



State Entrepreneurial Ecosystems: How Public Policy Can Drive Economic Innovation

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See Report 417 for the full analysis.

In a Nutshell

- Economists agree that economic innovation is critical to achieving long-run economic growth and rising living standards and research shows public policy interventions can help foster more of it.
- An analysis of budget and financial data shows Michigan invests less than its neighbors in I&E programs that aim to improve the state's entrepreneurial ecosystem.
- The report identifies revenue options to increase both one-time and ongoing support for I&E programs in Michigan. The pending creation of a new Michigan Innovation Fund should help provide a funding boost in the coming years.

Economic innovation is a critical factor in long-run economic growth. The development of new innovative products and processes makes workers more productive. This, in turn, boosts incomes and living standards. Recognizing its importance, both the federal government and states administer programs designed to foster greater innovation. A new Citizens Research Council of Michigan report

examines existing research on the efficacy of these programs. It then evaluates Michigan's state funding for innovation and entrepreneurship (I&E) programs relative to five neighboring states. The study finds that Michigan spends less relative to the size of its economy than four of the five comparison states. Here are four key takeaways from the research:

Economic innovation drives growth and living standards.

There is a strong consensus among economists that economic innovation achieved through new knowledge and technological progress is critical to the long-run growth of the economy. Without such progress, theories of economic growth suggest per capita income and living standards stagnate over time.

However, economic literature also suggests market barriers can cause private markets to underinvest in innovation-inducing research and development (R&D). First, an inventive firm developing new technology for the marketplace may find its eventual profits constrained if competitors are able to learn

from, adapt, or even copy the firm's innovation. This can deter the firm from taking on necessary R&D costs even when the broader societal benefits of the innovation (think, for example, how smartphones have changed the way we live and work) are very large. Economic research suggests that \$1 in R&D investment generally generates at least \$5 in social benefits – greatly exceeding the private gain to inventors.

Second, research suggests small firms and startup firms in R&D-reliant sectors face higher capital costs than do their larger counterparts and firms in other sectors because of challenges related to information

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sharing. While founders of these young companies will have a strong understanding of the viability of their innovations, external lenders will have much less information on which to base their evaluation of this market potential. Further, these founders may not be able to fully disclose information regarding

their innovative products or technologies because doing so could reveal details to potential competitors. While the development of the venture capital industry has helped, this financing gap remains for young and small startups.

Public policy can help generate more innovation.

The existence of these market challenges alone, however, does not necessarily imply that public policy can effectively address their potential negative effects. Crucially, empirical evidence shows public policy interventions have had a positive impact on R&D and technological innovation. Highlights from the report show:

- Historical spikes in federal R&D appropriations resulted in long term productivity gains, growth in the flow of patents, and growth in the science and engineering workforce.
- Businesses that received moderate support from publicly-funded venture capital sources achieved better outcomes in terms of total venture capital financing and in terms of a successful “exit” (e.g., achieving an initial public offering or being acquired by a third party) than businesses that relied solely on private

venture investments.

- Federal Small Business Innovation Research (SBIR) program grant awards had large, positive impacts on eventual patenting, future revenue, and the probability that the recipient business would receive subsequent venture capital support.
- A 10 percent drop in the tax price of R&D attributable to an R&D tax credit results in a long-run increase of 10 percent or more in actual R&D activities.

In short, the research points to several different policy interventions that have yielded positive outcomes in terms of encouraging innovation-inducing R&D, improving the prospects of young innovative firms, and achieving long-run impacts on productivity and patenting.

Michigan invests less than its neighbors in I&E programs.

Recognizing the importance of innovation to economic growth, state governments commonly administer innovation and entrepreneurship (I&E) programs aimed at fostering an entrepreneurial “ecosystem”. State programs provide early-stage financing as well as technical assistance and other business support for new high-tech, early-stage business startups. They also provide support to encourage the commercialization of new products and technologies arising from research and development, often with

an emphasis on research generated by colleges and universities within the state.

However, Michigan’s state-funded support for these programs (measured relative to the size of the state economy) trails four neighboring states (Ohio, Indiana, Pennsylvania, New York), exceeding only Illinois in state spending. Chart A displays total state funding per \$1 million in state gross domestic product for these states.

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An important driver of these differences is spending on business support programming. Ohio, Indiana, and Pennsylvania all have systems that lean heavily on coordination from long serving and well-funded entrepreneurial service providers. Average annual funding to Ohio's five regional Entrepreneurial Service Providers is \$32.9 million. Pennsylvania's Ben Franklin Technology Partners (BFTPs) had annual revenue of around \$32 million when counting reinvested earnings from prior rounds of state funding. In Indiana, Elevate Ventures receives \$6.5 million annually for its direct business support services but also committed \$21 million through its early-stage capital programs.

In Michigan, the Small Business Development Center network plays the primary role in providing these business supports. Adding the annual value of their Tech Team and Business Accelerator Fund contracts with the annual direct funding that the Michigan Economic Development Corporation provides to Michigan incubators shows Michigan allocates rough-

ly \$4.7 million each year for this category of services – below these comparison states, particularly when spending is compared relative to the size of each state's economy.

It is important to note that these business support partners also play a key role in connecting state colleges and universities, potential investors, and entrepreneurs in efforts to commercialize research generated by these institutions of higher education. While Michigan operates an assortment of programs aimed at encouraging this commercialization, the evidence reviewed suggests the state receives too little benefit for the very significant academic R&D spending occurring here. Michigan's lack of long-term strategic partnerships with entities like Pennsylvania's BFTPs, Elevate Ventures in Indiana, and Ohio's regional Entrepreneurial Service Providers may contribute to the state's below-average metrics in this area.

Michigan has options to increase I&E support.

Michigan policymakers have a menu of funding options that they could tap to increase I&E program spending effort to levels closer to these states.

Ohio, with voter approval, approved two rounds of general obligation bonding in 2005 and 2010 to raise

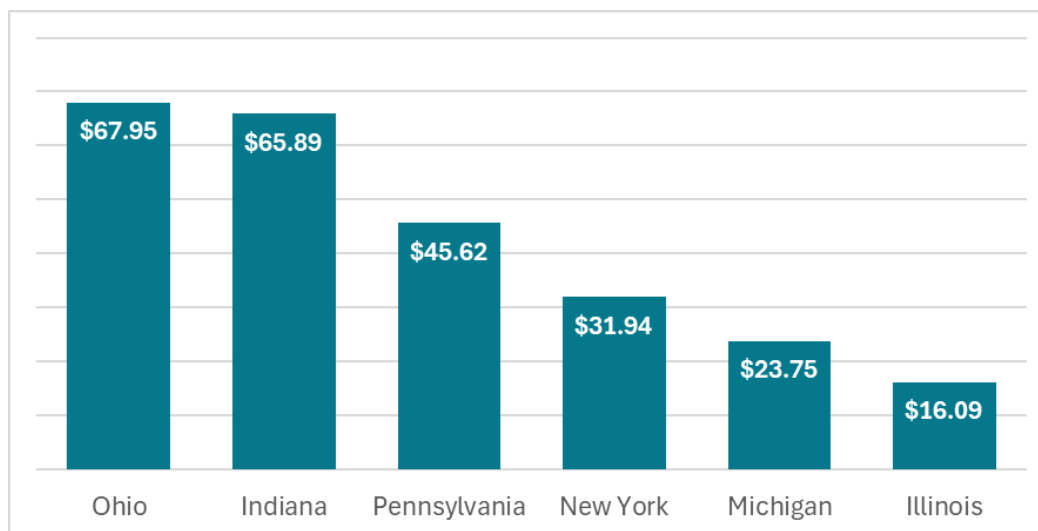
\$1.2 billion launch its Third Frontier initiative. Michigan has used similar general obligation and revenue bonding in the past to initiate its Clean Michigan Initiative and to capitalize the 21st Century Jobs Fund.

Beyond borrowing, Michigan has revenue already dedicated to economic development that could be directed to I&E programs. Michigan's 21st Century Jobs Fund could be a source of significant one-time revenue; the fund has maintained a balance of between \$250 million and \$300 million for the last 10 years. The recent approval of online gaming and sports betting has also resulted in annual increases of \$17 to \$18 million to the Michigan Strategic Fund (MSF) as state

Chart A

State Spending Effort for I&E Programs

(State spending per \$1 million in state GDP)



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law allocates 10 percent of related tax revenue from Michigan's tribal casinos to the MSF.

In 2014, Michigan lawmakers approved a \$195 million contribution from Michigan's Budget Stabilization Fund (BSF) – the state's "rainy day fund", which protects the state from revenue declines during periods of economic recession – as part of the "Grand Bargain" agreement to help the City of Detroit emerge from its recent bankruptcy. State law requires an annual deposit of \$17.5 million from Michigan's tobacco settlement proceeds through Fiscal Year (FY)2035 to replenish the BSF, but separate budget actions are expected to add more than \$1.7 billion to the fund by the end of FY2025 – more than four times the pledged repayment amount. Redirecting this annual allocation to I&E programs would more than double Michigan's current appropriation.

Other states have employed unique funding models to support I&E programs that Michigan could adopt. Colorado has utilized a form of tax increment financing to capture the growth of recent income tax withholding attributable to statutorily defined advanced industry sectors to support its Advanced Industries Accelerator Programs. The program provides grant funding to support early-stage financing and encourage public-private partnerships to promote commercialization of new technologies in these sectors. Further, Illinois lawmakers approved the use of up

to five percent of the state's cash investment portfolio for investments in Illinois-based venture funds through the Illinois Growth and Innovation Fund.

Finally, two packages of legislation are currently pending before the Michigan Legislature that could have profound impacts on I&E program funding. A new \$60 million appropriation in the FY2025 budget to support a new Michigan Innovation Fund will help provide limited-term support; legislation that sets parameters on how that funding is spent is still the subject of deliberations. In addition, legislation pending before the Michigan House would extend the temporary redirection of \$550 million in corporate income tax revenue currently allocated for business attraction, housing, and community placemaking initiatives. To the extent that the redirection is extended, using some of the revenue as a source of ongoing support for I&E programs could significantly increase funding.

To be clear, there are many important areas of public policy where state funding might be gainfully utilized to improve the lives of Michigan residents. But within economic development programming, economic research suggests that I&E programs have a unique link to innovation-induced economic growth that policymakers should consider as decisions are made on future budget allocations.

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