

Economic Impacts from the Innovation Technology Loan Fund

As of August 2020, the Innovation Technology Loan Fund (LIFT) initiative has approved \$14.05 million (94 percent) of the appropriated funds (\$15 million)¹. The program has also provided funding for 18 North Dakota businesses in specific sectors outlined in House Bill 1333. The businesses participating in the LIFT program have added 330 new jobs in the state, which is projected to increase by 36 percent in 24 months. The North Dakota Department of Commerce utilized the Regional Economic Model Policy Insight (REMI PI+)² to forecast the state level's economic impacts of the LIFT funds over 2020-2024. The projected economic impacts include increases in the state economy size (as measured by the state gross domestic product (GDP) and output); payroll creation (as measured by wages and salaries); and new jobs created (as measured by employment). The analysis projected that from 2022-2026, the average annual economic impacts from the LIFT initiative for North Dakota in a given year would be:

- An increase in the size of the state economy of \$151 million in economic output and \$92 million in the State GDP.
- An increase of 748 jobs across all industries, with 698 jobs occurring in the private non-farm industries and 60 percent of the 698 jobs occurring in the technology industry. This estimate consists of full-time and part-time workers.
- An increase of \$49 million in personal income and \$41 million in wages and salaries, driven almost entirely by the growth in labor income derived from the jobs created across all industries. These results suggest wages per job of \$54,800, including both direct and indirect employment.

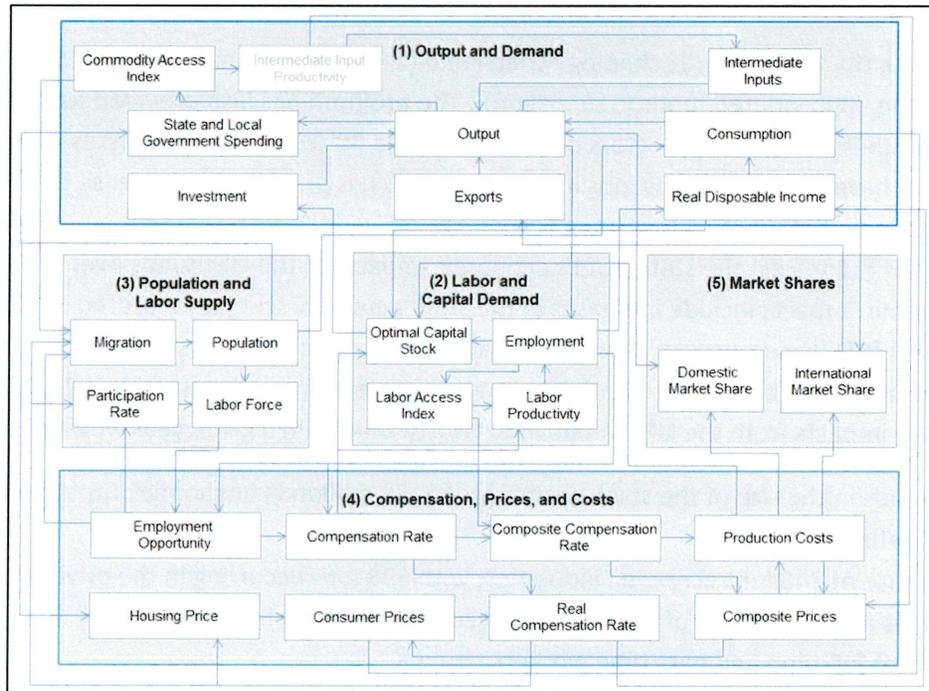
Methodology

The main idea behind economic impact analysis is that one more (or less) dollar spent in a local or regional economy results in a greater than one dollar change in economic activity in the area. The most common and widely respected method of examining such changes involves using economic models called input-output models. A key feature of input-output models is that they are ideally suited to capture the interdependence among different industries. That is, input-output models are designed to capture the effects of a change in one industry on other industries and households. The Department of Commerce utilized version 2.4 of the REMI PI+ model. Briefly, the REMI PI+ model is a sophisticated regional economic model that dynamically simulates the year-by-year economic effects of public policy initiatives and is widely used by state agencies and legislatures, universities, and other organizations and experts. The REMI model is also tailored to North Dakota using data from the Bureau of Census, the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Energy Information Administration, and other reliable data sources.

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²Regional Economic Models, Inc. (REMI) is an independent company with offices in Amherst, MA and Washington, D.C. that provides non-partisan economic analysis and modeling software to its clients, who include federal, state, and local government agencies, non-profit organizations, universities, and private companies.

Figure 1: REMI Model Linkages (Excluding Economic Geography Linkages)



Source: REMI PI+ Model Equations 2020

Assumptions

Assumption 1: The LIFT program contributed \$11.4 million in 2020 and \$2.7 million in 2021 to the investment capital spending and as a result:

- Investment spending increased due to increased LIFT funding. This increase was split proportionally between three investment spending categories: (i) the non-residential structures, (ii) non-residential equipment, and (iii) non-residential intellectual property products.

Assumption 2: The LIFT awardees expended \$11.4 million in 2020 and \$2.7 million in 2021 on investment expenditures and as a result:

- Investment capital spending increased by \$11.4 million in 2020 and \$2.7 million in 2021. That is the amount funded in 2020 and the remaining dollar commitment in 2021. The investment expenditure amount was split proportionally between three investment spending categories: (i) the non-residential structures, (ii) non-residential equipment, and (iii) non-residential intellectual property products.

Assumption 3: The LIFT awardees expended \$11.4 million in 2020 and \$2.7 million in 2021 on investment expenditures and as a result:

- The LIFT awardees met their projected direct employment after 24 months in 2021 which remained the same through 2024.