

Explaining Alabama's Labor Productivity

Alabama Business Intelligence Center

Olivia Melton, M.S.
Jacob M. Lamb, Ph.D.

November 2024

Executive Summary

- Improving LFPR by engaging more non-participating workers may only yield minor benefits to overall economic growth in Alabama.
- Instead of focusing solely on increasing the LFPR, Alabama strategists should prioritize enhancing labor productivity in key industries to drive economic growth.
- Alabama ranks 42nd out of 50 states in labor productivity, above states like Kentucky, South Carolina, and Mississippi but below regional peers such as Georgia (17th).
- Alabama ranks 28th out of 50 states in output per dollar of labor cost, outperforming other southern states like North Carolina, Kentucky, and South Carolina.
- Efforts should concentrate on maximizing output and efficiency, particularly through innovation and technological advancements in Alabama's competitive industries such as mobility, forestry & wood products, and chemical manufacturing.

What is Labor Productivity?

Labor productivity measures the efficiency of labor in producing goods and services by comparing output with the amount of labor utilized to produce that output. High labor productivity indicates that more units of output are being produced for each hour of labor, reflecting greater efficiency and innovation and the potential for growth.

While labor productivity is a useful tool for gauging economic efficiency, it does have its limitations. It overlooks other factors (such as capital and technology) that can be significant in the production process, especially in capital-intensive industries. Additionally, rapid improvements in technology (potentially leading to job losses) can disrupt traditional measures of productivity, and labor productivity fails to capture worker well-being and satisfaction. Combining labor productivity with other measures can provide a more nuanced and precise understanding of economic performance.

So, where does Alabama fall and why? How does Alabama's productivity compare to peer states? How can we coordinate state strategies for productivity and economic growth? Should the focus be on improving levels of labor productivity rather than the labor force participation rate?

Explaining Alabama's Labor Productivity

The Bureau of Labor Statistics (BLS) provides annual labor productivity data by state and region. In the most recent data release, 2017 is chosen as the baseline year, and labor productivity for that year is set to an index value of 100. This establishes a reference point to measure changes in productivity over time. For each following year, labor productivity is compared to the baseline year (2017) with the productivity value for each year expressed as an index number relative to 100. Although indexing shows Alabama's relative changes in productivity, it is difficult to ascertain how Alabama's productivity stacks up against other states at a certain point in time (say 2023).

To determine Alabama's labor productivity in 2023 using the given indexed data, we must perform a few calculations. The index value for Alabama in 2023 is 107.992. This means that Alabama's level of private nonfarm labor productivity increased by 7.992% relative to 2017 (the baseline year). But what is Alabama's level of productivity in 2023? The BLS provides the hours worked and value-added output for 2023 as well as the value-added output price deflator. By using the value-added output price deflator, we can adjust the nominal value-added output to account for inflation to find the real value-added output. Dividing this real output by the total hours worked gives the real labor productivity. This calculation eliminates any distortion from fluctuating price levels. Rounding to two decimals, the 2023 labor productivity for Alabama is 57.12. This means that each hour of labor results in \$57.12 output produced in Alabama in 2023.

How Does Alabama Compare to Other States?

Alabama comes in at 42nd out of 50 states for labor productivity in 2023, outpacing Kentucky, South Carolina, and Mississippi, ranking at 43rd, 45th, and 50th, respectively. Florida and Tennessee land in the middle of the pack at 27th and 28th. Georgia is the standout at 17th. While this does seem discouraging, it is important to recall the pitfalls of labor productivity as a measure of economic efficiency. Other measures should be considered – cost-effectiveness, for example. While it is true that Alabama is at the back of the pack in terms of output per hour worked, it is important, from a company's perspective, to answer this question: how much did that hour of labor cost? When you take labor costs into account, productivity can be framed differently. We can look at each state and ask “how much output does a dollar of labor buy in each state?”

Looking at units of output per dollar of labor cost paints a more positive picture of Alabama's productivity. In 2023, Alabama's output per dollar of labor costs is \$1.71. This means that every dollar of labor-related costs produced \$1.71 of output in Alabama in 2023. Alabama ranks 28th out of 50 states for this measure. This result suggests that each dollar

Table 1: Labor Productivity: Alabama vs the Southeast

Area	Labor Productivity (Output/Hours)	Labor Productivity - Ranking	Per Dollar Labor Productivity (Output/Labor Compensation)	Per Dollar Labor Productivity - Ranking
Alabama	57.12	42	1.71	28
Florida	65.72	27	1.68	33
Georgia	69.97	17	1.73	23
Kentucky	56.78	43	1.68	31
Louisiana	60.92	36	1.95	5
Mississippi	48.99	50	1.75	22
North Carolina	66.28	25	1.69	30
South Carolina	55.73	45	1.64	36
Tennessee	65.46	28	1.82	15

spent on labor returns more than the initial cost in terms of output. This indicates a positive return on investment. Louisiana is the standout at 5th, with Georgia, Mississippi, and Tennessee being the only other southern states that outpace Alabama's output per dollar of labor cost at 23rd, 22nd, and 15th, respectively. North Carolina, Kentucky, Florida, and South Carolina fall short at 30th, 31st, 33rd, and 36th.

Table 2: Labor Productivity: Alabama vs Other States

Area	Labor Productivity (Output/Hours)	Labor Productivity - Ranking	Per Dollar Labor Productivity (Output/Labor Compensation)	Per Dollar Labor Productivity - Ranking
Alabama	57.12	42	1.71	28
California	94.37	3	1.75	21
Colorado	77.58	9	1.65	35
Illinois	77.57	10	1.72	24
Indiana	66.83	24	1.88	9
Michigan	64.08	30	1.62	41
New York	102.89	1	1.87	11
Ohio	67.11	23	1.81	16
Pennsylvania	68.39	18	1.67	34
Texas	73.93	12	1.92	8
Wisconsin	60.21	37	1.60	43

Since Mercedes-Benz opened its doors in Vance, Alabama in 1997, Alabama has risen to occupy a prominent space in the automotive industry and is now home to several additional OEMs including Mazda-Toyota, Honda, and Hyundai. For a state whose automotive industry was non-existent 30 years ago, it is remarkable that Alabama has risen to the status of a top five national auto producer. Could this have something to do with the productivity of Alabama's labor force? Using units of output per dollar of labor cost as a comparative tool, Alabama occupies a competitive position in per dollar labor productivity relative to other states with high rates of automobile production. Michigan, for example, is 41st to Alabama's 28th, and South Carolina, Kentucky, and California stand at 36th, 31st, and 21st, respectively.

Conclusion

Alabama's low labor force participation rate (LFPR) has become the focus of debate for state strategists and economic developers. At 57.2%, Alabama's LFPR comes in at an underwhelming 47th out of 50 states in 2023. In our previous piece on Alabama's LFPR, we identified that there are 409,000 non-institutional prime-working age (25-54) individuals not participating in the workforce. Applying the national rate of 10.41%, only 42,577 non-institutional prime-working age individuals are not participating in the workforce but would be willing to become employed. Given that encouraging an additional 42,000 willing but non-participating individuals to join the workforce would only raise the LFPR by about 1%, a targeted approach to improving labor productivity would yield more substantial benefits. Alabama is 42nd for labor productivity based on output per hour and 28th based on output per labor compensation among the 50 states. These rankings indicate that there is room for improvement in how efficiently Alabama's workforce is utilized.

State economic development strategists should incorporate these insights into Alabama's strategic plan for development by focusing on enhancing productivity within the existing workforce rather than solely aiming to increase the LFPR. By identifying and concentrating on Alabama's most competitive industries – such as mobility, forestry & wood products, and chemical manufacturing – the state can propel economic growth more effectively. Growth opportunities in these identified target industries, such as technological advancements in product and process, should be tracked and adopted when appropriate. As always, caution should be exercised when dealing with statistical measures like labor productivity, LFPR, or any other metric. It is always important to ensure that the metric is used as a measurement of where we are today rather than a target we are seeking to improve in a purely statistical sense. Alabama should prioritize maximizing output and efficiency within its current labor market and existing industries to drive sustainable economic growth and prosperity.

References

- Atkins, C., White, O., Padhi, A. Ellingrud, K., Madgavkar, A., Neary, M., and Staples, M. (2023, February). Rekindling US Productivity for a new era. McKinsey Global Institute.
- McKinsey & Company (2024, October 1). Catalyst: A Plan for Propelling Alabama's Economic Growth.
- U.S. Bureau of Labor Statistics (2024, May 30). Annual labor productivity by State and Region. Retrieved September 1, 2024, from <https://www.bls.gov/productivity/tables/labor-productivity-by-state-and-region.xlsx>

Appendix

Formulas:

$$\text{Labor Productivity} = \frac{(\text{Nominal Output} * \text{Price Deflator})}{\text{Labor Hours}} \quad (1)$$

$$\text{Per Dollar Labor Productivity} = \frac{\text{Real Output}}{\text{Real Labor Compensation}} \quad (2)$$