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February 2016

INNOVATIVE MANUFACTURING

Commerce Should Target Program Outreach to Address Capital Access Gaps

Accessible Version

GAO-16-271

Highlights of GAO-16-271, a report to congressional committees

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Why GAO Did This Study

To help small and medium-sized manufacturers obtain the capital they need to develop innovative technologies and remain competitive, COMPETES 2010 directed the Secretary of Commerce to establish the ITM program. When implemented, the program is to provide loan guarantees to small and medium-sized manufacturers for the use or production of innovative technologies. Under COMPETES 2010, Commerce must ensure that activities carried out under the ITM program do not duplicate the efforts of other federal loan guarantee programs. Commerce's EDA is responsible for implementing the program.

COMPETES 2010 also included a provision for GAO to biennially review the program. This report assesses (1) the status of EDA's implementation of the ITM program and (2) the extent to which EDA has coordinated with other agencies to ensure that ITM program activities do not duplicate the efforts of other federal loan guarantee programs. GAO analyzed applicable laws and program documents, interviewed EDA officials and contractor staff, and interviewed officials from agencies with comparable loan guarantee programs or with other expertise about the needs of small and medium-sized manufacturers.

What GAO Recommends

GAO recommends that EDA work with SBA and NIST to further identify any gaps in capital access that the program could fill, and conduct outreach to help target those gaps. Commerce agreed with GAO's recommendation.

View GAO-16-271. For more information, contact John Neumann at (202) 512-3841 or neumannj@gao.gov.

What GAO Found

The Department of Commerce's Economic Development Administration (EDA) has taken a number of steps to implement the Federal Loan Guarantees for Innovative Technologies in Manufacturing (ITM) program, but several key tasks remain before EDA can issue loan guarantees. EDA hired a contractor to assist with developing the program, drafted program documents and published them in the *Federal Register* for comment, and submitted documents to the Office of Management and Budget for review, as required when creating new federal credit programs. EDA officials said the most significant of the remaining key tasks are finalizing the ITM program regulations, manuals, and forms. Other key tasks remaining include hiring additional staff, finalizing the requirements for the program's information technology systems, developing marketing materials, and conducting outreach. As of November 2015, EDA officials expected they could begin issuing ITM program loan guarantees as early as July 2016.

EDA has coordinated with other federal agencies to learn from their experiences with loan guarantee programs, but EDA has not clearly differentiated ITM from other programs, which may result in duplication.

- **Coordination.** EDA officials said they reached out to officials from the Departments of Energy and Agriculture, and the Small Business Administration (SBA)—agencies that have loan guarantee programs comparable to the ITM program—to learn from their experiences. EDA officials decided to largely model the ITM program after an SBA program that provides loan guarantees to small businesses, and they adapted or plan to adapt the SBA program's application forms, and regulations, among other things. EDA's coordination has helped avoid duplication of the effort those agencies have already expended in designing loan guarantee programs.
- **Potential duplication.** As currently designed, the ITM program is not clearly differentiated from SBA's program or from other programs that already provide loan guarantees to a similar pool of borrowers. EDA officials acknowledged that the ITM program is potentially duplicative with other programs in a number of respects. However, the America COMPETES Reauthorization Act of 2010 (COMPETES 2010) directs the Secretary of Commerce to ensure that the activities carried out under the ITM program are coordinated with, and do not duplicate the efforts of other federal loan guarantee programs. GAO's fragmentation, overlap, and duplication analysis guide states that one way to help minimize duplication among government programs is to identify and target service gaps that the programs could fill. In 2011, the National Institute of Standards and Technology (NIST) identified several gaps in capital access for small and medium-sized manufacturers, including gaps companies face in early stages of growth. However, in coordinating with SBA and NIST, EDA did not seek information on how the ITM program could target these capital access gaps to minimize duplication with other programs. Coordinating more extensively with SBA and NIST on targeting the ITM program could provide EDA with greater assurance that ITM loan guarantees will not duplicate the efforts of other federal loan guarantee programs.

Contents

Abbreviations

CFDA	Catalog of Federal Domestic Assistance
COMPETES 2010	America COMPETES Reauthorization Act of 2010
DOE	Department of Energy
EDA	Economic Development Administration
ITM	Innovative Technologies in Manufacturing
MEP	Hollings Manufacturing Extension Partnership
NIST	National Institute of Standards and Technology
OMB	Office of Management and Budget
SBA	Small Business Administration
USDA	U.S. Department of Agriculture

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February 4, 2016

The Honorable John Thune
Chairman
The Honorable Bill Nelson
Ranking Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable Lamar Smith
Chairman
The Honorable Eddie Bernice Johnson
Ranking Member
Committee on Science, Space, and Technology
House of Representatives

Manufacturing plays a key role in the U.S. economy as a source of economic growth, high-paying jobs, and innovation. According to data from the Bureau of Economic Analysis and the Bureau of Labor Statistics, in 2014, the manufacturing sector accounted for about $2 trillion—or 12 percent of the U.S. economy—and employed approximately 12 million workers—or about 9 percent of the U.S. workforce.[1] U.S. manufacturers continue to be the most productive in an increasingly global marketplace, according to the President's Council of Advisors on Science and Technology, and the development of innovative products and processes serves as an important driver of U.S. competitiveness.[2] Small and medium-sized manufacturers are particularly important to U.S. competitiveness because they represent a majority of manufacturers in the country.

However, small and medium-sized manufacturers often lag behind large firms in innovation and adopting new technologies.[3] In comparison to other

[1]The number and percentage of workers is based on Bureau of Labor Statistics data on nonfarm employment estimates.

[2]Executive Office of the President, President's Council of Advisors on Science and Technology, *Report to the President: Accelerating U.S. Advanced Manufacturing* (Washington, D.C.: October 2014).

[3]Executive Office of the President, *Making in America: U.S. Manufacturing Entrepreneurship and Innovation* (Washington, D.C.: June 2014).

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.[4] Many small and medium- sized manufacturers have reported difficulty gaining access to the capital they need.[5] If capital access is limited, small and medium-sized manufacturers may face greater difficulty developing and commercializing innovative technologies in order to remain competitive.

To invest in innovation, improve U.S. competitiveness, and help address the capital needs of small and medium-sized manufacturers, the America COMPETES Reauthorization Act of 2010 (COMPETES 2010), among other things, directed the Secretary of Commerce to establish the Federal Loan Guarantees for Innovative Technologies in Manufacturing (ITM) program.[6] The ITM program is intended to support loan guarantees for small and medium-sized manufacturers for the use or production of innovative technologies. A key issue debated during consideration of COMPETES 2010 was whether the ITM program would duplicate existing loan guarantee programs at other federal agencies, including programs at the U.S. Department of Agriculture (USDA) and the Small Business Administration (SBA). COMPETES 2010 directs the Secretary of Commerce to ensure, to the maximum extent practicable, that the activities carried out under the ITM program are coordinated with, and do not duplicate, the efforts of other federal loan guarantee programs. Ultimately, the Economic Development Administration (EDA) within the Department of Commerce (Commerce) was assigned the task of implementing the ITM program.

COMPETES 2010 also included a provision that GAO conduct biennial reviews of the Secretary of Commerce's execution of the program. In our first report on the program, published in July 2013, we found that EDA

[4]The National Institute of Standards and Technology (NIST) Hollings Manufacturing Extension Partnership (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).

[5]NIST MEP, *Connecting Small Manufacturers with the Capital Needed to Grow, Compete, and Succeed*.

[6]Pub. L. No. 111-358, § 602, 124 Stat. 3982, 4026, 4027 (2011). This law reauthorized the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act.

had taken preliminary steps to execute the program, but it had not yet issued any loan guarantees.[7] We found that EDA officials had (1) established a staffing budget and initiated a search for key staff members including an attorney and a program director, (2) obtained technical assistance from SBA on how to develop a loan guarantee program, (3) created a timeline for executing the program, and (4) published a request in the *Federal Register* for comments from manufacturers and potential lenders to help determine the level of demand and ideal structure for the program. According to EDA officials, at that time, they expected to issue the first loan guarantees in December 2015. This second report assesses (1) the status of EDA's implementation of the ITM program and (2) the extent to which EDA has coordinated with other agencies to ensure that ITM program activities do not duplicate the efforts of other federal loan guarantee programs.

To assess the status of EDA's implementation of the ITM program, we analyzed applicable laws and reviewed program documents, as well as documents published in the *Federal Register* related to the program. We also reviewed the contract and statement of work for a contractor EDA hired to assist in developing the program. To identify completed and pending key tasks, we reviewed EDA's project plan, which included information on tasks required to implement the ITM program from program development to issuance of the first loan guarantee, and each task's level of completion. We also interviewed EDA officials and contractor staff about the program's development, among other topics.

To assess the extent to which Commerce has coordinated with other agencies to ensure that ITM program activities do not duplicate the efforts of other federal loan guarantee programs, we reviewed the 2014 Catalog of Federal Domestic Assistance (CFDA) to identify examples of comparable loan guarantee programs at other federal agencies.[8] We verified program information and parameters listed in the CFDA against the Electronic Code of Federal Regulations and agency websites, and then asked agency officials to confirm this information during interviews. To mitigate

[7]GAO, *COMPETES Reauthorization Act: Federal Loan Guarantees for Innovative Technologies in Manufacturing,* GAO-13-717R (Washington, D.C.: July 24, 2013).

[8]The Catalog of Federal Domestic Assistance (CFDA) is a government-wide compendium of federal programs, projects, services, and activities that provide assistance or benefits to the American public.

the possibility that the CFDA information excluded relevant programs, we asked officials from agencies with comparable programs whether there were any other potentially comparable programs at their agencies. Using this methodology, we identified four examples of programs that are comparable to the ITM program because they provide loan guarantees for domestic manufacturers and allow or specifically target businesses producing, using, or commercializing innovative technologies, among other criteria.[9] These four programs are as follows:

- SBA's 7(a) Loan Guarantee program, which provides loan guarantees to small businesses for a variety of purposes;[10]
- USDA's Business and Industry Loans program, which provides loan guarantees to rural businesses and cooperatives for a variety of purposes;
- USDA's Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance program, which provides loan guarantees for the development, construction, and retrofitting of commercial-scale biorefineries; and
- Department of Energy's (DOE) Federal Loan Guarantees for Innovative Energy Technologies program, which provides loan guarantees for the use of new or significantly improved technologies in energy projects that avoid, reduce, or sequester air pollutants or greenhouse gases. See appendix I for additional information on these four programs.

We interviewed EDA officials and officials associated with the comparable programs at SBA, USDA, and DOE to assess the extent to which EDA has coordinated with those agencies to minimize duplication with their federal loan guarantee programs. Specifically, we asked SBA, USDA, and DOE officials about the interactions and discussions they had with EDA regarding the development of the ITM program and their experiences with implementing loan guarantee programs at their own agencies. We also interviewed EDA officials to identify how they coordinated with other

[9]We relied on the CFDA as an initial source for information and did not verify that the CFDA includes all potentially comparable loan guarantee programs.

[10]The SBA 7(a) program is authorized by Section 7(a) of the Small Business Act codified at 7 U.S.C. § 636(a).

agencies and incorporated information gathered from those agencies as they developed the ITM program. For each of the programs, we reviewed regulations and budgetary information. Using information from these documents we compared programs based on program features such as program purpose, allowable loan amounts, and recipient population. Furthermore, we interviewed a National Institute of Standards and Technology (NIST) Hollings Manufacturing Extension Partnership (MEP) program official with experience related to the financial resources and strategies MEP centers can use to help manufacturers develop innovative products or expand markets and sales. We discussed NIST's interactions with EDA officials about the ITM program, the needs of small and medium-sized manufacturers, and marketing and outreach. We obtained a NIST MEP report on the capital needs of small and medium-sized manufacturers, which we reviewed and determined to be sufficiently reliable for the purposes of this report.[11] We also interviewed Office of Management and Budget (OMB) staff about their progress on the review of the ITM program. In addition, we reviewed GAO's recent guidance on evaluating fragmentation, overlap, and duplication.[12]

We conducted this performance audit from April 2015 to February 2016 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

A federal loan guarantee is a binding agreement between an agency and a lender. If a borrower defaults on a guaranteed loan, the lender is to be reimbursed by the agency for the balance of the guaranteed portion of the

[11]NIST MEP, *Connecting Small Manufacturers with the Capital Needed to Grow, Compete, and Succeed.*

[12]GAO, *Fragmentation, Overlap and Duplication: An Evaluation and Management Guide,* GAO-15-49SP (Washington, D.C.: Apr. 14, 2015). To develop the guide, we reviewed GAO reports and literature related to fragmentation, overlap, duplication, and related topics; interviewed experts from outside of GAO (based on previous related publications and work experience, and suggestions from other experts); spoke with officials from the Congressional Budget Office and the Congressional Research Service, as well as OMB staff; and consulted with specialists within GAO.

loan. The guaranteed portion of a loan may vary across federal loan guarantee programs. A loan guarantee gives lenders an incentive to make loans that, due to the perceived risk of default, they otherwise might not make without requiring, for example, higher interest rates or additional collateral. For each of their loan guarantee portfolios, agencies are required to estimate the long-term cost to the government, which is referred to as the credit subsidy cost. The credit subsidy cost for each loan guarantee is equal to the amount of the estimated losses or gains to the federal government over the life of the loan.[13] As part of the agreement, lenders may be required to pay fees to the agency to offset administrative expenses and credit subsidy costs.

Part of EDA's mission is to support economic development by promoting innovation, global competitiveness, and regional collaboration. In addition to developing the ITM program, EDA's activities include providing funding through a number of investment programs, as well as offering a variety of services that include technical assistance, postdisaster recovery assistance, trade adjustment support, strategic planning, and research and evaluation. EDA does not currently administer any loan guarantee programs besides the pending ITM program.

In directing the establishment of the ITM program, COMPETES 2010 provided for three types of eligible projects—ones that reequip, expand, or establish a manufacturing facility in the United States to

- use an innovative technology or an innovative process in manufacturing;
- manufacture an innovative technology product or an integral component of such a product; or
- commercialize an innovative product, process, or idea that was developed by research funded in whole or in part by a grant from the federal government.

As it has designed the ITM program, EDA has drafted the following definitions to help determine project eligibility:

[13] The credit subsidy cost is the estimated long-term cost to the government of a direct loan or loan guarantee calculated on a net present value basis and excluding administrative costs.

- **innovative**—defined as representing a significant improvement in function, performance, reliability, or quality of a product or service in comparison to commercial technologies currently in use, and

- **technological**—defined as relying on the principles of one of the following sciences: engineering, physical sciences, computer sciences, or biological sciences.

The ITM program will provide a guarantee for up to 80 percent of a loan, with a maximum loan size of $10 million, or up to $15 million in certain circumstances, according to EDA officials. Through fiscal year 2015, Congress has appropriated $19 million for the ITM program. Credit subsidy costs are based on the assumption that the government will only need to reimburse lenders for a percentage of the loan guarantees made. In this case, according to EDA estimates, the agency will need to reserve about 7 percent of the value of loans guaranteed to cover the cost of future defaults. The program may support a total of up to $70 million in guaranteed loans for each $5 million in appropriations. This $5 million can be used to support $70 million in guaranteed loans because costs to the government are only incurred when a borrower defaults on a loan.

Although Commerce's EDA was given the task of implementing the ITM program, COMPETES 2010 stated that Commerce may use its NIST MEP centers to provide information about the ITM program and conduct outreach to potential borrowers. NIST MEP's goals are to enhance U.S. productivity and technological performance, as well as to strengthen the global competitiveness of manufacturing firms. Under the program, NIST partners with 60 nonfederal organizations called MEP centers, which are located in each of the 50 states and Puerto Rico. MEP centers provide services aimed at helping small and medium-sized U.S.-based firms grow and enhance their competitiveness.

EDA Has Taken A Number of Steps to Implement the ITM Program, but Key Tasks Remain Before Loan Guarantees Can Be Issued

Since our 2013 report on the ITM program, EDA has made progress on implementing the program, but several key tasks remain to be completed before EDA can issue loan guarantees.

EDA has made progress on a number of tasks. For example, to help develop the program, EDA hired a contractor—FI Consulting.[14] With FI Consulting's assistance, EDA developed a credit subsidy model and drafted program regulations and forms, among other efforts.

As of November 2015, key tasks remain in developing the program, and EDA officials expect they could begin issuing loan guarantees for the ITM program as early as July 2016. This was delayed from December 2015, EDA officials said, because of the complexity of building a loan guarantee program and promulgating regulations. EDA officials stated that the most significant of the remaining key tasks are finalizing the ITM program regulations, manuals, and forms. According to EDA's project plan, they expect to have program manuals and draft program regulations completed in March 2016; the regulations are to be sent to OMB for review and revised by EDA in June 2016. Other remaining key tasks include finalizing the requirements for the ITM program information technology support systems, which will be used for functions such as accounting and credit subsidy cost estimation, as well as developing marketing materials and conducting outreach.

Table 1 shows the status of key tasks for the ITM program.

[14]According to the company's website, FI Consulting advises commercial and government financial institutions on data, analytics, modeling, and technology.

Table 1: Status of Key Tasks for the Economic Development Administration (EDA) Prospective Innovative Technologies in Manufacturing (ITM) Loan Guarantee Program

Key task	Completed	Pending
Plan the project	Created a project plan with estimated and actual completion dates for each stage of program development and implementation.	None.
Hire and train additional staff	Hired contractor, FI Consulting, to assist in program design tasks such as developing the program's manuals, credit subsidy model, forms, internal controls, and policies. Assigned three to four EDA staff to work part-time on developing the ITM program.	Hire and train additional staff to operate the ITM program, including a loan program manager, a financial analyst, and a risk analyst. EDA officials stated that FI Consulting may assist in training the new ITM program staff.
Develop credit subsidy model[a]	Developed a credit subsidy model and cost estimate analysis, which were submitted to the Office of Management and Budget (OMB).	Adjust credit subsidy model if needed to incorporate changes to the final regulations.
Submit documentation to OMB for A-129 program review[b]	Developed and submitted an A-129 document to OMB for review.	Obtain OMB approval of the program's A-129. As of November 2015, EDA was awaiting approval.
Develop program regulations	Developed draft regulations for the ITM program and submitted them to OMB for review, according to EDA officials.	Revise regulations based on OMB review, then publish them in the *Federal Register* for public comment. After the comment period closes, EDA will send the revised final regulations back to OMB for review, and then publish the final version in the *Federal* Register.
Develop program manuals	None.	Draft program manuals, which EDA plans to use to provide guidance to lenders on how to conduct loan qualification reviews and determine borrower eligibility.
Develop program forms	Developed draft program forms and published them in the *Federal Register* for comment.	Finalize and publish program forms once program regulations and manuals are finished.
Establish information technology support systems	Began developing requirements for information technology systems to operate the ITM program. EDA officials said they would prefer to use other agencies' existing systems, but new systems may be required.	Finish developing systems requirements, investigate using existing systems, or enter into a contract to develop new systems if necessary.
Develop marketing materials and conduct outreach	None.	Develop and distribute marketing materials to trade associations, lenders, and borrowers to increase awareness and understanding of the ITM program. EDA officials stated that they plan to coordinate with National Institute of Standards and Technology Hollings Manufacturing Extension Partnership centers on outreach and education efforts.

Sources: GAO analysis of ITM program project plan and information gathered in interviews with EDA officials. | GAO-16-271

[a]The credit subsidy model is used to estimate the long-term cost to the government of its loan guarantee portfolio.

[b]For new federal credit programs, OMB directs agencies to submit an A-129 program review document, which describes the program, including the program's scope, justification for use of a credit subsidy, estimated economic benefits and administrative resource requirements; the federal objectives to be achieved; and why those objectives cannot be achieved without federal assistance.

EDA Has Coordinated with Other Agencies on Some Issues, but Has Not Clearly Differentiated ITM from Other Programs

EDA has coordinated with other federal agencies to learn from their experiences with loan guarantee programs, but as currently designed, EDA has not clearly differentiated the ITM program from other comparable programs that we identified.

EDA officials said they reached out to officials from SBA, USDA, and DOE—agencies that have loan guarantee programs comparable to the ITM program—to learn from their experiences and identify practices that could be incorporated into the ITM program. In particular, EDA officials highlighted the information they learned about SBA's loan guarantee programs. Based on what they learned, EDA officials said they decided to largely model the ITM program after the 7(a) program. Specifically, EDA has adapted or plans to adapt SBA's application forms, loan performance data, staff position descriptions, regulations, and manuals to fit ITM program parameters and statutory requirements. EDA also hired contractor FI Consulting, which told us its consultants previously worked on the 7(a) program. In addition, EDA officials said they coordinated with USDA and DOE officials to gather information to help design the ITM program.[15] Table 2 provides examples of practices suggested by other agencies with loan guarantee programs and how EDA plans to use those practices.

Table 2: Practices Suggested by Other Agencies with Loan Guarantee Programs

Suggested practice	Agency	EDA planned action or response
Use third-party experts to address gaps in technical expertise.	DOE, USDA	EDA plans to use third-party experts in general, including contractors and other agencies.
Provide a flexible work environment in order to compete with the private sector and attract and retain skilled staff.	DOE, SBA	EDA officials said that EDA already provides a flexible work environment and will continue to do so.
Align and adjust processes to meet the needs of borrowers and lenders and minimize delays.	SBA, USDA	The Innovative Technologies in Manufacturing (ITM) program was modeled on SBA's 7(a) program, which has already been adjusted over time to meet the needs of borrowers and lenders. EDA officials said they plan to adjust regulations and processes over time to address issues and meet users' needs.

[15] EDA also solicited information from potential applicants by publishing a *Federal Register* notice in April 2013 to collect information from lenders and manufacturers on their needs and how to design and structure a loan guarantee program to meet those needs. However, according to EDA officials, they received few responses to this notice, and it did not play an important role in developing the program.

Suggested practice	Agency	EDA planned action or response
Use a standardized agreement to ease challenges of working with multiple lenders.	DOE	EDA plans to use a standardized agreement.
Leverage technology, including using electronic applications.	SBA	EDA plans to allow lenders to submit electronic applications.
Use centralized loan processing centers to minimize costs.	SBA	EDA officials were unsure whether the ITM program would have a high enough loan volume to justify centralized processing.
Provide in-person support to borrowers and lenders through field offices.	USDA	EDA's current staffing levels do not allow for in-person support. However, EDA plans to coordinate with National Institute of Standards and Technology Hollings Manufacturing Extension Partnership program centers, Department of Commerce regional offices, and economic development districts to provide borrower and lender outreach.

Legend: Economic Development Administration (EDA); Department of Energy (DOE); U.S. Department of Agriculture (USDA); Small Business Administration (SBA)

Sources: GAO analysis of information gathered in interviews with agency officials. | GAO-16-271

EDA's coordination with other agencies has helped avoid duplication of the effort those agencies have already expended in designing loan guarantee programs. However, as currently designed, the ITM program does not clearly differentiate its potential applicants from those of the comparable federal loan guarantee programs we identified. SBA's 7(a) program, USDA's Business and Industry Loans program, USDA's Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance program, and DOE's Federal Loan Guarantees for Innovative Energy Technologies program already provide loan guarantees to a similar pool of borrowers as those eligible for the ITM program, with roughly equivalent limitations. Areas of overlap between these four programs and the ITM program include the following:

- **Business size.** As required by COMPETES 2010, small and medium-sized manufacturers are to be eligible for the ITM program. Those businesses are also eligible for three of the four comparable programs. One program, SBA 7(a), is available only to small businesses.[16]

[16] SBA defines small businesses based on either the number of employees or the amount of annual receipts. Within the manufacturing sector, SBA defines a small business by the number of employees. Using SBA definitions, a manufacturer may have up to 500, 750, 1,000, 1,250, or 1,500 employees and qualify as a small business depending on the specific manufacturing industry. According to EDA officials, as defined in the draft regulations for the ITM program, a medium-sized business may have up to twice the maximum number of employees allowed in the SBA definitions for a small business.

- **Business type.** EDA officials expect that the ITM program will be open to only manufacturers producing, using, or commercializing innovative technologies. All four comparable programs allow such manufacturers to participate, and two of the programs—the USDA Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance program and the DOE Loan Guarantees for Innovative Energy Technologies program—are intended to support specific types of innovative technologies. According to an EDA analysis of SBA 7(a) loan data, roughly 11 percent of the loans made under SBA's 7(a) program from October 1991 through March 2014 were to manufacturers in subsectors identified as innovative. USDA officials estimated that about 25 percent of the agency's Business and Industry program loan guarantees are issued to manufacturers.

- **Maximum allowable loan amount.** According to EDA officials, the ITM program will guarantee loans of up to $15 million.[17] Three of the four comparable programs are able to guarantee loans of at least $15 million.

- **Maximum guaranteed portion of loan.** The maximum loan guarantee percentage allowed under the ITM program is 80 percent. Each of the four comparable programs also allows for a loan guarantee percentage of 80 percent, but the percentages can vary depending on loan amounts or total project costs.

- **Permitted uses of funds.** The ITM program, according to EDA officials and program documents, will allow funds to be used to purchase land, buildings, and equipment, just like the four comparable programs we examined, but permissible uses of funds vary somewhat across programs. All four of the other programs also allow funds to be used for working capital or startup costs, though the ITM program will not, according to EDA officials and program documents.[18]

Table 3 provides a more detailed comparison of the ITM program, as currently designed, and the SBA 7(a) program on which the ITM program

[17]According to EDA officials, in general the maximum allowable loan amount under the ITM program will be $10 million, but can be expanded up to $15 million with permission of the Assistant Secretary of Commerce for Economic Development.

[18]According to an EDA program document, the ITM program will require that business be for-profit, already be generating a product or service for sale in the U.S. marketplace, and pass a credit and cash flow analysis by the lender. In other words, the ITM program does not plan to provide loan guarantees for proof-of-concept or startup funding.

is largely modelled. Appendix I provides a comparison of the ITM program to all four comparable programs we examined.

Table 3: Comparison of Economic Development Administration (EDA) Prospective Innovative Technologies in Manufacturing (ITM) Program and Small Business Administration (SBA) 7(a) Loan Guarantee Program

Program features	EDA ITM	SBA 7(a)
Purpose	Provide loan guarantees to small and medium-sized manufacturers for the use or production of innovative technologies	Provide loan guarantees to small businesses, including manufacturers, for a variety of purposes
Estimated credit subsidy budget authority for 2016	$5 million	$0
Estimated guaranteed loan levels for 2016	$70 million	$21,000 million
Eligible business sizes[a]	Small or medium	Small
Allows or targets manufacturers	Yes	Yes
Allows or targets businesses producing, using, or commercializing innovative technologies	Yes	Yes
Maximum allowable loan amount	Up to $15 million[b]	Up to $5 million
Maximum guaranteed portion of loan	80%	75 or 85%[c]
Maximum loan maturity	Up to 10 years for machinery or equipment, and 25 years for real estate, depending on the life of the asset	Up to 10 years, and up to 25 years for real estate or long lasting equipment
Examples of permitted uses of funds	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire machinery and equipment • Acquire furniture and fixtures • Acquire an existing business • Refinance existing debt incurred for permitted uses	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire fixed assets • Acquire an existing business • Purchase inventory, supplies, and raw materials • Provide working capital • Refinance existing debt incurred for permitted uses[d]

Sources: ITM program review document submitted by EDA to the Office of Management and Budget; and GAO analysis of program regulations and budget documents associated with each of the programs listed. | GAO-16-271

[a]SBA defines small businesses based on either the number of employees or the amount of annual receipts. Within the manufacturing sector, SBA defines a small business by the number of employees. Using SBA definitions, a manufacturer may have up to 500, 750, 1,000, 1,250, or 1,500 employees and qualify as a small business depending on the specific manufacturing industry. According to EDA officials, as defined in the draft regulations for the ITM program, a medium-sized business may have up to twice the maximum number of employees allowed in the SBA definitions for a small business.

[b]According to EDA officials, in general the maximum allowable loan amount under the ITM program will be $10 million, but can be expanded up to $15 million with permission of the Assistant Secretary of Commerce for Economic Development.

[c]For the SBA 7(a) program, loans of $150,000 or less may receive a guarantee of up to 85% of the loan amount. Loans of more than $150,000 may receive a guarantee of up to 75% of the loan amount.

[d]In addition, SBA officials stated that financing a start-up business as well as acquiring furniture, fixtures, machinery, and equipment are permitted uses of guaranteed loans.

EDA officials acknowledged that the ITM program is potentially duplicative with other federal loan guarantee programs in a number of respects. In addition, EDA officials said that it is possible that loan guarantees ultimately issued under the ITM program could be similar to those issued by another agency, such as SBA or USDA. However, as discussed, COMPETES 2010 directs the Secretary of Commerce to ensure, to the maximum extent practicable, that the activities carried out under the ITM program are coordinated with, and do not duplicate, the efforts of other federal loan guarantee programs. GAO's fragmentation, overlap, and duplication analysis guide states that one way to help minimize duplication among government programs is to identify and target service gaps that the programs could fill.[19] Targeting can be accomplished by using program eligibility parameters and marketing and outreach to aim the program at more specific segments of a potentially eligible population in need of access to capital that might not be served or are underserved by other federal programs.

While EDA officials coordinated with other agencies to design the ITM program, they did not work with agencies specifically to target service gaps—in this case, capital access gaps—because they have not yet developed a marketing and outreach strategy for the program. A 2011 study commissioned by MEP about the capital access needs of small and medium-sized manufacturers identified several capital access gaps resulting in potentially underserved populations for federal loan guarantees. Specifically, the report, which NIST provided to EDA, identified gaps in capital access based on several characteristics, for example, as follows:

- **Size:** The report specifically identifies gaps in the availability of capital for manufacturers with less than 200 employees, restricting their ability to grow and compete. In addition, MEP reported that there are 38 federal government programs that specifically target manufacturing, but many are not fully accessible to small manufacturers or do not target funds directly for small and medium-

[19]GAO-15-49SP.

sized companies. The MEP report further identified a gap in small manufacturers' awareness of sources of capital.

- **Growth stage:** According to the MEP report, early-stage companies may experience larger gaps in capital access than businesses in advanced stages of growth, hindering their ability to fund activities such as product design and improvement. One reason early-stage companies may have a harder time obtaining funding is that lenders and investors see them as more risky. For example, early-stage companies may not be able to demonstrate financial strength by providing a consistent history of profitability.

SBA officials stated that EDA did not specifically seek information from them on how to target the ITM program so as not to duplicate the efforts of SBA's loan guarantee programs. As a result, EDA has not taken full advantage of SBA officials' expertise regarding the types of small manufacturers that receive support through the 7(a) program and those that do not, to help identify potential capital access gaps. SBA officials said that they spend a significant amount of time trying to determine potential applicants not being served by their loan guarantee programs. Officials said they use internal SBA data and information gathered from industry representatives to inform discussions on the topic. SBA officials said that new and early-stage businesses are the most challenged in terms of capital access.

EDA also coordinated with NIST on some aspects of the ITM program, but its coordination was not focused on targeting capital access gaps. According to a NIST official, EDA officials coordinated with NIST about relevant topics such as the optimal loan sizes and loan guarantee percentages to support small and medium-sized manufacturers. In addition, a NIST official said that he discussed how to define innovative technologies with EDA officials. EDA officials said they reviewed the MEP report in order to determine demand for the ITM program and inform its design.[20] However, EDA did not specifically coordinate with NIST about how to help address the capital access gaps identified in the report, according to a NIST MEP official. EDA officials stated that they intend to work with NIST by using its MEP centers to conduct ITM program marketing and outreach to borrowers and manufacturers. However, according to a NIST

[20]NIST MEP, *Connecting Small Manufacturers with the Capital Needed to Grow, Compete, and Succeed.*

MEP program official, as of November 2015, EDA had not worked with NIST to develop marketing materials or an outreach strategy, or discussed other ways to ensure that the ITM program addresses capital access gaps. As a result, EDA has not taken full advantage of NIST's and its MEP centers' expertise regarding the capital needs of small and medium-sized manufacturers. Coordinating more extensively on targeting marketing materials and outreach efforts to potential applicants in need of access to capital could give EDA greater assurance that ITM program loan guarantees will not duplicate the efforts of other federal loan guarantee programs.

Conclusions

Technological innovation drives the development of new products and improved processes, allows the U.S. manufacturing sector to remain competitive in the global marketplace, and stimulates economic growth. COMPETES 2010 directed the establishment of the ITM program to help small and medium-sized manufacturers gain access to the capital they need for the use or production of innovative technologies. While EDA has taken a number of steps to implement the program, key tasks remain before loan guarantees can be issued, such as finalizing program regulations and developing marketing materials and outreach plans. EDA has coordinated with several agencies on program design, but coordination on targeting the program through, for example, developing marketing materials and a strategy to conduct outreach to potential applicants in need of access to capital has been limited. The result is that, as currently designed, the ITM program does not clearly differentiate its potential applicants from those already served by other federal loan guarantee programs. Working with SBA and NIST to examine how the ITM program could fill capital access gaps not filled by other federal programs, and then marketing the program to target those gaps could help EDA ensure, as COMPETES 2010 directs, that ITM program activities do not duplicate the efforts of other federal loan guarantee programs.

Recommendation for Executive Action

To better ensure that the activities carried out under the ITM program do not duplicate the efforts of other federal loan guarantee programs, such as SBA's 7(a) program, the Secretary of Commerce should direct EDA to work with SBA and NIST to further identify any gaps in capital access that may be present that the program could fill, and then develop marketing materials and conduct outreach to help target those gaps.

Agency Comments and Our Evaluation

We provided a draft of this report for review and comment to the Secretaries of Agriculture, Commerce, and Energy; Director of the Office of Management and Budget; and Administrator of the Small Business Administration. In its written comments, reproduced in appendix II, Commerce concurred with our recommendation and said that EDA will work with SBA and NIST to further identify capital access gaps that can be filled by the ITM program. Commerce also noted that there can be no assurance that loan guarantees provided by the ITM program will never duplicate the efforts of other agencies' programs. However, our recommendation to work with SBA and NIST to identify capital access gaps and then target those gaps in marketing the program would better ensure that the activities carried out under the ITM program do not duplicate the efforts of other federal loan guarantee programs, not eliminate the possibility of duplication completely. In addition to Commerce's written comments, EDA provided technical comments, which we incorporated as appropriate. EDA also included a more general comment suggesting that GAO emphasize that EDA has taken significant steps to implement the program. In our report, we note that EDA has taken a number of steps to implement the program. However, as outlined in table 1, several key steps remain before EDA can provide loan guarantees. DOE and SBA also provided technical comments that we incorporated, as appropriate. USDA and OMB indicated they had no comments on the report.

We are sending copies of this report to the appropriate congressional committees; the Secretaries of Agriculture, Commerce, and Energy; the Director of the Office of Management and Budget; and the Administrator of the Small Business Administration. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or neumannj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to the report are listed in appendix III.

John Neumann
Director, Natural Resources and Environment

Appendix I: Comparison of Economic Development Administration (EDA) Prospective Innovative Technologies in Manufacturing (ITM) Program and Four Comparable Programs

Table 4 below shows how the Economic Development Administration's Innovative Technologies in Manufacturing loan guarantee program compares to the four comparable programs we examined.

Table 4: Comparison of Economic Development Administration (EDA) Prospective Innovative Technologies in Manufacturing (ITM) Program and Four Comparable Programs

Program features	EDA ITM	SBA 7(a)	USDA Business and Industry	USDA Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance	DOE Innovative Energy Technologies
Purpose	Provide loan guarantees to small and medium-sized manufacturers for the use or production of innovative technologies	Provide loan guarantees to small businesses, including manufacturers, for a variety of purposes	Provide loan guarantees to improve, develop, or finance business, industry, and employment and improve the economic and environmental climate in rural communities	Provide loan guarantees to assist the development of advanced biofuels, renewable chemicals and biobased products manufacturing facilities	Provide loan guarantees for projects that employ new or significantly improved technologies in energy projects that avoid, reduce, or sequester air pollutants or greenhouse gases
Estimated credit subsidy budget authority for 2016	$5 million	$0	$43 million	$50 million	$28 million[a]
Estimated guaranteed loan levels for 2016	$70 million	$21,000 million	$1,106 million	$225 million	$198 million
Eligible business sizes[b]	Small or medium	Small	Any size	Any size	Any size
Allows or targets manufacturers	Yes	Yes	Yes	Yes	Yes
Allows or targets businesses producing, using, or commercializing innovative technologies	Yes	Yes	Yes	Yes	Yes
Maximum allowable loan amount	Up to$15 million[c]	Up to $5 million	Up to $25 million, or $40 million for cooperatives	Up to $250 million, or 80% of project costs	No maximum allowable loan amount, but amount must not exceed 80% of eligible project costs

Program features	EDA ITM	SBA 7(a)	USDA Business and Industry	USDA Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance	DOE Innovative Energy Technologies
Maximum guaranteed portion of loan	80%	75 or 85%[d]	60 to 90%	60 to 90%[e]	No maximum allowable guarantee portion
Maximum loan maturity	Up to 10 years for machinery or equipment, and 25 years for real estate, depending on the life of the asset	Up to 10 years, and up to 25 years for real estate or long lasting equipment	Up to 7 years for working capital, 15 years for machinery and equipment, and 30 years for real estate	Up to 20 years or the useful life of the project	Up to 30 years or 90% of the useful life of major physical assets
Examples of permitted uses of funds	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire machinery and equipment • Acquire furniture and fixtures • Acquire an existing business • Refinance existing debt incurred for permitted uses	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire fixed assets • Acquire an existing business • Purchase inventory, supplies, and raw materials • Provide working capital • Refinance existing debt incurred for permitted uses[f]	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire machinery and equipment • Acquire an existing business • Purchase inventory and supplies • Provide working capital and startup costs • Provide pollution control and abatement • Refinance existing debt to support viable projects	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire equipment • Acquire permits and licenses • Acquire professional services • Acquire insurance and bonds • Pay for financing costs • Provide working capital •	• Acquire land and buildings • Construct buildings or renovate land and buildings • Acquire equipment • Provide safety and environmental protection • Acquire professional services • Acquire insurance and bonds • Acquire licenses • Maintain a contingency reserve for construction • Pay for design, engineering, and startup costs

Legend: Small Business Administration (SBA); U.S. Department of Agriculture (USDA); Department of Energy (DOE)

Sources: ITM program review document submitted by EDA to the Office of Management and Budget, and GAO analysis of program regulations and budget documents associated with each of the programs listed. | GAO-16-271

[a]Under the Innovative Energy Technologies program, some loan guarantee borrowers are required to pay the credit subsidy cost of their loan. For the purposes of this report we are not including budget authority or estimated guaranteed loan levels for this type of loan guarantee. This type of loan guarantee is not comparable to ITM program loan guarantees because the ITM program covers credit subsidy costs.

[b]SBA defines small businesses based on either the number of employees or the amount of annual receipts. Within the manufacturing sector, SBA defines a small business by the number of employees. Using SBA definitions, a manufacturer may have up to 500, 750, 1,000, 1,250, or 1,500

employees and qualify as a small business depending on the specific manufacturing industry. According to EDA officials, as defined in the draft regulations for the ITM program, a medium-sized business may have up to twice the maximum number of employees allowed in the SBA definitions for a small business.

[c]According to EDA officials, in general the maximum allowable loan amount under the ITM program will be $10 million, but can be expanded up to $15 million with permission of the Assistant Secretary of Commerce for Economic Development.

[d]For the SBA 7(a) program, loans of $150,000 or less may receive a guarantee of up to 85% of the loan amount. Loans of more than $150,000 may receive a guarantee of up to 75% of the loan amount.

[e]For the USDA Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance program, loans of$150 million or less may receive a guarantee of up to 80% of the loan amount. If certain conditions are met, loans of $125 million or less may receive a guarantee of up to 90% of the loan amount.

[f]In addition, SBA officials stated that financing a start-up business as well as acquiring furniture, fixtures, machinery, and equipment are permitted uses of guaranteed loans.

Appendix II: Comments from the Department of Commerce

THE DEPUTY SECRETARY OF COMMERCE
Washington, D.C. 20230

January 21, 2016

Mr. John Neumann
Director
Natural Resources and Environment
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Neumann:

On behalf of the Department of Commerce, thank you for the opportunity to review and comment on the Government Accountability Office's (GAO) draft report titled *INNOVATIVE MANUFACTURING: Commerce Should Target Program Outreach to Address Capital Access Gaps* (GAO-16-271).

The Economic Development Administration (EDA) has reviewed the draft report. Along with technical comments that EDA has already provided, enclosed are substantive comments for GAO's consideration. If you have any questions regarding the comments, please contact me or Thomas Guevara, Deputy Assistant Secretary for Regional Affairs, Economic Development Administration, at (202) 482-6132.

Sincerely,

Bruce Andrews

Enclosure

U.S. Department of Commerce
Economic Development Administration (EDA)
Comments on Draft GAO Report Titled
INNOVATIVE MANUFACTURING: ***Commerce Should Target Program Outreach to Address Capital Access Gaps***
(GAO-16-271)

The U.S. Department of Commerce provides the following comments:

The Executive Summary of the Report states:
"Coordinating more extensively with SBA and NIST on targeting the ITM program could provide EDA with greater assurance that ITM loan guarantees will not duplicate support that could be provided by other federal loan guarantee programs." That duplication, which is a recurring theme throughout the document, can be largely avoided through EDA coordination with SBA and NIST.

As recommended by the Draft Report and as mandated by Section 26 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. § 3721), EDA will continue to work closely with SBA and NIST to identify capital access caps that can be filled by the ITM Program. EDA recognizes the importance of avoiding, to the maximum extent practicable, duplication in Federal loan guarantee programs. Of course, because the statute only provides broad parameters for the types of activities and assets that may be supported with loan guarantees, there can be no assurance that loan guarantees will never be duplicative, and EDA cannot preclude a qualified borrower from applying for an ITM loan guarantee simply because the borrower is also qualified for and could have applied for an SBA 7(a) guarantee. Nonetheless, EDA agrees with GAO that the best option to reduce the likelihood of duplication is to focus on marketing and outreach.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

John Neumann, (202) 512-3841 or neumannj@gao.gov

Staff Acknowledgments

In addition to the individual named above, Chris Murray (Assistant Director), Natalie Block, Kevin Bray, Mark Braza, Marcia Carlsen, Emily Eischen, Ellen Fried, Cole Haase, Steve Komadina, Gerald Leverich, Cody Raysinger, and Jack Wang made key contributions to this report.

Appendix IV: Accessible Data

Agency Comment Letter

Text of Appendix II: Comments from the Department of Commerce

Page 1

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Page 2

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