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# **Economic Contributions of Colleges and Universities in Maine**

Megan Bailey, Andrew Crawley and Todd Gabe

## ECONOMIC CONTRIBUTION OF COLLEGES AND UNIVERSITIES IN MAINE

Megan Bailey, Andrew Crawley and Todd Gabe<sup>1</sup>  
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This report shows the following:

- Maine has 38 colleges and universities that educate 72,605 students, employ a combined 14,621 non-student workers, and generate about \$2.2 billion in annual revenue.
- Colleges and universities in Maine generate a total annual economic contribution—including the spending of students and visitors, and multiplier effects—of an estimated \$4.5 billion in output, 31,267 full- and part-time jobs (not including student workers), and \$1.7 billion in labor income.
- Maine’s colleges and universities support at least ten jobs in 125 Maine sectors, and there are statewide employment impacts of twenty jobs or more in 108 industries.

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## ECONOMIC CONTRIBUTION OF COLLEGES AND UNIVERSITIES IN MAINE

This report examines the statewide economic contribution of colleges and universities in Maine. Economic contribution is defined as the direct revenue generated by these institutions and the spending of their students and visitors; employment and employee compensation in Maine's colleges and universities and the jobs and earnings supported by the spending of students and visitors. In addition, the economic contribution of Maine's colleges and universities includes the multiplier effects associated with the spending of workers (i.e., induced effects) and companies (i.e., indirect effects) connected to Maine's institutions of higher learning (and the workers and businesses supported by the spending of students and visitors).

The economic analysis captures the collective impact of the state's 38 institutions of postsecondary education (e.g., private colleges, public universities, community colleges) and uses data from the U.S. Department of Education (Integrated Postsecondary Education Data System, National Center for Education Statistics), surveys of student expenditures, past economic impact studies, and information collected from the websites of Maine's colleges and universities. The multiplier effects and some of the direct impacts (e.g., labor income) are estimated by a Maine input-output model (IMPLAN).

Table 1 summarizes the economic contribution of colleges and universities in Maine. Overall, these institutions educate 72,605 students (U.S. Department of Education) and generate a total annual economic contribution—including the spending of students and visitors, and

multiplier effects—of an estimated \$4.5 billion in output, 31,267 full- and part-time jobs (not including student workers), and \$1.7 billion in labor income.<sup>2</sup>

The direct output of \$2.5 billion is a combination of \$2.2 billion in annual revenue generated by the 38 colleges and universities (U.S. Department of Education) and an estimated \$300 million in statewide spending by students and visitors. The direct employment of about 17,600 workers includes 14,621 non-student employees at the colleges and universities (U.S. Department of Education) and about 3,000 jobs supported by the spending of students and visitors. The direct employment does not include student workers, which account for an additional 5,715 employees across the seven campuses of the University of Maine System.<sup>3</sup> Adding student workers for all 38 institutions would likely increase the direct employment to over 25,000 employees.

Table 1. Economic Contribution of Colleges and Universities in Maine

|              | Direct          | Indirect      | Induced         | Total Impact    |
|--------------|-----------------|---------------|-----------------|-----------------|
| Output       | \$2,497,048,437 | \$798,839,469 | \$1,236,769,232 | \$4,532,657,138 |
| Employment   | 17,604          | 5,005         | 8,658           | 31,267          |
| Labor Income | \$1,207,820,213 | \$150,796,528 | \$345,894,793   | \$1,704,511,534 |

Notes: These figures are estimated using data from the U.S. Department of Education, surveys of student expenditures, past economic impact studies, and information collected from the websites of Maine’s colleges and universities. Multiplier effects (i.e., indirect and induced

<sup>2</sup> The employment figures estimated by IMPLAN (i.e., 5,005 indirect and 8,658 induced jobs) are based on a headcount of employment and do not distinguish between full- and part-time jobs.

<sup>3</sup> Student workers are not included in the U.S. Department of Education employment figures, which are used to count the direct employment of Maine’s colleges and universities. The student employment number (i.e., 5,715 workers) for the seven campuses of the University of Maine System is from a previous economic impact report.

impacts) and direct labor income are estimated by the Maine IMPLAN model. The employment figures do not include student workers.

The multiplier effects shown in Table 1 are the additional economic activity in Maine that is supported by the spending of companies (i.e., indirect effects) and workers (i.e., induced effects) that are connected to Maine's colleges and universities (and the workers and businesses supported by the spending of students and visitors). The IMPLAN model, which is used to estimate the multiplier effects, is an input-output framework that traces the flows of expenditures and income through the economy with a complex system of accounts that are uniquely tailored to the Maine economy. Underlying these accounts is information regarding transactions among businesses in the state, the spending patterns of households, and transactions between Maine businesses and households and the rest of the world. Some of the data sources used to calibrate the IMPLAN model include County Business Patterns of the U.S. Census Bureau, Regional Economic Information System (REIS) data and input-output accounts from the U.S. Bureau of Economic Analysis, and ES-202 statistics from the U.S. Bureau of Labor Statistics.

The ratio of total (\$4.5 billion) to direct (\$2.5 billion) output suggests an output multiplier of 1.82. This means that every dollar of revenue and spending by students and visitors has a total statewide impact of \$1.82. This includes the "original" dollar of revenue and spending plus an additional \$0.82 in statewide economic activity. The ratio of total (31,267 jobs) to direct (17,608 jobs) workers suggests an employment multiplier of 1.78. This means that each non-student university employee and worker related to the spending of students and visitors support an

average of 0.78 additional jobs statewide through their spending and the purchases of businesses connected to Maine's colleges and universities.

The IMPLAN model used to estimate the multiplier (i.e., indirect and induced) effects shown in Table 1 has information on over 500 detailed industrial sectors of the Maine economy. The economic impact results indicate that Maine's colleges and universities have an employment impact of at least ten jobs in 125 industries, and there are multiplier effects of twenty jobs or more in 108 industries. These impacts are associated with the spending of workers (e.g., an induced impact of 278 jobs in food stores) and businesses (e.g., an indirect impact of 158 jobs in maintenance and repair of nonresidential structures) that are connected to Maine's colleges and universities. Overall, the institutions of higher education in Maine support industries (e.g., real estate, restaurants, dentist offices, computer programming services, data processing services, vegetable farming, truck transportation) across the entire statewide economy.

## SUMMARY

This report analyzed the collective statewide economic contribution of the public and private colleges and universities in Maine. Maine is home to 38 colleges and universities that educate 72,605 students, employ a combined 14,621 non-student workers and generate about \$2.2 billion in annual revenue. These institutions of postsecondary education generate a total annual economic contribution—including the spending of students and visitors, and multiplier effects—of an estimated \$4.5 billion in output, 31,267 full- and part-time jobs (not including student workers), and \$1.7 billion in labor income. Maine's colleges and universities support at

least ten jobs in 125 Maine sectors, and there are statewide employment impacts of twenty jobs or more in 108 industries.

In addition to the impacts documented in this report, Maine's colleges and universities contribute to the state's economy through new company startups, research and technology transfers, business assistance, arts and culture, and considerable other ways. Finally, the most important impacts of Maine's colleges and universities are the students who graduate each year and go on to have successful careers in Maine and beyond. The high earnings premium associated with a postsecondary degree shows that graduates who stay in Maine generate substantial economic impacts—not captured in this report—over the rest of their lives.