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January 27, 2022

The Honorable Maria Cantwell  
Chair  
The Honorable Roger Wicker  
Ranking Member  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable Eddie Bernice Johnson  
Chairwoman  
The Honorable Frank Lucas  
Ranking Member  
Committee on Science, Space, and Technology  
House of Representatives

**Innovative Technologies in Manufacturing: Commerce Has No Plans to Implement the Program**

Manufacturing plays a key role in the U.S. economy as a source of economic growth, high-paying jobs, and technological innovation. In 2020, U.S. manufacturing accounted for \$2.3 trillion in economic activity, or 10.8 percent of the gross domestic product, and employed approximately 12.2 million workers, or about 9.4 percent of the U.S. workforce.<sup>1</sup> In addition, manufacturing and the development of innovative products and processes are important drivers for U.S. competitiveness in the global economy. The United States is one of the 10 largest countries in terms of manufacturing output, but its manufacturing sector’s growth has slowed. Furthermore, the Coronavirus Disease 2019 (COVID-19) pandemic has highlighted the nation’s reliance on foreign sources for critical manufactured goods and the need for a more resilient domestic manufacturing base.

To invest in innovative manufactured goods and processes, improve U.S. competitiveness, and help address the capital needs of U.S. manufacturers, the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Reauthorization Act of 2010 directed the Secretary of the Department of Commerce (Commerce) to establish the Federal Loan Guarantees for Innovative Technologies in Manufacturing (ITM) program.<sup>2</sup> The ITM program was to support loan guarantees for small and medium-sized manufacturers for the use or production of innovative technologies. Commerce delegated implementation of the program to its Economic Development Administration (EDA).

<sup>1</sup>U.S. Census Bureau, *Annual Survey of Manufacturers*; and Bureau of Labor Statistics, *Current Population Survey* (Washington, D.C.: 2021), Table 17: Employed Persons by Industry, Sex, Race, and Occupation.

<sup>2</sup>Pub. L. No. 111-358, § 602, 124 Stat. 3982, 4026 (January 4, 2011) (*codified at* 15 U.S.C. § 3721).

The America COMPETES Reauthorization Act of 2010 directed GAO to conduct a biennial review of the execution of the ITM program and submit a report to Congress. We have issued four reports pursuant to this provision.<sup>3</sup> This fifth report addresses Commerce’s efforts to implement the ITM program since our January 2020 report.

To examine any implementation steps taken by EDA since our January 2020 report, we analyzed applicable laws, such as the America COMPETES Reauthorization Act of 2010, as well as documents published in the Federal Register related to the program. We also interviewed officials from EDA and the Small Business Administration (SBA), which has comparable programs that provide loan guarantees to small businesses for a variety of purposes. In addition, we contacted officials at the National Institute of Science and Technology (NIST) Hollings Manufacturing Extension Partnership (MEP) program within Commerce to obtain their view on the capital access needs of small and medium-sized manufacturers and received written answers to our questions.<sup>4</sup> We also interviewed other knowledgeable stakeholders, including representatives of the State Science & Technology Institute (SSTI), a national nonprofit organization focused on technology-based economic development, to provide an overview of the needs of small and medium-sized manufacturers and additional context for our research objective.<sup>5</sup> Finally, we conducted a literature search for articles discussing implementation of the ITM program to determine if there were any relevant reports or studies that had been issued since our last review.

We conducted this performance audit from November 2021 to January 2022 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Background

Small and medium-sized manufacturers represent a majority of manufacturers in the country but often lag behind large firms in innovation and adoption of new technologies.<sup>6</sup> In comparison to other sectors, manufacturing has a greater need for capital because of the heavier use of machinery and equipment. The sector also requires more working capital because of the longer periods of time needed to convert materials into finished commercial products and sell them.<sup>7</sup>

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<sup>3</sup>GAO, *COMPETES Reauthorization Act: Federal Loan Guarantees for Innovative Technologies in Manufacturing*, [GAO-13-717R](#) (Washington, D.C.: July 2013); GAO, *Innovative Manufacturing: Commerce Should Target Program Outreach to Address Capital Access Gaps*, [GAO-16-271](#) (Washington, D.C.: February 2016); GAO, *Innovative Manufacturing: Commerce Has Continued Efforts to Create a Loan Guarantee Program, but Future Steps Are Uncertain*, [GAO-18-276R](#) (Washington, D.C.: February 2018); and GAO, *Innovative Technologies in Manufacturing: Commerce Has Stopped Efforts to Implement a Loan Guarantee Program*, [GAO-20-326R](#) (Washington, D.C.: January 2020).

<sup>4</sup>NIST MEP’s goals are to enhance U.S. productivity and technological performance, and strengthen the global competitiveness of manufacturing firms.

<sup>5</sup>The views of selected stakeholders cannot be generalized to those we did not interview.

<sup>6</sup>Executive Office of the President, *Making in America: U.S. Manufacturing Entrepreneurship and Innovation* (Washington, D.C.: June 2014).

<sup>7</sup>NIST MEP, *Connecting Small Manufacturers with the Capital Needed to Grow, Compete, and Succeed: Small Manufacturers Capital Access Inventory and Needs Assessment Report* (Gaithersburg, MD: November 2011).

The most common types of capital used by this sector are in the debt capital category, specifically term loans and lines of credit.<sup>8</sup>

In this context, the America COMPETES Reauthorization Act of 2010 created the ITM program to provide loan guarantees to small and medium-sized manufacturers for the use or production of innovative technologies. A key issue debated during consideration of the act was whether the ITM program would duplicate existing loan guarantee programs at other federal agencies.<sup>9</sup> The act provides that, to the maximum extent practicable, the Secretary of Commerce shall ensure that the activities carried out under the ITM program are coordinated with, and do not duplicate the efforts of, other loan guarantee programs within the federal government.<sup>10</sup> One such program is SBA's 7(a) program, which provides loan guarantees to small businesses, including manufacturers, for a variety of purposes, such as acquiring land and buildings; purchasing inventory, supplies, and raw materials; and providing working capital.

In our second report on the ITM program, issued in February 2016, we reported that EDA had taken initial steps to implement the program, such as issuing program regulations and coordinating with other agencies, such as SBA and NIST, to learn from their experiences administering loan guarantee programs. In our third report, issued in February 2018, we found that EDA had taken additional steps to implement the ITM program, but future steps were uncertain. Specifically, in October 2017, Commerce withdrew a rule that EDA had proposed in 2016 with provisions that would have been necessary to implement the program, such as definitions for small and medium-sized businesses and programmatic elements such as permissible uses of loan proceeds.<sup>11</sup> As discussed in our fourth report, issued in January 2020, EDA officials told us that, by 2017, they were reluctant to move forward with the rule due to uncertainties about the demand for the program, among other reasons. In addition, pursuant to Executive Order 13771, Commerce would have been required to identify and remove two other rules in order to issue the 2016 rule for the ITM program.<sup>12</sup> In our fourth report, issued in January 2020, we found that EDA had ceased implementation of the program.

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<sup>8</sup>A line of credit is a preset borrowing limit arranged between the borrower and a financial institution, which can be accessed at any time. Debt capital, or borrowed money, can be obtained either through a line of credit or a term loan, which is a loan that the borrower repays in a scheduled series of repayments or as a lump-sum payment at maturity.

<sup>9</sup>[GAO-16-271](#).

<sup>10</sup>15 U.S.C. § 3721(o).

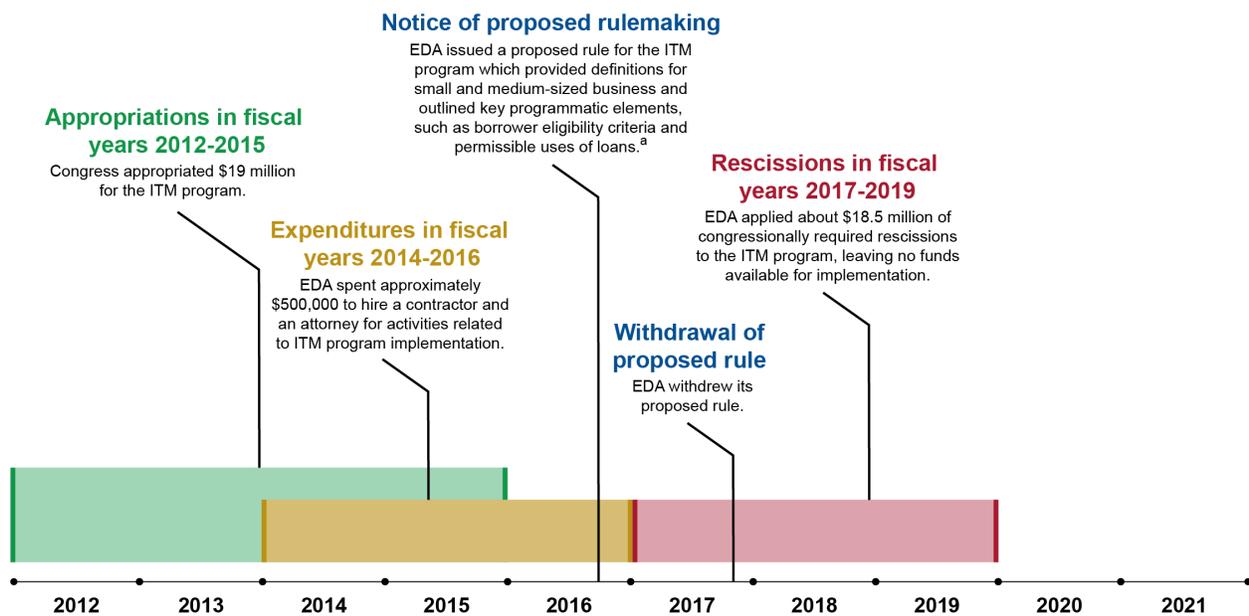
<sup>11</sup>Department of Commerce, Economic Development Administration, *Innovative Technologies in Manufacturing Loan Guarantee Program*, 81 Fed. Reg. 64787 (proposed September 9, 2016).

<sup>12</sup>Exec. Order No. 13771, *Reducing Regulation and Controlling Regulatory Costs*, 82 Fed. Reg. 9339 (February 3, 2017). This Executive Order provides that, unless prohibited by law, whenever an agency proposes or otherwise promulgates a regulation, it must identify at least two existing regulations to be repealed. Exec. Order No. 13771 was later revoked by Exec. Order No. 13992, *Revocation of Certain Executive Orders Concerning Federal Regulation*, 86 Fed. Reg. 7049 (January 25, 2021).

EDA officials said that about \$18.5 million of the \$19 million appropriated for ITM program implementation since 2012 has been rescinded.<sup>13</sup> As we previously reported, EDA used the remaining \$0.5 million to hire an attorney for activities related to ITM program implementation and a contractor to develop a model for the number of loans EDA could guarantee under market conditions. EDA officials said there are no remaining funds available to implement the ITM program.

Figure 1 provides a timeline and summary of the ITM program appropriations, spending, rescissions, and related actions taken since fiscal year 2012.

**Figure 1: Timeline of ITM Program Appropriations, Spending, Rescissions, and Related EDA Actions since Fiscal Year 2012**



<sup>9</sup>81 Fed. Reg. 64787 (September 21, 2016).

Source: GAO analysis of the Department of Commerce's Economic Development Administration (EDA) documentation and related information regarding the Innovative Technologies in Manufacturing (ITM) program. | GAO-22-105512

### Commerce's EDA Has No Plans to Implement the Program, for Various Reasons

Since our January 2020 report, EDA has not taken steps to implement the ITM program and therefore has not issued any loan guarantees under the program. EDA officials stated that their reasons for not implementing the program had not substantially changed since January 2020 and provided further details, including:

<sup>13</sup>EDA said that it chose to apply the entire \$10 million of the 2017 rescission to the unobligated balances for the ITM program, and that about \$8.5 million of the 2018 rescission came from the unobligated balances for the ITM program. EDA applied \$50,000 of the 2019 rescission to the remaining unobligated balance for the ITM program. See Consolidated Appropriations Act, 2017, Pub. L. No. 115-31, § 524(a)(1), 131 Stat. 135, 225 (May 5, 2017), Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, § 523(a), 132 Stat. 348, 441, (March 23, 2018), and Consolidated Appropriations Act, 2019, Pub. L. No. 116-6, § 523(a), 133 Stat. 13, 134 (February 15, 2019). A rescission is legislation enacted by Congress that cancels the availability of budget authority previously enacted before the authority would otherwise expire. GAO, *A Glossary of Terms Used in the Federal Budget Process*, GAO-05-734SP (Washington, D.C.: September 2005).

- **Perceived lack of demand.** EDA officials told us that demand by small and medium-sized manufacturers for loans under the ITM program would be limited.<sup>14</sup> For example, EDA officials said the notice of proposed rulemaking for the ITM program received only four responses during its public comment period in 2016, which they interpreted as indicating a lack of interest in the program. At the time of our review, EDA officials stated they had not taken any subsequent recent steps to assess demand for the ITM program. However, they noted that demand for loans may have increased, because the United States entered an economic recession around 2020 and the recent COVID-19 pandemic has led to changed conditions in the manufacturing sector and the global supply chain. SBA officials and other knowledgeable stakeholders noted that the demand for capital among small and medium-sized manufacturers has not been assessed recently. EDA and SBA officials stated that it may be helpful to gauge interest in the ITM program, particularly in light of recent developments.<sup>15</sup> EDA officials said that it is possible that small and medium-sized manufacturers may have difficulty accessing capital—for example, because the loans they need may be too small to be of interest to potential capital lenders.
- **Alternative loan programs.** There are a number of alternative loan programs available to help businesses, including those in the innovative manufacturing sector, such as the SBA’s 7(a) loan program. EDA officials said it would be difficult to execute the ITM program without duplicating the efforts of similar programs operated by SBA and NIST.<sup>16</sup>
- **Lender participation uncertainty.** EDA officials expressed uncertainty over the level of interest and participation that potential lenders would have in the ITM program if EDA were to implement it. In particular, the officials said that potential lenders might be more likely to continue their participation in the SBA loan programs than to participate in the ITM program, due to their familiarity with SBA’s program requirements and the officials administering the loan programs. Relatively high lender fees could also deter potential lenders in the ITM program. For example, EDA officials said the ITM program could have higher fees than SBA’s 7(a) loan program because of the ITM program’s smaller scale and need to spread costs among a smaller number of loans. The ITM program was originally authorized \$19 million for each of fiscal years 2012 through 2015, whereas SBA approved \$3.2 billion in loan guarantees within the manufacturing sector in fiscal year 2021 through its 7(a) loan program. In addition, SBA’s subsidy rate—the lifetime cost to the government—is lower than what EDA would have required under the ITM program, according to agency officials.

EDA officials said that, given these reasons and because all funding for the program was rescinded, they do not have current plans to implement the ITM program. In addition, according

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<sup>14</sup>NIST officials also noted that the need for a program like ITM may no longer exist because SBA’s 7(a) program can provide funding for working capital, purchasing inventory, and raw materials. According to NIST officials, there have been no relevant studies that have examined the demand for loans from small and medium-sized manufacturing since a 2011 report published by NIST’s MEP program. See NIST Hollings Manufacturing Extension Partnership, *Connecting Small Manufacturers with the Capital Needed to Grow, Compete, and Succeed: Small Manufacturers Capital Access Inventory and Needs Assessment Report* (Gaithersburg, MD: November 2011).

<sup>15</sup>EDA officials did not indicate which entity would be best suited to gauge potential interest from manufacturers and potential lenders on the level of demand for loans.

<sup>16</sup>SBA officials noted that EDA’s ITM program would have supported both small and medium-sized manufacturing businesses, whereas SBA’s loan programs are restricted to small businesses.

to EDA officials, they would need additional appropriations to resume implementation of the program if EDA found that there was demand for it.

### Agency Comments

We provided a draft of this report to Commerce and SBA for review and comment. Commerce provided technical comments, which we incorporated as appropriate.

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We are sending copies of this report to the appropriate congressional committees, the Secretary of Commerce, the Administrator of the Small Business Administration, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-6888 or [wrightc@gao.gov](mailto:wrightc@gao.gov). Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report include Joseph Cook (Assistant Director), Eric Bachhuber (Analyst-in-Charge), Nora Adkins, Anika McMillon, Ian Reed, and Ben Shouse.

A handwritten signature in black ink that reads "Candice N. Wright". The signature is written in a cursive style with a large initial 'C'.

Candice N. Wright  
Director, Science, Technology  
Assessment, and Analytics

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