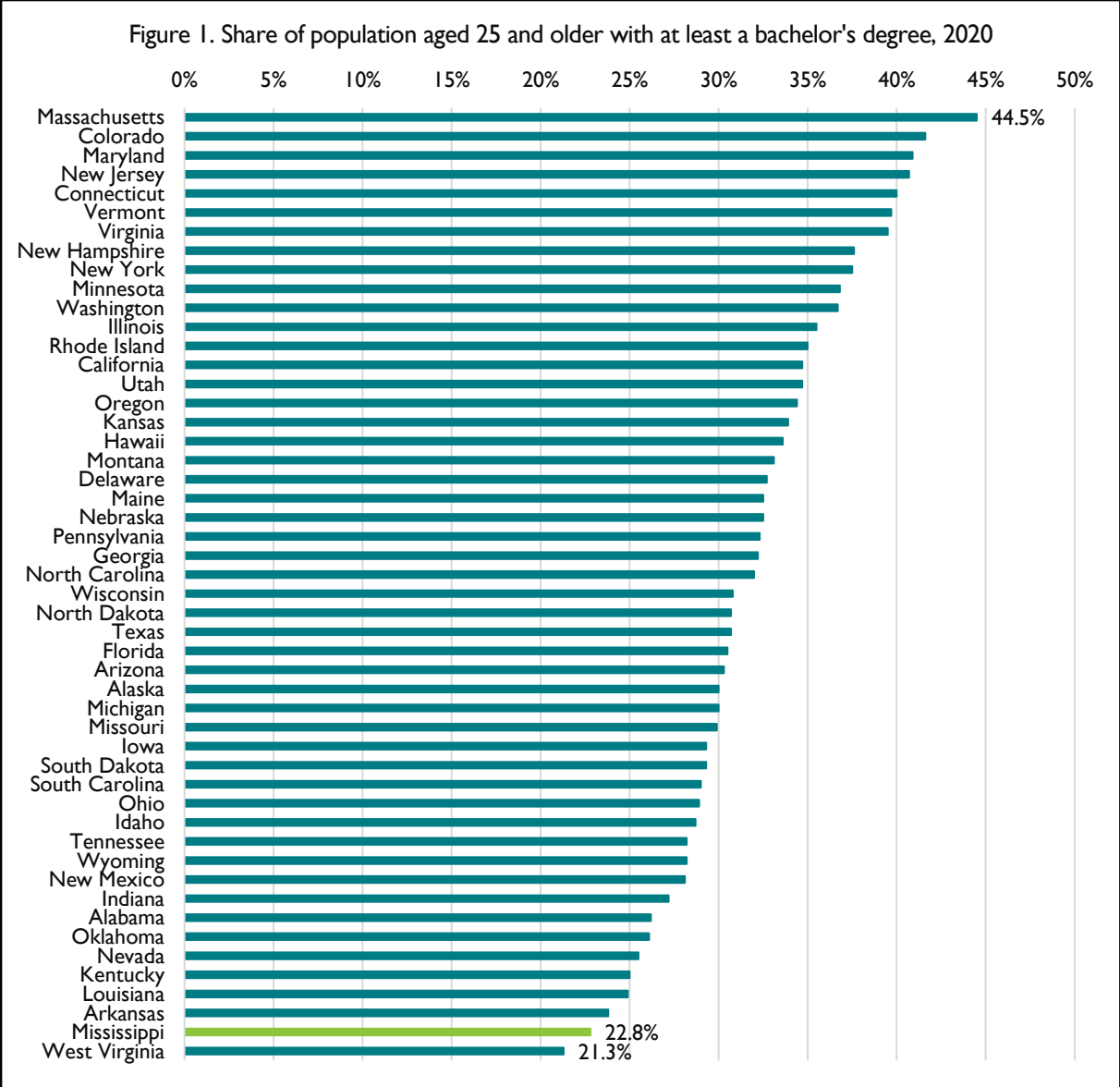
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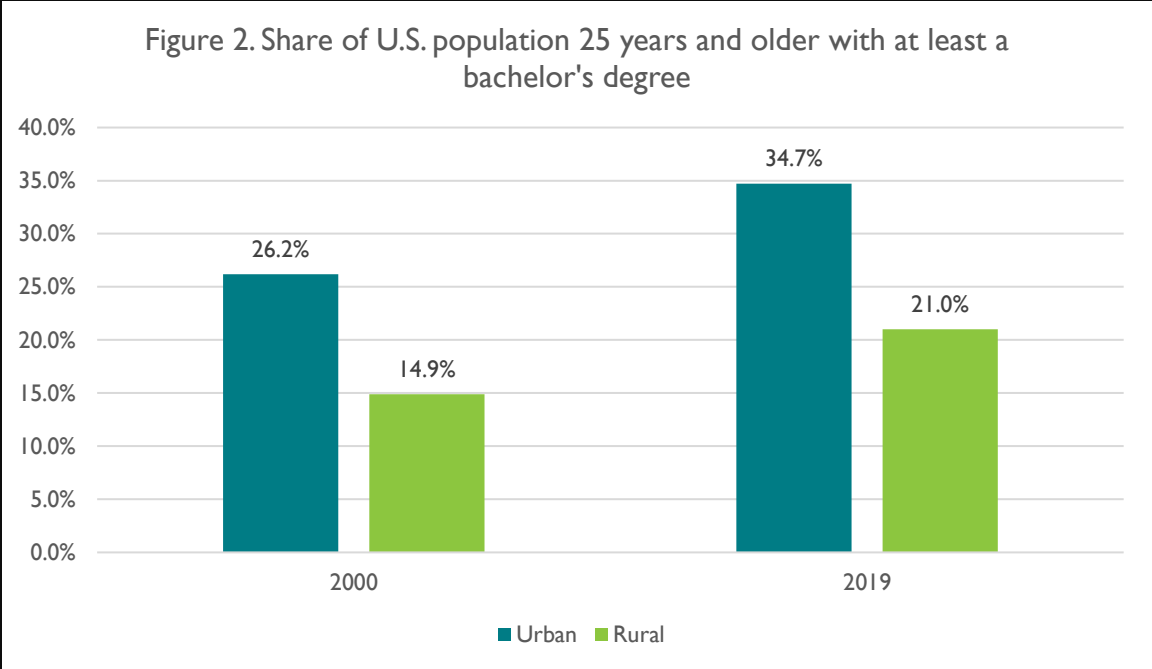
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Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-year Estimates.



Source: USDA, Economic Research Service.

Table 1. Number and share of residents aged 25 and older with a bachelor’s degree who moved out of state in the past year.

| | Alabama | | Arkansas | | Florida | | Louisiana | | Mississippi | | Tennessee | | Texas | |
|-------------|---------|------|----------|------|---------|------|-----------|------|-------------|------|-----------|------|---------|------|
| 2010 | 18,578 | 2.7% | 10,512 | 2.8% | 79,261 | 2.4% | 18,903 | 3.0% | 10,168 | 2.7% | 29,014 | 3.0% | 77,796 | 1.9% |
| 2011 | 22,148 | 3.1% | 11,467 | 2.9% | 79,168 | 2.4% | 17,796 | 2.8% | 11,683 | 3.1% | 31,491 | 3.1% | 86,872 | 2.1% |
| 2012 | 23,416 | 3.1% | 9,420 | 2.3% | 87,964 | 2.5% | 17,641 | 2.7% | 10,187 | 2.6% | 30,502 | 2.9% | 88,542 | 2.1% |
| 2013 | 19,857 | 2.6% | 11,137 | 2.8% | 95,866 | 2.6% | 19,343 | 2.8% | 11,627 | 2.9% | 35,220 | 3.3% | 97,833 | 2.2% |
| 2014 | 21,185 | 2.8% | 9,860 | 2.4% | 101,703 | 2.7% | 18,192 | 2.6% | 15,415 | 3.7% | 37,832 | 3.4% | 97,655 | 2.1% |
| 2015 | 22,333 | 2.8% | 14,515 | 3.4% | 105,171 | 2.6% | 21,106 | 3.0% | 14,959 | 3.7% | 36,773 | 3.2% | 101,714 | 2.1% |
| 2016 | 22,627 | 2.8% | 13,484 | 3.0% | 105,630 | 2.6% | 20,402 | 2.8% | 11,792 | 2.8% | 41,756 | 3.5% | 110,380 | 2.2% |
| 2017 | 24,764 | 2.9% | 12,676 | 2.7% | 106,728 | 2.5% | 23,799 | 3.2% | 15,510 | 3.6% | 37,891 | 3.1% | 121,347 | 2.3% |
| 2018 | 23,339 | 2.7% | 13,141 | 2.8% | 119,116 | 2.6% | 21,836 | 2.9% | 14,288 | 3.1% | 38,608 | 3.1% | 123,875 | 2.2% |
| 2019 | 23,419 | 2.7% | 12,741 | 2.7% | 118,579 | 2.6% | 21,957 | 2.8% | 14,083 | 3.2% | 41,110 | 3.1% | 128,813 | 2.3% |

Source: U.S. Census Bureau, 2016-2019 American Community Survey 1-year Estimates.

Table 2. Net number and net share of residents aged 25 and over with a bachelor's degree who moved into a state in the previous year.

| | Alabama | | Arkansas | | Florida | | Louisiana | | Mississippi | | Tennessee | | Texas | |
|--------------|---------|-------|----------|-------|---------|-------|-----------|-------|-------------|--------|-----------|-------|---------|-------|
| 2010 | 1,837 | 0.3% | 4,452 | 1.2% | 49,437 | 1.5% | 74 | 0.0% | 705 | 0.2% | 5,902 | 0.6% | 63,788 | 1.6% |
| 2011 | 335 | 0.0% | 2,146 | 0.5% | 75,841 | 2.2% | 3,101 | 0.5% | -540 | -0.1% | 21,645 | 2.1% | 71,829 | 1.7% |
| 2012 | 3,098 | 0.4% | 4,465 | 1.1% | 65,888 | 1.8% | 3,911 | 0.6% | 1,076 | 0.3% | 8,199 | 0.8% | 66,580 | 1.5% |
| 2013 | 4,436 | 0.6% | 1,148 | 0.3% | 67,344 | 1.8% | 2,171 | 0.3% | -2,574 | -0.7% | 9,750 | 0.9% | 76,888 | 1.7% |
| 2014 | 3,467 | 0.5% | 4,610 | 1.1% | 82,550 | 2.2% | 4,278 | 0.6% | -1,741 | -0.4% | 6,755 | 0.6% | 95,689 | 2.0% |
| 2015 | 2,355 | 0.3% | 2,825 | 0.7% | 101,512 | 2.5% | 5,214 | 0.7% | -3,034 | -0.7% | 13,392 | 1.2% | 104,914 | 2.1% |
| 2016 | 8,159 | 1.0% | 39 | 0.0% | 116,777 | 2.8% | 453 | 0.1% | -479 | -0.1% | 4,684 | 0.4% | 94,971 | 1.8% |
| 2017 | 169 | 0.0% | 1,780 | 0.4% | 118,282 | 2.7% | -3,882 | -0.5% | -2,064 | -0.5% | 14,101 | 1.1% | 82,424 | 1.5% |
| 2018 | 2,597 | 0.3% | 2,287 | 0.5% | 104,959 | 2.3% | -323 | 0.0% | -803 | -0.2% | 21,248 | 1.7% | 92,405 | 1.6% |
| 2019 | 2,834 | 0.3% | -1,897 | -0.4% | 105,204 | 2.2% | -2,829 | -0.4% | -2,545 | -0.6% | 14,319 | 1.1% | 83,500 | 1.4% |
| Total | 29,287 | 15.2% | 21,855 | 21.6% | 887,794 | 64.2% | 12,168 | 7.9% | -11,999 | -17.1% | 119,995 | 32.6% | 832,988 | 49.4% |

Source: U.S. Census Bureau, 2016-2019 American Community Survey 1-year Estimates.

Table 3. Annual change in jobs by sector from retention of 1,200 college-educated residents.

| Sector | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 |
|--------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Forestry, fishing, and hunting | 22 | 22 | 20 | 20 | 20 | 19 | 19 | 19 | 18 | 18 |
| Mining | 11 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 10 | 10 |
| Utilities | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 | 10 | 10 |
| Construction | 251 | 310 | 327 | 321 | 304 | 281 | 259 | 238 | 221 | 208 |
| Manufacturing | 178 | 174 | 169 | 166 | 163 | 161 | 161 | 161 | 161 | 161 |
| Wholesale trade | 57 | 57 | 56 | 55 | 54 | 53 | 52 | 52 | 51 | 51 |
| Retail trade | 273 | 276 | 276 | 273 | 270 | 266 | 264 | 262 | 260 | 258 |
| Transportation and warehousing | 106 | 106 | 104 | 102 | 100 | 98 | 97 | 95 | 94 | 93 |
| Information | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 13 | 13 | 13 |
| Finance and insurance | 64 | 63 | 62 | 60 | 59 | 57 | 56 | 55 | 55 | 54 |
| Real estate and rental and leasing | 99 | 101 | 104 | 104 | 104 | 103 | 102 | 101 | 100 | 100 |
| Professional, scientific, and technical services | 111 | 116 | 117 | 117 | 117 | 115 | 114 | 114 | 113 | 113 |
| Management of companies and enterprises | 13 | 13 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | 11 |
| Administrative, support, et al. | 188 | 191 | 191 | 190 | 188 | 186 | 184 | 183 | 182 | 181 |
| Educational services; private | 26 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| Health care and social assistance | 243 | 244 | 244 | 243 | 241 | 239 | 238 | 236 | 235 | 235 |
| Arts, entertainment, and recreation | 34 | 35 | 35 | 36 | 36 | 36 | 35 | 35 | 35 | 35 |
| Accommodation and food services | 222 | 229 | 236 | 240 | 242 | 243 | 244 | 243 | 244 | 245 |
| Other services (except public administration) | 156 | 156 | 156 | 155 | 153 | 150 | 148 | 145 | 143 | 142 |
| State and Local Government | 145 | 229 | 262 | 279 | 286 | 289 | 289 | 288 | 288 | 287 |
| All industries | 2,226 | 2,386 | 2,439 | 2,439 | 2,413 | 2,371 | 2,337 | 2,300 | 2,272 | 2,252 |

Source: University Research Center.

Table 4. Tax-PI model estimates of annual changes to Mississippi economy from a hypothetical annual increase of 1,200 college-educated residents.

| Year | Population | Total employment | Real GDP | Personal Income |
|-------------|-------------------|-----------------------------|-----------------|----------------------------|
| 2023 | 615 | 2,226 | \$164,502,748 | \$121,917,021 |
| 2024 | 1,088 | 2,386 | \$175,840,610 | \$141,835,835 |
| 2025 | 1,463 | 2,439 | \$181,080,194 | \$156,002,023 |
| 2026 | 1,759 | 2,439 | \$183,450,131 | \$167,046,540 |
| 2027 | 1,994 | 2,413 | \$184,266,347 | \$176,798,733 |
| 2028 | 2,182 | 2,371 | \$183,912,632 | \$185,420,943 |
| 2029 | 2,338 | 2,337 | \$184,374,282 | \$193,124,390 |
| 2030 | 2,468 | 2,300 | \$184,624,780 | \$201,165,928 |
| 2031 | 2,583 | 2,272 | \$185,574,193 | \$209,309,909 |
| 2032 | 2,682 | 2,252 | \$186,997,378 | \$217,320,999 |

Source: University Research Center.