ISSUE BRIEF:

STEM LOAN FORGIVENESS

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With many of New Jersey's residents shouldering the burden of student loans and with the state well served by attracting educated talent in high-growth fields related to science, technology, engineering and math (STEM), the opportunity exists to address simultaneously both issues with an initiative adopted elsewhere: North Dakota's STEM Occupations Student Loan Forgiveness Program, which relieves a portion of education debt for individuals with STEM degrees who work in relevant sectors within the state.

Key Points

- Graduates of New Jersey's colleges and universities carry an average student-loan debt of $28,109, ranking 18th in the nation.
- North Dakota has lightened the burden of certain student loans and attracted talent in high-growth fields associated with science, technology, engineering and math through its STEM Occupations Student Loan Forgiveness Program, which provides $1,500 of relief each year for up to four years ($6,000) toward the education debt of individuals with STEM degrees who work in relevant fields within the state.
- An initial investment of $15 million by New Jersey would reach roughly 10,000 citizens on an annual basis. A four-year participant with an average loan balance would have a little over 20 percent of his or her education debt forgiven.

With respect to student loans in New Jersey, graduates of the state's colleges and universities hold an average of $28,109 in debt, ranking 18th in the nation. About 70 percent of graduates from New Jersey's colleges and universities carry debt, ranking fourth in the nation. [1] Information from the United States Department of Education reveals how roughly 1.2 million people in New Jersey owe approximately $31 billion in federal student loans, which averages around $26,000 per person.[2] This figure may represent more accurately the federal – not private – debt incurred by the state's citizens, capturing a high percentage of those educated at institutions outside New Jersey who reside in the state.

According to analyses, elevated student debt produces a ripple effect, influencing behavior with societal and economic consequences. High debt could contribute partially to lower rates of home ownership,[3] undercut savings for retirement[4] and delay marriage and family formation.[5] Even when accounting for the costs, certain measures indicate the enhanced earning potential afforded by a degree remains strong and compelling.[6] Beth Akers and Matthew M. Chingos found in 2011 that younger college graduates (23-to-25 years of age) experienced 20-percent higher employment and $12,000 more in annual earnings than high-school graduates.[7] In short, higher education's return on investment retains its value.

Focusing on the returns, data suggest STEM degrees register particularly high when assessing both compensation and opportunity. By one calculation, STEM workers earn 26 percent more than non-STEM employees, while STEM occupations have projected growth of 17 percent from 2008 to 2018, as compared to 9.8 percent for non-STEM jobs over the same period.[8] The benefits of STEM education and employment accrue not only to the individuals, but also throughout the broader economy. The United States Congress Joint Economic Committee has observed, "Improving access to quality STEM education will strengthen the caliber of the U.S. workforce, drive economic growth, and keep the U.S. competitive."[9] Similarly, the Brookings Institution's Metropolitan Policy Program's work on Advanced Industries – predominantly STEM-oriented areas – attributes to the growth of the sectors such far-reaching outcomes as strengthened supply chains, increased productivity across disciplines and enriched local economies.[10]

New Jersey should take steps to stimulate STEM activity, particularly as the state's current profile appears uneven. As of 2011, STEM positions in New Jersey represent 5.5 percent of total employment, higher than neighbors New York (4.4 percent) and Pennsylvania (4.5 percent), but lower than Massachusetts (7.6 percent) and Maryland (7.2 percent).[11] Brookings notes the dramatic erosion of New Jersey's STEM foundation since 1980, when the state housed 16 related industries with employment 1.5 times greater than the national average. Today, New Jersey can claim only four such industries.[12] Perhaps more concerning, New Jersey places only 32nd in the nation in terms of recent bachelor's degrees in science and engineering.[13]

This last statistic uncovers a weakness in New Jersey's trajectory toward a more robust STEM-based economy; however, the figure also outlines a case for action by the state. Given the number of individuals with student loans – including those with STEM degrees – and given the need to draw and cultivate STEM degree holders, New Jersey could implement a targeted loan-forgiveness incentive modeled after one in North Dakota.

For over a decade, North Dakota has operated the STEM Occupations Student Loan Forgiveness Program, in which an eligible candidate can receive $1,500 each year for up to four years, for a total of $6,000 toward his or her federal student debt. An applicant must have earned a bachelor's degree in a recognized STEM field, as defined

by the Classification of Instructional Programs (CIP), a categorical system developed by the United State Department of Education. A person also must have resided within North Dakota for the previous 12 months and have held a position during that time in a STEM field, as defined by the Standard Occupation Classification System.

While a candidate need not have grown-up in or attended a university in the state, North Dakota caps the number of participants each year. The state generally funds around 800 individuals at an annual cost of approximately $1.2 million. In designing its own STEM loan forgiveness program and factoring in the significant difference in the size of the two states' populations, New Jersey could make an initial investment of $15 million that would reach roughly 10,000 citizens on an annual basis. A four-year participant with an average loan balance would have a little over 20 percent of his or her education debt forgiven. Additionally, the state could establish a matching component with private-sector employers, in order to boost the amount forgiven for the individual. The program's success in the early stages could determine gradual upward adjustments to extend the benefit to more residents.

To date, North Dakota has not conducted a longitudinal study of impact. In fact, a comprehensive evaluation of the many loan-forgiveness offerings around the country has not occurred, leaving assessments to lean more toward the anecdotal than the empirical.[14] As possible evidence in favor of such efforts, one review of state programs that provide various forms of financial support to medical students in exchange for a period of service in underserved locations concluded that participating physicians stayed in practice longer than non-participants and that retention rates were highest for those in loan-repayment programs.[15]

Uncertainty also surrounds the existing supply of qualified STEM workers, perhaps calling into question the necessity of a loan-forgiveness intervention. Some sources sketch a picture of inadequate STEM labor markets to meet employer demand,[16] a disputed point.[17] Others default to citing an overall lack of clarity on the matter.[18]

Even when faced with imperfect information regarding causes and effects, as New Jersey aims both to ease the pressure of student debt and fortify a dynamic workforce, a version of North Dakota's STEM Occupations deserves consideration.

Notes

[1] The Institute for College Access & Success, "Student Debt and the Class of 2013" (Oakland, CA: The Institute for College Access & Success, 2014).

[2] United States Department of Education, "Estimated Outstanding Balance and Number of Borrowers with Outstanding Direct Loan or FFEL Loan as of January 2015, by State" (Washington, DC: United States Department of Education, 2015).

[3] David A. Bergeron, Elizabeth Baylor and Joe Valenti, "Resetting the Trillion-Dollar Student-Loan Debt Problem" (Washington, DC: Center for American Progress, 2013).

[4] William Gale, Benjamin Harris, Bryant Renaud and Katherine Rodihan, "Student Loans Rising: An Overview of Causes, Consequences, and Policy Options" (Washington, DC: Brookings Institution, 2014).

[5] Dora Gicheva, "In Debt and Alone? Examining the Causal Link between Student Loans and Marriage", *working paper* (Greensboro, NC: University of North Carolina at Greensboro, 2013).

[6] Michael Greenstone and Adam Looney, "Regardless of the Cost, College Still Matters" (Washington, DC: Brookings Institution, 2012).

[7] Beth Akers and Matthew M. Chingos, "Student Loan Safety Nets: Estimating the Costs and Benefits of Income-Based Repayment" (Washington, DC: Brookings Institution, 2014).

[8] David Langdon, George McKittrick, David Beede, Beethika Khan and Marks Doms, "STEM: Good Jobs Now and for the Future" (Washington, DC: United States Department of Commerce, 2011).

[9] United States Joint Economic Committee, "STEM Education: Preparing for the Jobs of the Future" (Washington, DC: United States Congress Joint Economic Committee, 2012).

[10] Metropolitan Policy Program, "America's Advanced Industries: What They Are, Where They Are, And Why They Matter" (Washington, DC: Brookings Institution, 2015).

[11] Anthony Carnevale, Nicole Smith and Michelle Melton, "STEM State-Level Analysis" (Washington, DC: Center on Education and the Workforce, 2011).

[12] Metropolitan Policy Program.

[13] National Science Foundation, *Science and Engineering Indicators: 2014 State Data Tool* (Arlington, VA: National Science Foundation, 2015).

[14] Thomas L. Harnisch, "Student Loan Forgiveness Programs: An Evolving Workforce Development Tool" (Washington, DC: American Association of State Colleges and Universities, 2009).

[15] Donald E. Pathman, Thomas R. Konrad, Tonya S. King, Donald H. Taylor and Gary G. Koch, "Outcomes of states' scholarship, loan repayment, and related programs for physicians," *Medical Care*, 42, no. 6 (June 2004): 560-568.

[16] United States Joint Economic Committee.

[17] Hal Salzman, "What Shortages? The Real Evidence About the STEM Workforce," *Issues in Science and Technology* (Summer 2013): 58-67.

[18] National Science Foundation, "Revisiting the STEM Workforce: A Companion to Science and Engineering Indicators 2014" (Arlington, VA: National Science Foundation, 2015).