Growing Small Business Exports:

How Technology Strengthens American Trade

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Executive Summary

It has long been known that U.S. economic growth and job creation depend on the ability to sell beyond America's borders; after all, 95% of consumers live outside the United States. Moreover, U.S. businesses that export tend to grow faster, create more jobs, and become more resilient in the face of a changing economy.

However, we have a less developed understanding of U.S. small business export potential. What role do small businesses play in U.S. export success? What obstacles do U.S. small businesses face in exporting? How can technology help address those obstacles? How can larger businesses, the U.S. government, and other stakeholders help small businesses realize export opportunities?

Small businesses employ nearly half of the private-sector workforce in America — almost 85 million workers. They are responsible for $6 trillion in annual economic output. Small businesses are a bedrock of communities across this country, in major cities, suburbs, and small towns. So, questions about small business exports and their growth potential are more than academic. Understanding the exporting needs and challenges of small businesses will be critical to creating more economic opportunity in the United States.

This report seeks to address these questions, and in particular, examine the role that technology can play in enabling and expanding U.S. small business exports. Based on a national, comprehensive survey of over 3,800 American small businesses, we came to some surprising, encouraging, and actionable findings.

First, the survey results show that **more U.S. small businesses are exporting than previously realized.** Small business exports account for nearly one-quarter of U.S. exports. Those exports are supporting numerous jobs — more than 6 million in total — from Alabama to Arizona, from Wisconsin to Washington. The total economic impact of small business exports was estimated at $541 billion in 2017.

Second, even with stronger export performance than previously realized, **U.S. small businesses still have a massive opportunity for future growth.** The vast majority of U.S. small businesses do not export. If small businesses are able to overcome barriers to exporting, nearly 900,000 jobs would be created in the U.S., and perhaps many more.

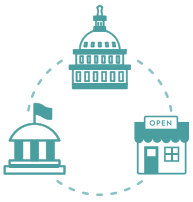
Third, small businesses cite a range of barriers to exporting, and **many of these exporting barriers are solvable, or at least can be mitigated.** In response to our survey, small businesses reported challenges that include addressing communications and language barriers, tariffs and customs procedures, and foreign regulations. Because business owners are typically preoccupied with managing day-to-day operations, many do not have the resources or staff to solve many of these problems on their own.

Fourth, **digital tools can play a critical role in helping America seize this export opportunity, yet small businesses have limited familiarity with those tools.** Of small businesses, 73% are not familiar with the key digital technologies such as translation, payments, website localization, and other export assistance tools that would help them tap into foreign markets. These tools can help small enterprises overcome costly barriers to exporting, assist them with global operations, build their brand in foreign markets, enable safe and efficient cross-border payments, and bridge local language or cultural differences.

The opportunity from increasing small business exports is clear. This report assesses the landscape of small business growth across the country and provides data-driven recommendations on how the business community and policymakers can work together to unlock new sources of American export strength.

Policy Recommendations

To help close the gap between potential and reality and increase U.S. small business exports, this report provides several key recommendations for policymakers:



One
Develop a collaborative initiative between the federal government, state governments, the private sector, and other stakeholders to assist U.S. small businesses to use technology for exporting.

Two
Encourage innovators and technology providers to develop and distribute digital tools that address barriers impacting U.S. small business exporters.

Three
Develop data-driven strategies to understand and overcome exporting barriers faced by U.S. small businesses.

Four
Building on the United States-Mexico-Canada Agreement (USMCA), prioritize the negotiation of additional market-opening trade agreements that benefit small business exporters — including rules in areas such as digital trade, de minimis customs rules, and the elimination of non-tariff barriers that disproportionately affect smaller businesses.

Five
Ensure trade finance opportunities are available to prospective U.S. small business exporters.

Report Survey and Methodology Summary

Historically, much of the data collected regarding U.S. exports contain gaps and do not capture the full picture of small business exports.[1] More comprehensive data sets would provide policymakers a more complete view of the role of small business exports in the U.S. economy. They could also help businesses identify digital and other tools needed to successfully export goods and services, whether directly or indirectly.

For a more complete understanding of how small business exports affect the American economy, the U.S. Chamber's Technology Engagement Center and Google collaborated with Brunswick Insight and The Trade Partnership to conduct a survey asking 3,818 nonfarm small businesses (defined as businesses with 500 or fewer employees) across every state in the U.S. about the economic impact of exporting on their businesses and workers. The survey was conducted from July 8, 2019, to August 14, 2019.[2] We used the businesses' input to quantify the national economic impacts of the current level of exporting by small businesses on output and jobs. We estimated the potential effects of increasing those exports on the U.S. economy and jobs. Finally, we explored which digital tools could be better employed to support increased small business exports.

1. An excellent overview of the problems can be found in ITC January 2010, Chapter 1. Full ITC citation is U.S. International Trade Commission, Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports, Inv. No. 332-508, USITC Pub. 4125, January 2010 [hereafter ITC January 2010], p. 2-14, https://www.usitc.gov/publications/332/pub4125.pdf.
2. Note some figures in this report may not total to 100% due to rounding.

Key Findings

- Our survey found that **9% of American small businesses export** either goods or services — a higher export rate than previously realized.
- Exports have been a growing source of revenue for small businesses — **small businesses' export revenues as a share of total revenues increased by 20% since 2016.** Small businesses that export saw substantially faster overall growth from 2016 to 2018: average revenues of exporting small businesses increased by 24.3%, compared with a 14.1% increase for non-exporting businesses.
- Small businesses that export have been expanding the overseas markets they serve, **from an average of seven countries in 2016 to 10 countries in 2018.** The top five export markets for American small businesses are Canada, the United Kingdom, Mexico, Australia, and France.
- North America is a critical export market for U.S. small businesses. Of small business exporters, **57% sell to Mexico and/or Canada.**
- Small business exports contribute significantly to the U.S. economy; exports **generated $541 billion in output in 2017 and supported more than 6 million jobs.**
- The top five exporting challenges small businesses most commonly face are **foreign regulations** (such as taxes, data localization requirements, privacy rules, and liability risks), **tariffs and customs procedures, payment collection, company resources, and risk and infrastructure.**
- If small businesses had better access to export markets, their **export sales would increase by over 14%** during the next three years, which would **increase U.S. economic output by $81 billion and add 900,000 American jobs.**
- **Of small businesses that export, 92% use digital tools** such as online payment processing tools, online productivity tools, e-commerce websites, and online marketing.
    - However, for non-exporting small businesses, only **17% have excellent or good access to technology** to solve problems related to exporting, and **73% are not familiar with digital tools** that would help them tap into foreign markets.
- **Among all small businesses, 61% believe technology can help overcome the top three barriers to exporting**, including tools to help with regulations, tariffs and customs issues, and payment collection.

Small Businesses and the U.S. Economy

Small businesses represent the vast majority of all U.S. businesses. According to the latest Census data available, 30.8 million nonfarm small businesses (defined as businesses with 500 or fewer employees) account for 99.9% of all businesses in the country. [3]

The contributions made by small businesses to the overall economy are enormous. Small businesses employ 84.7 million workers — roughly half of the private-sector workforce — as of 2016 (Table 1). In 2014, small businesses accounted for roughly $6 trillion (44%) of U.S. private nonfarm gross domestic product (GDP). These firms contribute more than larger businesses in certain sectors of the economy, including construction, professional and technical services, health services, and the management of businesses.

Table 1

Small business versus large business contributions to U.S. private nonfarm GDP (billions of dollars)

	Small Businesses ($)	Large Businesses ($)	Small Businesses (%)	Large Businesses (%)
Mining and Manufacturing	691.9	1,859.6	11.7	24.2
Utilities	39.6	241.2	0.7	3.1
Construction	540.0	124.0	9.1	1.6

3. See Census Bureau, Statistics of U.S. Businesses (employer firms), http://www.census.gov/programs-surveys/susb/about/glossary.html, and Census Bureau (nonemployer firm data), https://www.census.gov/newsroom/press-releases/2019/nonemployer-businesses.html.

	Small Businesses ($)	Large Businesses ($)	Small Businesses (%)	Large Businesses (%)
Wholesale and Retail Trade	848.7	1,193.6	14.3	15.5
Transportation and Warehousing	177.2	328.5	3.0	4.3
Information	96.9	727.8	1.6	9.5
Finance and Insurance	356.4	866.5	6.0	11.3
Real Estate and Leasing	850.3	182.5	14.3	2.4
Professional and Technology Services	648.7	544.2	10.9	7.1
Administration and Waste Management Services	195.2	330.8	3.3	4.3
Education Services	75.3	117.4	1.3	1.5
Health Services	573.4	653.4	9.7	8.5
Arts and Entertainment	118.4	53.9	2.0	0.7
Accommodation and Food Services	259.1	228.9	4.4	3.0
Other Services (Including Government)	296.8	64.0	5.0	0.8
Management of Businesses	159.3	178.6	2.7	2.3
TOTAL	**5,927.4**	**7,695.0**	**100.0**	**100.0**

SOURCE: Kathryn Kobe, "Small Business GDP, 1998-2014," prepared for the SBA Office of Advocacy under contract no. SBAHQ-15-M-0146, December 2018. https://cdn.advocacy.sba.gov/wp-content/uploads/2018/12/21060437/Small-Business-GDP-1998-2014.pdf.

Small Businesses as Exporters

Most U.S. businesses — small and large — do not export goods or services directly to foreign buyers.[4] However, out of those businesses that do export directly, small businesses feature prominently. Preliminary Census data show that 97.5% of the businesses that exported manufactured goods in 2017 were small businesses.[5]

Aside from direct exports, small businesses can reach foreign customers in many ways. Goods can be exported indirectly by first being sold to another business that will then sell to a buyer in another country. For example, Amazon is frequently identified as the exporter of a certain product that was produced by a small business but sold through Amazon's website. Small businesses can also sell inputs to other firms that manufacture a final product and sell it overseas. The U.S. International Trade Commission has estimated that accounting for this indirect export channel increases the contribution of small businesses to total U.S. exports by nearly 50%.[6]

Services can also be exported in several ways. Like goods, services can be exported directly across a border (e.g., a management consultant delivers a business plan to a foreign company via email) or indirectly if a U.S. company sells a service through an affiliate abroad. Other exporting services could include an architect traveling to a foreign country to deliver architectural services or a foreign tourist visiting Disneyland.

Our survey was intended to understand the full scope and economic impact small business exports have on the U.S. economy and what the future impact would be if export levels were increased. We also sought to understand how digital and other technology tools in particular could help small businesses reach global customers.

4. U.S. Census Bureau, "Statistics for All U.S. Firms by Percent of Total Sales of Goods/Services Exported Outside the United States by Industry, Gender, Ethnicity, Race, and Veteran Status for the U.S.," 2012 Survey of Business Owners, 2012, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=SBO_2012_00CSCB34&prodType=table. Some firms did not know whether they exported, and we excluded them from the total count before calculating the share that did export compared with the share that did not.
5. U.S. Census Bureau, "Preliminary Profile of U.S. Exporting Companies, 2017," October 5, 2018, https://www.census.gov/foreign-trade/Press-Release/edb/2017/2017prelimprofile.pdf.
6. The U.S. International Trade Commission has estimated that accounting for this indirect export channel increases the contribution of small businesses to total U.S. exports (based on value) from 28% to 41% in 2007. U.S. International Trade Commission, *Small and Medium-Sized Enterprises: Characteristics and Performance*, Inv. No. 332-510, USITC Pub. 4189, November 2010, https://www.usitc.gov/publications/332/pub4189.pdf.

Profile of Small Business Exporters

Based on our survey, of the 9% of small businesses that export (Table 2A), goods producers rely on exporting more than services providers. Of businesses that sell goods, 19% export, compared with 7% of businesses that provide services (Table 2B).

Table 2A

Does your company export? (share of total)

Employment Size	Yes (%)	No (%)
0 (No Employees)[7]	8	92
1-4	12	88
5-19	12	88
20-99	26	74
100-500	43	57
Total Small Businesses	9	91

Based on all small businesses surveyed.

Table 2B

Exports: Goods Versus Services (share of total)

Sector	Yes (%)	No (%)
Goods	19	81
Services	7	93

Based on all small businesses surveyed.

7. A nonemployer business is a business that has an owner but no other paid employees, has annual business receipts of $1,000 or more ($1 or more in the construction industries), and is subject to federal income taxes. Nonemployer businesses are generally small, such as real estate agents and independent contractors. Source: U.S. Census Bureau, Nonemployer Statistics updated annually.

Direct Versus Indirect Exporting

Interestingly, small businesses with no employees are more likely to export directly to foreign buyers than businesses with 100-500 employees. Overall, 81% of small businesses exported directly, but 86% of businesses with no employees export directly (Table 3A). This may be explained by the fact that larger small businesses are more likely to export through a foreign affiliate than direct sales. On average, 9% of small businesses exported through an international affiliate (i.e., a related company located in another country), while 51% of businesses with 100-500 employees did.

Overall, 17% of small businesses exported indirectly (i.e., they sold to another unrelated company, which then exported); 25% of businesses with 100-500 workers used this route for exporting.

Small business services providers predominantly sell to their foreign customers directly (Table 3B). This makes sense, especially for businesses that deliver services over the internet or those that otherwise require direct contact with their clients to provide the services (e.g., medical professionals).

Table 3A

How do you export goods or services? (select all that apply) (share of total)

Employment Size	Directly (%)	Through an International Affiliate (%)	Indirectly (%)
0 (No Employees)	86	3	14
1-4	76	10	19
5-19	67	21	19
20-99	69	30	44
100-500	60	51	25
Total Small Businesses	81	9	17

Based on small businesses that export.

Table 3B

How do you export goods or services? (select all that apply) (Share of total)

Employment Size	Directly (%)	Through an International Affiliate (%)	Indirectly (%)
Goods	77	9	21
Services	84	10	14

Based on small businesses that export.

Average Value of Export Sales

Small businesses have seen steady growth in the value of their export sales since 2016 (Table 4A). Median export sales grew at an average annual rate of 15% over this period, with every size category of small business experiencing export growth. Notably, businesses with no employees experienced a fivefold increase in the value of median exports. Additionally, the median value of exports per small business is considerably higher for services businesses compared with goods businesses. In both cases, the values grew over the 2016-2018 period (Table 4B).

Figure 1

Average Estimated Gross Sales Value of Foreign Exports, by Employee Size

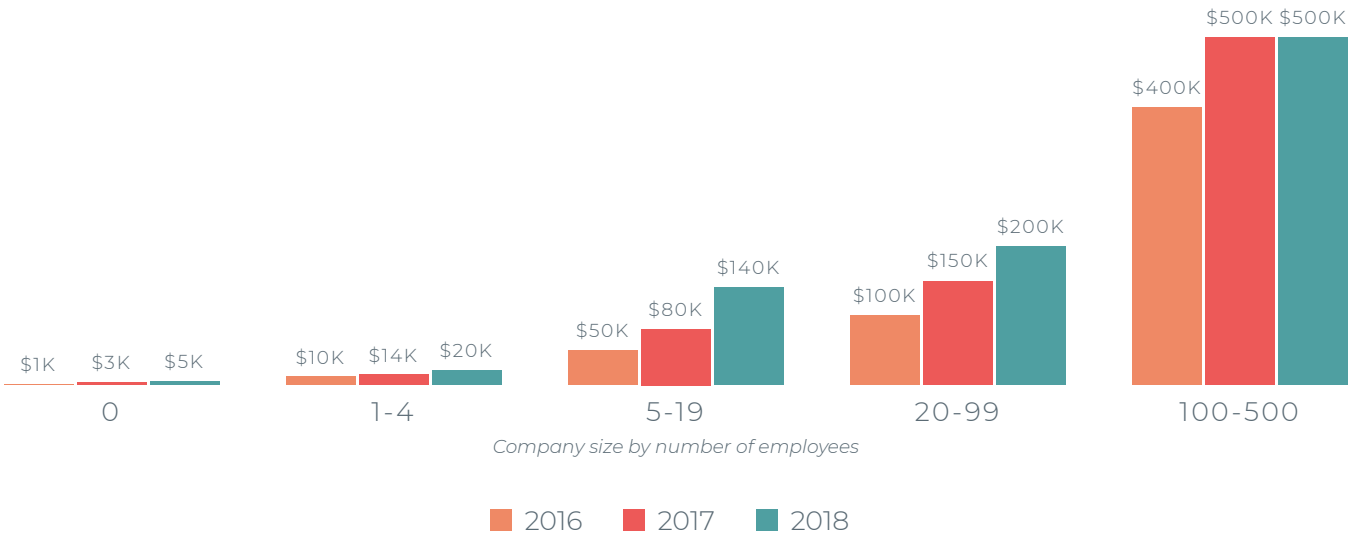


Table 4A

What was the estimated median value of small business exports in each of these years?

Employment Size	2016 ($)	2017 ($)	2018 ($)
0 (No Employees)	1,000	2,500	5,000
1-4	10,000	14,000	20,000
5-19	50,000	80,000	140,000
20-99	100,000	150,000	200,000
100-500	400,000	500,000	500,000
Total Small Businesses	5,000	5,000	6,500

Based on small businesses that export.

Table 4B

What was the estimated median value of small business exports in each of these years?

Sector	2016 ($)	2017 ($)	2018 ($)
Goods	2,000	2,000	4,000
Services	5,000	10,000	10,000

Based on small businesses that export.

Exports as a Portion of Small Business Revenue Are Growing

Exports have also been a growing source of revenue for businesses. Of all exporting small businesses, the average exports' share of business sales increased on average from 19% in 2016 to 24% in 2018. Across small businesses of all employment sizes, the export share of business sales increased each year from 2016 to 2018, with the largest increase from small businesses of 100-500 workers (Table 5A).

An increasing share of small business revenues are coming from exports (Table 5B). Exports account for a slightly greater share of small business revenue of services providers compared with goods producers.

Table 5A

What share of your business's sales was from exports in each of these years? (average share)

Employment Size	2016 (%)	2017 (%)	2018 (%)
0 (No Employees)	17	18	21
1-4	18	21	26
5-19	27	31	37
20-99	26	31	35
100-500	27	32	38
Total Small Businesses	19	21	24

Based on small businesses that export.

Table 5B

What share of your business's sales was from exports in each of these years? (average share)

Sector	2016 (%)	2017 (%)	2018 (%)
Goods	17	19	23
Services	20	23	25

Based on small businesses that export.

Small businesses that export saw substantially faster overall growth from 2016 to 2018. While not necessarily directly caused by exports, average company revenues of exporting small businesses increased by 24.3%, compared with a 14.1% increase for non-exporting businesses.

Small Business Exporters Expanding to New Foreign Markets

Exporting businesses increased the number of countries to which they exported over the 2016-2018 period. The number of foreign markets per business grew on average from seven in 2016 to nine in 2017 and ten in 2018. Europe and North America were the largest markets by continent (Table 6A). By country, the top ten export markets for small businesses were Canada (43% of small business exporters), the United Kingdom (15%), Mexico (14%), Australia (13%), France (12%), Germany (12%), Spain (6%), Brazil (5%), Italy (4%), and Austria (3%) (Table 6B).

Table 6A

In which of the following regions did you export your products or service in 2017? (check all that apply)

Export Market	Share of U.S. Small Business Exporters Selling Goods/ Services to the Region (%)
Europe	63
North America	57
Oceana (Australia and New Zealand)	30

Export Market	Share of U.S. Small Business Exporters Selling Goods/ Services to the Region (%)
South America	20
Southeast Asia	18
Central America and the Caribbean	17
Eastern Asia and the Pacific	17
Middle East and Central Asia	13
Africa	10
South Asia	10

Based on small businesses that export.

Table 6B

What were the leading export markets for your company in 2017? (select up to five)

Country	Share of Exporters (%)
Canada	43
United Kingdom	15
Mexico	14
Australia	13
France	12
Germany	12

Country	Share of Exporters (%)
Spain	6
Brazil	5
Italy	4
Austria	3

Based on small businesses that export.

Impact on the U.S. Economy and Jobs

Using an international trade model of the global economy, we extrapolated the results of our survey to estimate the direct and indirect impacts of small business exports on U.S. GDP and employment. Our methodology enables us to consider several important factors, including how the U.S. economy interacts with the global economy. It also allows us to account for the need of an industry with increased exports to draw resources, including labor, from less competitive U.S. industries in an economy operating at full employment. We used a base year of 2017 for this analysis because it is the most recent year for which detailed national and state employment data required for the analysis were available. (Appendices 1 and 2 further detail our methodology.)

We found that the 2017 level of U.S. small business exports supports billions of dollars of real U.S. GDP. For the economy as a whole, small business exports accounted for 23% of the total value of U.S. exports in 2017 and generated $541 billion in output; this represented 2.8% of total economic output (Table 7). This reflects the total value added related to small business exports — directly from the exports themselves, plus upstream value added (i.e., inputs used to produce those exports, both goods and services) and downstream impacts (e.g., goods and services whose purchases are generated because small business exporters employ workers who then spend their wages on goods and services here in the U.S.).

Unsurprisingly, because the U.S. economy is heavily services-focused, most of that activity took place in the services sector. The service economy supports not only the production and export of goods, but services themselves. Additionally, the domestic economic activity that flows from the additional spending and income generated by exports (e.g., salaries paid to workers) is primarily spent on services domestically (e.g., restaurant meals, day care, education).

Small business export-related economic activity also supports millions of U.S. jobs. We estimate that small business exports supported more than 6 million jobs in 2017, or 3.1% of total employment (Table 8). Like output, the majority of these jobs were in the services sectors (5.8 million), but hundreds of thousands of those jobs were generated in goods-producing sectors as well.

Table 7

Estimated impacts of U.S. small business exports on real U.S. output, 2017

	Value (Billions) ($)	Share of Total Output (%)
U.S. Total	541.2	2.8
Goods	5.3	0.2
Services	535.9	3.2

Table 8

Estimated impacts of U.S. small business exports on U.S. employment, 2017

	Jobs Tied to Small Business Exports (Number)	Share of Total U.S. Jobs (%)
U.S. Total	6,071,843	3.1
Goods	320,973	1.7
Services	5,750,870	3.2

We also break out results by state (see Appendix 3). Exports of goods and services from small businesses contributed to state economic output, ranging from a low of 2.1% of state output (Indiana and Michigan) to a high of 3.6% (Wyoming). Generally, the share of jobs tied to small business exports in 2017, relative to total state employment, ranged from a low of 2.7% (Indiana and Michigan) to a high of 3.6% (Montana).

Barriers to Small Business Exports

Notwithstanding the demonstrated economic benefits of selling goods and services overseas, the vast majority of small businesses do not export. While there may be a host of reasons for this, numerous studies have catalogued the barriers that businesses face when they seek to sell their goods or services overseas.[8] Some of these challenges are faced by large and small businesses (e.g., foreign barriers to imports and tax challenges), while others are more unique to the nature of small businesses (e.g., lack of trained staff, difficulty obtaining financing, difficulty receiving or processing payments). Table 9 classifies the most common barriers and challenges reported in our survey, sorted into broader categories.

8. See, for example, Jayati Ghosh, Denise Lucy, and Francoise Lepage, "Going Global: Factors Influencing U.S.-Based SMEs' International Market Access," *Collected Faculty and Staff Scholarship 98*, 2009, https://scholar.dominican.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1098&context=all-faculty; Organisation for Economic Cooperation and Development, "Top Barriers and Drivers to SME Internationalisation," *Report of the OECD Working Party on SMEs and Entrepreneurship*, 2009, https://www.oecd.org/cfe/smes/43357832.pdf; and U.S. International Trade Commission, *Small and Medium-Sized Enterprises: Characteristics and Performance*, Inv. No. 332-510, USITC Pub. 4189, November 2010, Chapter 2, https://www.usitc.gov/publications/332/pub4189.pdf.

Table 9

Summary of leading challenges and barriers faced by small business exporters

Challenge/Barrier	Examples of Challenges/Barriers
Foreign Regulations	Tax challenges, data localization, unclear or unfamiliar privacy rules, liability risks, and other legal issues
Payment Collection	The time needed for collection of payments from abroad, scarcity of compatible payment methods, and resources to enforce contracts and resolve disputes
Communications and Language	Different foreign customer habits/attitudes, unfamiliar foreign business practices, different sociocultural traits, and language differences
Tariffs and Customs Procedures	Tariffs, customs procedures, customs costs, quotas, and other limits on exports
Information	Lack of knowledge on how to find new customers in new markets, limited information to locate and analyze markets, unreliable data about international markets, difficulty identifying foreign business opportunities, difficulty locating sales prospects, and challenges to figuring out which markets to prioritize
Company Resources	Difficulty establishing affiliates in foreign markets, lack of managerial time to deal with foreign sales, lack of staff support for international sales, and visa issues
Risk and Infrastructure	Bribery and corruption concerns, foreign currency exchange risks, inadequate infrastructure for e-commerce, insufficient intellectual property protection, political instability, and threatened or actual retaliation against U.S. exports
Finance	More working capital to finance exports than needed to extend credit to foreign customers
Distribution of Products in Foreign Markets	Complexity of foreign distribution channels, accessing export distribution channels, obtaining reliable foreign representation, maintaining control over foreign middlemen, adjusting export promotional activities to target markets, and unfamiliar exporting procedures/paperwork
Production/ Logistics Issues	The time needed for more exports and transportation/shipping costs
Competition in Target Markets	Difficulty matching competitors' prices, too much competition, preference for local goods and services in foreign market, and foreign sales not sufficiently profitable
Product Development	Challenge to develop new products for foreign markets, adapt products to local quality/standards/specifications, meet export packaging/labeling requirements, and offer technical/after-sales services

To understand these problems more completely, we asked small businesses to describe some of the barriers and challenges they face in exporting or trying to export. The survey results generally mirrored those in the literature. For small businesses that export, the three challenges they most commonly faced were tariffs and customs procedures; language and other communications and cultural barriers; and foreign regulations, such as taxes, data localization requirements, privacy rules, liability risks, and other legal issues (Table 10).

Communications and language barriers were the biggest concern of goods producers, and tariffs and customs procedures ranked highest for services providers. Subsequently, regulations, information, payment collection, and competition in foreign markets were also listed as significant barriers.

Table 10

Which of the following challenges and barriers to exporting have you experienced? (check all that apply) (number of exporters that selected it as a problem)

Challenge/Barrier	All Exporters (%)	Goods Exporters (%)	Services Exporters (%)
Communication and Language	25	29	20
Tariffs and Customs Procedures	25	22	29
Regulations	17	14	22
Information	16	16	16
Payment Collection	14	12	15
Competition in Target Markets	13	10	16
Limited Company Resources	11	8	15
Finance	10	10	11
Risk and Infrastructure	10	13	6

Challenge/Barrier	All Exporters (%)	Goods Exporters (%)	Services Exporters (%)
Distribution of Products in Foreign Market	10	8	13
Production and Logistics Issues	9	8	11
Product Development and Support	9	11	6
Other	15	18	9

Based on small businesses that export.

For both exporters and non-exporters, the challenges in seeking out and entering new markets differ. While tariffs and regulations continue to rank among the leading issues for goods producers, surveyed businesses identified other challenges as key reasons why they do not export at all or are not trying to enter new markets. These include payment collection challenges, communication and language barriers, and obtaining information about foreign markets (Table 11).

Table 11

When deciding whether to export products or services to a new foreign market, how important are each of the following challenges to your decision-making process?

Challenge/Barrier	Extremely Important (%)	Extremely/Very Important (%)
Regulations	34	54
Payment Collection	30	52
Communication and Language	30	50
Tariffs and Customs Procedures	27	46
Information	27	49

Challenge/Barrier	Extremely Important (%)	Extremely/Very Important (%)
Company Resources	27	47
Risk and Infrastructure	24	44
Finance	24	42
Distribution of Products in Foreign Target Market	22	41
Production and Logistics Issues	21	41
Competition in Target Market	20	40
Product Development and Support	19	39

Based on all small businesses surveyed.

Given the multitude of challenges and barriers, it is not surprising that only 6% of the surveyed businesses that do not export have attempted to sell to a foreign market since 2016. If they could overcome barriers to exporting, the businesses reported that countries close to home (i.e., Canada and Mexico) would be their leading export choices. Some, however, are willing to export further away, to Australia, China, the United Kingdom, France, and Japan, among other countries.

Impact of Increasing Small Business Exports

The businesses surveyed reported strong benefits to sales and employment if they had better access to export markets. Small businesses estimated that, on average, their value of export sales would increase by 14.2% over the next three years from greater market access (Table 12). Employment at their businesses would increase by 11.8% over that same period. The bulk of these new jobs is projected to be at small businesses of 100 employees or more, but even businesses with no employees anticipate the need to hire workers if exports increase (Table 13).

We also estimated the economic impacts of these additional exports on the U.S. economy and jobs overall. We found that an increase in small business exports of 14.2% would boost U.S. real GDP by 0.4%, or $81 billion (Table 14).

The additional economic activity generated by this increase in small business exports would create nearly 900,000 additional U.S. jobs (Table 15). Most of those would be in the services sectors, most notably in the retail trade and distribution services sectors, and in the business and professional services sectors.

Table 12

If you had better access to export markets, by what percentage, if any, would you estimate it would increase your gross sales value of exports in the next three years?

Employment Size	Average Increase in Gross Sales Value (%)
0 (No Employees)	12.9
1-4	18
5-19	16.5
20-99	25.6

Employment Size	(%)
100-500	41.3
Total Small Businesses	14.2

Based on all small businesses surveyed.

Table 13

If you had better access to export markets, by what percentage, if any, would you estimate it would increase the number of workers you employ in the next three years?

Employment Size	Average Increase in Employment (%)
0 (No Employees)	10.6
1-4	14.2
5-19	13.9
20-99	23.9
100-500	44.7
Total Small Businesses	11.8

Based on all small businesses surveyed.

Table 14

Estimated impact of increased U.S. small business exports on real U.S. output

	Value (Billions) ($)	Share of Total Output (%)
U.S. Total	80.9	0.4

Table 15

Estimated impact of increased U.S. small business exports on U.S. employment

	Increase in Jobs Tied to Small Business Exports (Number)	Increase in Total Jobs Tied to Small Business Exports (%)
U.S. Total	890,186	14.7
Goods	41,094	12.8
Services	849,093	14.8

We also broke down the results by state (see Appendix 3). Every state ranges from an increase of 0.4% to 0.5% in additional output. Reducing or eliminating barriers to small business exports would increase the number of jobs related to those exports fairly consistently around the 14.7% national average.

Growing Small Business Exports with Technology

The internet has significantly changed how companies do business — how they produce goods or provide services, how they reach new and existing customers, and how they deliver goods and services. While in-person interactions with existing or new customers remain important, they are not the primary way businesses seek out new customers or maintain existing business relationships. The use of technology and digital tools is no longer the cutting edge; businesses, regardless of size, are adopting digital tools, albeit at varying speeds and with different degrees of sophistication and success.

Our survey found that 92% of small businesses that export use digital tools (Table 16). Leading resources are online marketing and advertising, online payment-processing tools, and e-commerce websites. These tools can help small businesses overcome costly barriers to exporting, such as generating leads via search ads, social media, or video-sharing platforms, and enabling safe and efficient cross-border payments for goods and services, such as PayPal. Such tools also enable small businesses to establish trust with foreign customers through seller ratings such as eBay's Power Seller status, through customer review compilation services such as Shopper Approved, or through interactions on Facebook or Twitter. In addition, other tools such as Google Translate provide instant translation across more than 100 languages, and Google's Market Finder helps small businesses identify the best markets for their products and effectively localize and advertise them for that target market. These tools are uniquely suited to helping small businesses overcome many of the barriers impeding entry into new export markets.

Table 16

Which technology-based resources do you use when exporting your products or services? (select all that apply)

Technology Resources Used for Exporting	Percent Used (%)
Online Payment-Processing Tools	43%
Online Marketing and Advertising (e.g., search, Facebook)	41
E-commerce Websites (e.g., Shopify, Etsy, Amazon, eBay)	31
Online Translation Tools (e.g., Google Translate)	29
Online Productivity and Communications Tools (e.g., email, spreadsheets, chat)	24
Website Building and Localization Tools	20
Online Customer Database	18
Cloud Tools (e.g., data storage and processing)	18

Technology Resources Used for Exporting	Percent Used (%)
Automated Translation Services	15
Government Export Tools (e.g., Trade.gov)	13
Digitized Customs Clearing Processes	10
Data Mining and Analysis	6
Radio-Frequency Identification Tracking	6
None of the Above	7
Do Not Know/Did Not Answer	1

Based on all small businesses surveyed.

Our survey found 61% of small business owners believe that technology can help them overcome the top three barriers to exporting. It is somewhat surprising, then, that only 17% of non-exporting small businesses reported they had excellent or good access to technology to solve problems related to exporting. Moreover, 73% of non-exporting small businesses are not familiar with the technological tools available to help them address and overcome a number of the barriers to exporting they face (Table 17B). These tools can help small businesses build brand awareness and find new customers overseas, distribute goods or services to foreign markets, and finance and pay for sales to foreign customers.

Table 17A

How familiar are you with each of the following for exporting your products or services?

	Very Familiar (%)	Somewhat Familiar (%)	Not Very Familiar (%)	Not at All Familiar (%)
Locating Tools for Understanding Which Countries are Most Likely to Buy Your Products or Services	8	20	22	50
Finding Country-Specific Regulations	7	17	23	53
Identifying Tools for Targeting Advertising and Marketing to a Specific Country	8	18	24	51
Finding Distribution Channels within a Given Market	6	17	24	52
Establishing Payment Processes within a Given Market	8	18	22	52
Finding Dedicated Working Capital to Finance Exports to a Given Market	7	18	24	51
Identifying Local Customs and Business Practices	9	21	22	48
Technology and Enterprise Solutions	9	21	22	48

Based on small businesses that export.

Table 17B

How familiar are you overall with technological tools for exporting your products or services?

	Very Familiar (%)	Somewhat Familiar (%)	Not Very Familiar (%)	Not at All Familiar (%)
Exporters	28	40	23	9
Non-Exporters	8	19	22	51

Based on small businesses that export.

Table 17C

How would you rate your access to technological tools for exporting your products and services?

	Excellent Access (%)	Good Access (%)	Moderate Access (%)	Poor Access (%)	No Access(%)
Exporters	26	25	31	9	9
Non-Exporters	6	11	20	18	45

Based on small businesses that export.

Several studies have also demonstrated the extent to which digital tools can help businesses export:

- *Of U.S.-based sellers on eBay, 96% exported in 2017.[9] They exported to an average of 17 foreign markets; leading markets were Canada, Australia, the United Kingdom, China, and Russia. Researchers have concluded that the search costs of companies exporting online through eBay are 65% lower than the search costs of companies that export offline.[10]*

- *Of more than 29,000 U.S. small businesses on PayPal, 79% sold to foreign markets in 2015 and 2016.[11] Small businesses using PayPal grew faster than small business exporters generally (33% compared with 22%, respectively). Small business services providers were as likely to export using PayPal as those that export goods. PayPal concluded, "Our data shows: small businesses no longer need to grow to a certain size before they begin to trade; small businesses no longer need to focus on a specific sector to engage in trade; and small businesses no longer need to move to coastal areas or large city center to grow. The internet opens a world of possibilities for entrepreneurs and small businesses to thrive in a way that was never before possible."[12]*

9. eBay, "United States Small Online Business Trade and Inclusive Growth Report," March 2019, https://www.ebaymainstreet.com/facts-and-figures/unitedstates. eBay analyzed the activities of "small online businesses," which it defined as sellers with sales of $10,000 or more annually on the eBay Marketplace.

10. By selling online, firms can reduce or eliminate "search" costs that include multiple phone calls, sending faxes, writing emails, attending trade fairs and networking events, and making contacts. Andreas Lendle, Marcelo Olarreaga, Simon Schropp, and Pierre-Louis Vézina, "There Goes Gravity: eBay and the Death of Distance," *The Economic Journal 126, no. 591* (2016): 406-441, https://doi.org/10.1111/ecoj.12286.

11. PayPal, "Democratizing Globalization: How Small Businesses Across America Are Growing in the Digital Marketplace," undated, https://publicpolicy.paypal-corp.com/sites/default/files/policy/PayPal-Policy-Paper_Democratizing-Globalization.pdf. PayPal defines "small businesses" as firms with sales of between $30,000 and $3 million a year.

12. *Ibid., p. 4.*

- *Google helps connect businesses to customers overseas: Over 35% of clicks for U.S. business advertisers and over 60% of watch time of YouTube content produced by U.S. creators come from abroad. Tools like Market Finder help businesses make first steps to expand internationally — on average, businesses that used Market Finder increased their international presence by 10% and expanded into three new markets.*[13]

- *A Mercatus Center report found that 3.5% of small businesses on Facebook export.*[14] *This share is higher than the estimate for businesses both on and off Facebook. "The findings support an emerging pattern in the data showing that digital platforms and online social networks can facilitate cross-border trade."*

Most important to successfully exporting are resources including online payment-processing tools, online productivity/communications tools (e.g., email), e-commerce websites, online marketing, and cloud tools (Table 18).

Table 18

How important are each of these tools for exporting your products or services?

	Extremely Important (%)	Very Important (%)	Somewhat Important (%)	Not Very Important (%)	Not at All Important (%)	Don't Know/No Answer (%)
E-commerce Websites (e.g., Shopify, Etsy, Amazon, eBay)	47	26	13	3	1	10
Online Payment-Processing Tools	49	28	8	1	2	12
Digitized Customs Clearing Processes	47	22	11	2	2	16
Online Productivity and Communications Tools (e.g., email, spreadsheets, chat)	41	32	16	2	1	8

Based on small businesses that export.

13. Google 2018 Economic Impact Report, https://static.googleusercontent.com/media/economicimpact.google.com/en//static/reports/2018/ei-report-2018.pdf

14. Christine McDaniel and Danielle Parks, "Businesses on Facebook and Propensity to Export," Mercatus Center Policy Brief, February 5, 2019, https://www.mercatus.org/publications/trade-and-immigration/businesses-facebook-and-propensity-export-united-states.

	Extremely Important (%)	Very Important (%)	Somewhat Important (%)	Not Very Important (%)	Not at All Important (%)	Don't Know/No Answer (%)
Online Translation Tools (e.g., Google Translate)	38	25	21	1	3	11
Online Marketing	41	33	10	1	2	13
Cloud Tools (e.g., Data Storage and Processing)	39	29	12	3	3	13
Website Building and Localization Tools	36	30	15	3	4	12
Online Advertising (e.g., search, Facebook)	38	37	12	3	1	9
Automated Translation Services	35	32	10	3	5	15
Radio Frequency Identification Tracking	30	36	6	2	2	24
Government Export Tools	28	33	15	3	3	18
Online Customer Database	24	33	22	1	3	16
Data Mining and Analysis	24	30	28	1	2	15

When the businesses were presented with options for ways technology could help them address barriers and challenges to exporting (Table 19), many identified several opportunities, including tools to help finance sales and collect payment for foreign sales, overcome communications challenges (e.g., translation tools), and identify tariffs and customs issues.

Table 19

Which of the following challenges or barriers to exporting do you believe could be solved or addressed with the help of technology?

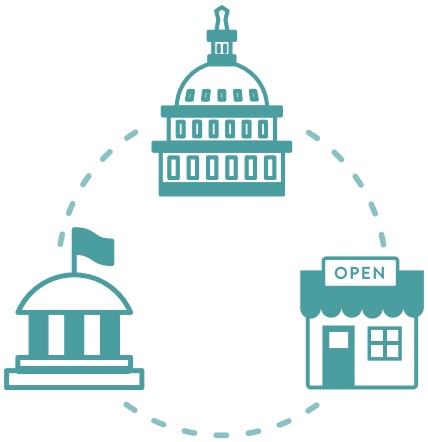
Exporting Barriers Solved by Technology	Percent Solved (%)
Finance and Payment Collection	38%
Communications Challenges	37
Tariffs and Customs Issues	33
Logistics and Distribution Issues	32
Navigating Unclear Regulations	31
Competition	21
Product Development and Customization	19
Company Resources	17
Information Resources for Prioritizing Exports	17
Infrastructure	16
Production	16
Geopolitical Risks	15

Based on all small businesses surveyed.

The research above illustrates the challenges and opportunities faced by small businesses that are seeking to export. In the following section, we offer strategies for increasing small business exports, including enhanced access to exporting technologies.

Recommendations

Policymakers and the business community can help increase small business exports through the following actions:



Recommendation 1:

Develop a collaborative initiative between the federal government, state governments, the private sector and other stakeholders to assist U.S. small businesses to use technology for exporting. Building on best practices from the private sector, and drawing on existing governmental efforts to modernize export promotion tools, this initiative would help small businesses increase their digital skills while raising awareness of digital tools that address barriers to small business exports. As part of this initiative, federal agencies including the Small Business Administration, the International Trade Administration, the U.S. Trade and Development Agency, the Export-Import Bank, and the State Department — in collaboration with governors' offices and state export agencies — should leverage their expertise and resources to ensure that every U.S. small business has access to the latest exporting technologies and is educated on how to use these digital tools.

Recommendation 2:

Encourage innovators and technology providers to develop and distribute digital tools that address barriers impacting U.S. small business exporters. Only 17% of non-exporting small businesses believe they have excellent or good access to technology to solve exporting challenges, and 73% of those small businesses are not familiar with digital tools that could help address export barriers. By taking aggressive steps to improve small businesses' awareness of export-enabling technologies — and by optimizing these technologies for the particular needs of U.S. small businesses — larger businesses and technology companies can help ensure that American small businesses are in the best position to export.

Recommendation 3:

Develop data-driven strategies to understand and overcome exporting barriers faced by U.S. small businesses. This report presents findings from a survey of over 3,800 American small businesses. However, further research should be conducted to assess the specific export-related challenges and opportunities facing U.S. small businesses in different sectors and different regions. It is also important to increase government data that provides a real-time analysis of U.S. small business export performance, including the products and services being exported, to better understand which types of small business exporters are succeeding and which are in need of greater support.

Recommendation 4:

Prioritize the negotiation of additional market-opening trade agreements based on the model set by the United States-Mexico-Canada Agreement with an expanded focus on rules that benefit U.S. small business exporters, including in the following areas:

- Digital trade measures to reduce friction in U.S. small business' interactions with foreign customers, including by ensuring that digital tools are available
- De minimis customs rules to reduce costs and improve the speed of small business shipments in line with current U.S. law
- Promotion of paperless trading and automated customs clearance processes to increase efficiency at borders
- Requirements to consider the impact on U.S. small businesses when developing and implementing regulations
- Elimination of other non-tariff barriers that disproportionately affect U.S. small businesses

By orienting the U.S. trade agenda toward maximizing opportunities for small business exports, the U.S. government can significantly reduce common regulatory and operational barriers encountered by many small businesses.

Recommendation 5:

Ensure trade finance opportunities are available to prospective U.S. small business exporters. Finance and risk mitigation resources for small exporters are available from various sources, including from the U.S. Export-Import Bank, which devotes 90% of its aid to directly benefit small businesses.

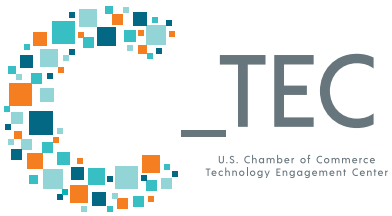
The administration should produce a simple one-stop-shop resource for small exporters that reflects coordination between the Small Business Administration, the Export-Import Bank, the United States Agency for International Development, the Overseas Private Investment Corporation, the Department of State, the Office of the U.S. Trade Representative, the Department of Commerce, the Treasury Department, and other federal government resources.

The objective is to fill gaps in financing not met by the private sector. A federal resource would enhance coordination among federal and state agencies and allow business organizations at the national, state, and local levels to educate small businesses on federal resources intended to help them.

Conclusion

The data on small business exports is clear. The more small businesses can sell their products overseas, the more economic growth and job creation will occur here at home. Technology can be key to unlocking this potential: many of the barriers that impede small business exports can be reduced and mitigated through digital tools. However, many U.S. small businesses are unaware of these tools, and in other cases, these tools are not optimized for small businesses.

Policymakers and the business community each have key roles to play to ensure that U.S. small businesses can export more abroad and grow more at home. We look forward to collaborating with a wide range of stakeholders on this important work.



About the Authors

The Trade Partnership partnered with Brunswick Insight to prepare this study. The Trade Partnership is a trade research business dedicated to the vision that an economy's competitiveness is best enhanced by working with its trading partners to expand and liberalize world trade. To this end, The Trade Partnership and its sister business, Trade Partnership Worldwide, LLC, prepare high-quality economic and trade policy research that evaluates the economic effects of engagement in trade on industries, economies, and workers. The business also undertakes research and analysis to help policymakers understand the benefits to local economies and workers of expanding or contracting trade.

The analysis and modeling in this report were prepared by Laura M. Baughman, president of The Trade Partnership and Trade Partnership Worldwide, LLC, and Dr. Joseph Francois, managing director of Trade Partnership Worldwide. Baughman holds degrees in economics from Columbia and Georgetown Universities. Francois is professor of economics at the University of Bern's Department of Economics and managing director of the World Trade Institute. He holds numerous research fellowships and professorships at think tanks and universities around the world.

Brunswick Insight conducted the small business export survey for this report. Brunswick Insight is the research and consulting arm of the Brunswick Group, an international corporate communications partnership that helps businesses and other organizations address business-critical challenges. Brunswick Insight provides data-driven strategic communications counsel for Fortune 500 companies, industry organizations, and nonprofits. The business has conducted research in more than 70 markets around the world, with expertise in corporate reputation, issues management, campaign development, and thought leadership.

About C_TEC

The U.S. Chamber of Commerce is the world's largest business federation, representing the interests of more than three million businesses of all sizes, sectors, and regions. Four years ago, the U.S. Chamber launched the Chamber Technology Engagement Center (C_TEC) to advance technology's role in strengthening business by leveraging tech innovations that drive economic growth in the U.S. C_TEC promotes policies that foster innovation and creativity and sponsors research to inform policymakers and the public.

About Google

Google's mission is to organize the world's information and make it universally accessible and useful. Through products and platforms like Search, Maps, Gmail, Android, Google Play, Chrome, and YouTube, Google plays a meaningful role in the daily lives of billions of people and has become one of the most widely-known companies in the world. Google is a subsidiary of Alphabet Inc.

Appendix 1. About the Survey

Objective of the Survey

The survey was designed to identify how U.S. small businesses have approached exporting in recent years (2016-2018) to capture inputs on the gross value of their exports, proportion of foreign sales, number of engaged markets, and the quantifiable impacts of better access to foreign markets. The survey also explored the main barriers that prevent small businesses from exporting and how technology could facilitate greater foreign market access and the effect it would have on broader economic activity.

Survey Collection Methodology

The survey was conducted through a mixed-mode data collection method. A majority of the interviews (3,401 out of 3,818) were conducted through a randomized sample of an opt-in online panel in which respondents chose to participate in survey research. The remaining interviews (417 out of 3,818) were conducted via telephone from a purchased list of small businesses. All survey respondents were screened through a series of questions on employee size, job title, and industry to ensure they qualified for the survey and could speak in an informed manner on company revenues and exporting behaviors. All interviews were conducted between July 8, 2019, and August 14, 2019.

Characteristics of Survey Respondents

A total of 3,818 small businesses were interviewed for the survey, and all the interviews were conducted with company owners or other knowledgeable senior management. All of the companies indicated they have 500 employees or fewer and are not in the government or farming sectors. The survey was fielded nationwide, and the sample was stratified across all 50 states, with between 50-106 small businesses interviewed in every state to provide robust and statistically reliable state-level results.

To ensure our data set was proportional to small businesses nationally, we weighted the data to mirror geographic distribution of small businesses by state and company size based on number of employees. While we considered also weighting the survey responses based on industry sectors, doing so overmanipulated the survey results, inflating the reported exporting rate. As a result, the data described in the report are not weighted by industry sectors. We believe the unweighted sector distribution presents a more accurate picture of the small business landscape.

While the survey finds that 9% of small business do export, which is a much higher share than 1%, the most commonly cited share reported by the Small Business Administration, these results show a potentially more complete estimate of U.S. small business exports. Previous estimates focused on goods exporters while excluding service exporters and looked only at firms exporting more than $2,500 in goods in a single export per year. This may be contributing to reporting a higher percentage of small business exporters than the SBA found in 2016.

Table A1.1

Distribution of small businesses by state of surveyed businesses versus actual

	Estimated % of Small Businesses by State, Based on Weighted Survey Results	Actual % of Small Businesses by State, Based of BLS Data
Alabama	1	1
Alaska	0	0
Arizona	2	2
Arkansas	1	1
California	13	13
Colorado	2	2
Connecticut	1	1
Delaware	0	0
District of Columbia	0	0
Florida	8	8
Georgia	3	3

	Estimated % of Small Businesses by State, Based on Weighted Survey Results	Actual % of Small Businesses by State, Based of BLS Data
Hawaii	0	0
Idaho	1	1
Illinois	4	4
Indiana	2	2
Iowa	1	1
Kansas	1	1
Kentucky	1	1
Louisiana	1	1
Maine	0	0
Maryland	2	2
Massachusetts	2	2
Michigan	3	3
Minnesota	2	2
Mississippi	1	1
Missouri	2	2
Montana	0	0
Nebraska	1	1
Nevada	1	1
New Hampshire	0	0
New Jersey	3	3
New Mexico	1	1
New York	7	7

	Estimated % of Small Businesses by State, Based on Weighted Survey Results	Actual % of Small Businesses by State, Based of BLS Data
North Carolina	3	3
North Dakota	0	0
Ohio	3	3
Oklahoma	1	1
Oregon	1	1
Pennsylvania	3	3
Rhode Island	0	0
South Carolina	1	1
South Dakota	0	0
Tennessee	2	2
Texas	9	9
Utah	1	1
Vermont	0	0
Virginia	2	2
Washington	2	2
West Virginia	0	0
Wisconsin	1	2
Wyoming	0	0

Most of the businesses surveyed were quite small in terms of employment: 80% had no employees at all, 12% had between one and four employees, 5% employed between five and 19 workers, and 2% employed 20 to 99 workers. Just 1% employed between 100 and 500 workers. The data were also weighted to match the distribution of small businesses by employee size to ensure the results proportionally represented employer and nonemployer businesses. After weighting by employee size, the state-by-state sample sizes ranged from 29 to 129.

Table A1.2

Distribution of employee size of surveyed businesses

Employment Size	Estimated % of Small Businesses by Employee Size, Based on Weighted Survey Results	Actual % of Small Businesses by Employee Size, Based on BLS Data
0 (No Employees)	80	81
1-4	12	12
5-19	5	5
20-99	2	2
100-500	1	0

Most of the businesses surveyed were small business services providers. Of the surveyed businesses, 79% were in the services sector, while 21% were in the goods sector. Small business services respondents were concentrated in business services (17%), followed by real estate (8%), wholesale/retail trade (7%), and health and social work (7%). The leading goods sectors for the respondents were vegetable oils (3%), paper products (3%), office machines (2%), and apparel (2%).

Table A1.3A

Total number by sector of surveyed businesses

Sector	Total Number of Businesses	Exporters
Goods	789	148
Services	3,029	204
Total	3,818	352

Table A1.3B

Distributions of sectors of surveyed businesses

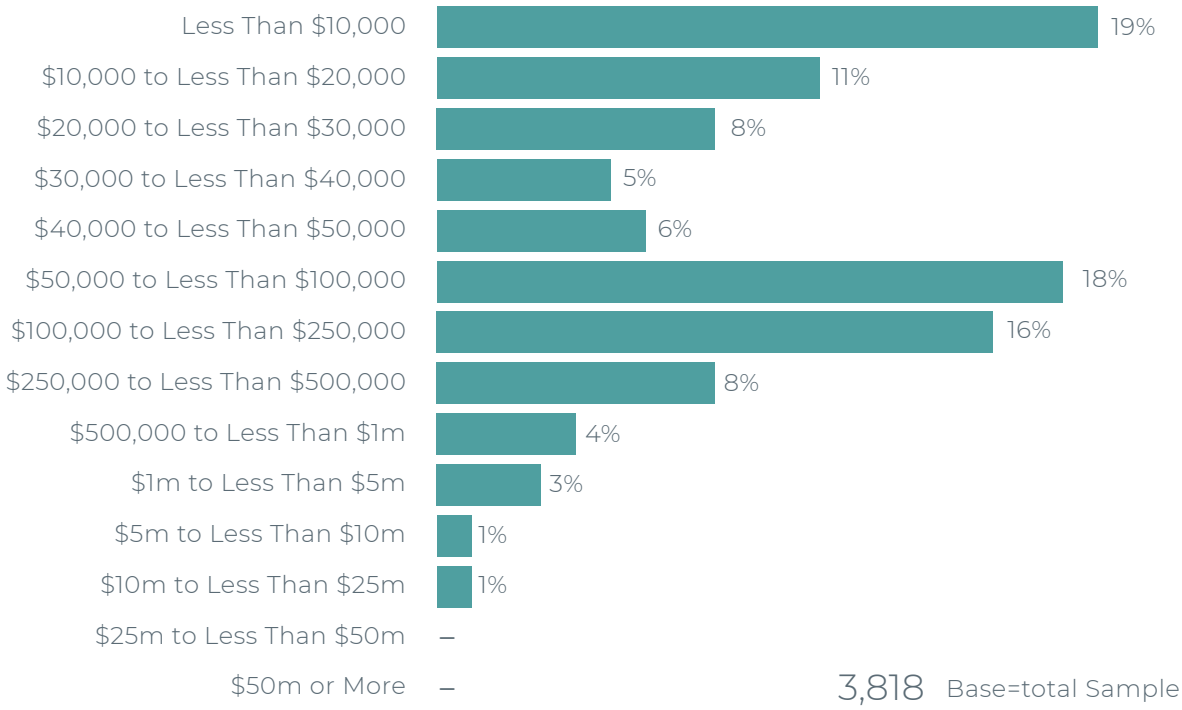
Sector	Estimated % of Small Businesses, Based on Weighted Survey Results
TOTAL SERVICES SECTORS	**79**
Business Services	19
Real Estate	7
Wholesale and Retail Trade	7
Human Health and Social Work	6
Financial Services	4
Education	4
Recreational and Other Services	4
Insurance	3
Transportation Services (e.g., air, water, other)	1
Accommodation, Food and Service	1
Telecommunications Services	0
Warehousing and Support	0
Gas Manufacture and Distribution	0
Electricity	0
Other Services	22
TOTAL GOODS SECTORS	**21**
Vegetable Oils and Fats	3
Paper Products and Publishing	2
Apparel	1
Electrical Equipment	1
Wood Products	1
Chemical Products	1

Sector	Estimated % of Small Businesses, Based on Weighted Survey Results
Basic Pharmaceutical Products	1
Meat Products	1
Processed Rice	1
Coal	1
Textiles	0
Metal Products	0
Sugar	0
Leather Products	0
Dairy Products	0
Other Food Products	0
Computer, Electronic, and Optical Products	0
Ferrous Metals	0
Oil	0
Rubber and Plastic Products	0
Petroleum, Coal Products	0
Metals	0
Other Machinery and Equipment	0
Beverages and Tobacco Products	0
Gas	0
Other Mining	0
Motor Vehicles and Parts	0
Other Manufactures	0
Other Transport Equipment	0
Other Goods	6

In terms of total revenue, the survey respondents were more evenly distributed.

Figure A1.1

Approximately how much total revenue did your business earn in 2018?



Of the businesses surveyed, 54% said they operate in local markets, 16% in regional markets, 20% in national markets, and 10% in global markets. Most businesses have existed for many years: 23% have operated between 10 and 20 years, 33% for 20 years or more, and 33% between two and 10 years.

Core Survey Questions

- Do you export and, if so, what is the value of those exports?
- If you export, to what countries do you export?
- What challenges or barriers have you experienced when exporting?
- If you had better access to export markets, by what percentage, if any, would you estimate your value of exports would increase over the next three years?
- If you had better access to export markets, by what percentage, if any, would you estimate it would increase the number of workers you employ in the next three years?
- If you had better access to export markets, which three new export markets would you like to enter?
- How would you rate your access to enterprise technology to solve exporting and other (listed) challenges?
- Which technology-based resources do you use when exporting your products or services?
- Which of the following (listed) challenges or barriers to exporting do you believe could be solved or limited with more technology options?

Appendix 2. Modeling Methodology

We want to know the full impacts across the entire economy and labor force of the current level of U.S. small business exports and the impacts of increasing those exports. These questions require an approach that considers not only the upstream and downstream ways exports (output) or a change in exports (change in output) affect U.S. sectors but also how such changes affect global markets. Analyzing all of the ways such changes would affect the U.S. economy requires using a trade model.

The Model

We applied a multisector, multicountry computable general equilibrium (CGE) model of the U.S. economy to estimate the impacts of small business exports on U.S. output (gross domestic employment) and employment. CGE models use regional and national input-output and employment and trade data to link industries in a value-added chain from primary goods to intermediate processing to the final assembly of goods and services for consumption.

Intersectoral linkages may be direct, like the input of steel in the production of transport equipment, or indirect via intermediate use in other sectors (e.g., energy used to make steel that is used in turn in the transport equipment sector). Our CGE model captures these linkages by incorporating the businesses' use of direct and intermediate inputs. The most important aspects of the model can be summarized as follows: It covers all world trade and production, and it includes intermediate linkages between sectors within each country.

The specific model used was the Global Trade Analysis Project (GTAP) model (see Hertel, 2013). The model and its associated data are developed and maintained by a network of researchers and policymakers coordinated by the Center for Global Trade Analysis at the Department of Agricultural Economics at Purdue University. Guidance and base-level support for the model and associated activities are provided by the GTAP Consortium, which includes members from government agencies (e.g., U.S. Department of Commerce, U.S. Department of Agriculture, U.S. Environmental Protection Agency, U.S. International Trade Commission, European Commission), international institutions (e.g., Asian Development Bank, Organization for Economic

Cooperation and Development, World Bank, United Nations, World Trade Organization), the private sector, and academia. Dr. Francois is a member of the Consortium.

The model assumes that capital stocks are fixed at a national level. Businesses are assumed to be competitive and employ capital and labor to produce goods and services subject to constant returns to scale.[15] Products from different regions are assumed to be imperfect substitutes in accordance with the so-called Armington assumption. Armington elasticities are taken directly from the GTAP dataset, version 10, as are substitution elasticities for value added.[16]

We are interested in the impact of exports from small businesses on the U.S. and state economies given the U.S. wage structures in 2017 (i.e., given the prevailing wage structure of the labor force in a given year, how much output and how many jobs in the U.S. economy and in each state's economy were linked either directly or indirectly to small business exports nationally). As such, the model employs a labor market closure (equilibrium conditions) in which wages are fixed at prevailing levels and employment levels are forced to adjust. This provides a model-generated estimate of output and U.S. jobs supported at current wage levels by the 2017 exports by small businesses.

Data

The model incorporates data from many sources. Data on production and trade are based on input-output, final demand, and trade data from the GTAP database (see Aguiar, Narayanan, & McDougall, 2016). These data provide important information on cross-border linkages in industrial production related to trade in parts and components. For the 2017 simulation, social accounting data are drawn directly from the most recent version of the GTAP dataset, version 10. Trade data (both exports and imports) exclude re-exports.[17] This data set is benchmarked to 2014 and includes detailed national input-output, trade, and final demand structures for 140 countries across 56 sectors. We have updated the trade and national accounts data to 2017.

The basic social accounting and trade data are supplemented with data on tariffs and nontariff barriers from the World Trade Organization's integrated database and from the United Nations Conference on Trade and Development/World Bank World Integrated Trade Solutions dataset. All tariff information has been concorded to GTAP

15. Compared with dynamic CGE models and models with alternative market structures, the present assumption of constant returns to scale with a fixed capital stock is closest in approach to older studies based on pure input-output modeling of trade and employment linkages. In the present context, it can be viewed as generating a lower bound estimate of effects relative to alternative CGE modeling structures.

16. Technically, we work with what is known as a "non-nested" version of the trade demand equation in the GTAP model. As such, in this case the model also corresponds analytically to a recent type of model known as an Eaton-Kortum model. See Bekkers, Francois, and Rojas-Romagosa (2017) for further technical discussion and derivations.

17. Global Trade Analysis Project, "GTAP Databases: About Re-Exports," https://www.gtap.agecon.purdue.edu/databases/contribute/reexports.asp.

model sectors within the version 10 database. For the purposes of the modeling exercise, the aggregation of the GTAP database includes 110 regions and 34 sectors.[18]

Our baseline data for exports of goods and services were from the survey, which found that small business goods and services exports totaled $557.7 billion, 23.7% of total exports in 2017. The small business share of goods exports was 18% and of services exports 41%. Disaggregated results by GTAP sector were incorporated into the model. Because of limited coverage in some sectors, rather than use business responses to estimate total small business shares of exports across all businesses in those sectors (primarily manufacturing), we fall back on Census data for current small business shares of exports, while we rely completely on the survey for the percentage increase in exports.

The GTAP model sectors were concorded to state-level employment data from the Commerce Department's Bureau of Economic Analysis (BEA). This enabled us to map nationwide effects to individual states. It is important to emphasize that we distribute the employment impacts of exports at the national level to employment at the state level. We are therefore reporting state-level employment related to exports nationally. We are not reporting the state-level output or employment impacts of state-level exports. Based on the availability of employment data as well as the size of some of the sectors, we expanded some sectors (e.g., "Finance and insurance" is broken into "Finance" and "Insurance" components, where we had more employment data) and collapsed others (e.g., individual food products were combined into one sector, "Food Products," and individual transportation modes into one sector, "Transportation", because we had less employment data). BEA does not disclose state-level employment data for certain sectors for confidentiality reasons. For some sectors, we were able to use Moody's Analytics state-level employment estimates to estimate the missing national employment to undisclosed sectors in these states. However, because we mixed employment data from two sources (BEA and Moody's), the sum of the employment effects for the states may not add perfectly to the total for the U.S.

18. The GTAP database includes relatively more detail in sectors, particularly in agricultural, primary production, and processed foods, than we can use here when mapping model results by sector to state employment data by sector. State employment data for most of these sectors are not available.

Table A2.1

Model sectors

Primary Agriculture	Other Transportation Equipment
Forestry	Electronic Equipment
Fishing	Other Machinery and Equipment
Oil and Gas	Other Manufactures
Other Mining	Construction
Processed Foods	Air Transport
Beverages and Tobacco	Water Transport
Textiles	Other Transport
Clothing	Trade and Distribution (Wholesale, Retail, Accommodation, and Food Services)
Footwear, Leather Goods	Communications (Information, Postal, and Delivery Services)
Wood Products	Financial Services
Primary Agriculture	Other Transportation Equipment
Forestry	Electronic Equipment
Fishing	Other Machinery and Equipment
Oil and Gas	Other Manufactures
Other Mining	Construction
Processed Foods	Air Transport
Beverages and Tobacco	Water Transport

Simulations

We conducted two simulations with the GTAP model. The first involved the elimination of all small business exports of goods and services by imposing prohibitive duties against goods exports with the U.S. across the board and prohibitive trade costs against services exports from the U.S. for the value of exports of each.[19] Our results tell us how much U.S. and state economic output and employment would decline if the U.S. ceased exporting goods and services from small businesses, tracing changes at the border as they work through the U.S. economy. The net negative (or positive, in some cases) impacts on output and jobs from an absence of small business exports serve as a proxy for the opposite: the net positive (or negative) impacts on U.S. output and employment *because* of small business exports. We report the results from this second perspective.

The second simulation models an increase in small business exports that would result from the elimination of barriers to those exports. The estimated increase in small business exports is based on the survey responses, weighted by small businesses' share of total exports. We implement the estimated increase from the survey through a consistent reduction in tariff and nontariff barrier costs faced by those exports.

References

Aguiar, A., B. Narayanan, and R. McDougall. (2016). "An Overview of the GTAP 9 Data Base." *Journal of Global Economic Analysis 1, no. 1*: p. 181-208.

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Hertel, T. (2013). "Global Applied General Equilibrium Analysis Using the Global Trade Analysis Project Framework." In P. B. Dixon and D. W. Jorgenson, eds. *Handbook of Computable General Equilibrium Modeling*. Amsterdam: Elsevier, p. 815-876.

19. We have modeled an extreme shock to the economy to show the extent to which sectors of the economy are tied to trade. We are not suggesting that a prohibitive tariff is a policy option that has been proposed by anyone. It is useful to understand the job impact of complete elimination of small business exports in order to quantify the opposite scenario: the job impact of actual U.S. exports from small businesses in the experiment years.

Appendix 3. State Tables

Table A3.1

Selected data for all small business survey respondents (Data collected in 2019 based on assessment of respondents' business in 2019)

	Share of State Small Businesses That Export (%)	Average Expected Increase in Business Exports if Business Had Better Access to Foreign Markets (%)	Share with Excellent/ Good Access to Technology to Solve Exporting Problems (%)
U.S.	**9**	**14.2**	**20**
Alabama	4	22	15
Alaska	5	14.6	29
Arizona	7	9.7	17
Arkansas	4	7.7	21
California	8	17.7	21
Colorado	7	8.2	11
Connecticut	9	7.3	11
Delaware	8	17.8	22
District of Columbia	17	10.7	32
Florida	11	14.6	19
Georgia	12	8.7	19
Hawaii	6	8.8	11
Idaho	8	10.5	22
Illinois	17	12.2	16

	Share of State Small Businesses That Export (%)	Average Expected Increase in Business Exports if Business Had Better Access to Foreign Markets (%)	Share With Excellent/ Good Access to Technology to Solve Exporting Problems (%)
Indiana	7	14.4	17
Iowa	10	11.9	21
Kansas	10	7.2	15
Kentucky	1	9.7	24
Louisiana	12	30	43
Maine	1	17.5	11
Maryland	11	13.3	17
Massachusetts	10	10.6	16
Michigan	8	9.9	21
Minnesota	3	6.1	17
Mississippi	5	23.4	14
Missouri	6	12.5	25
Montana	5	12	23
Nebraska	12	9.9	16
Nevada	11	12.6	16
New Hampshire	6	4.7	9
New Jersey	23	16.9	22
New Mexico	7	21.2	17
New York	8	14.6	18
North Carolina	3	9.7	17
North Dakota	10	13.7	27
Ohio	14	22.3	22
Oklahoma	4	12.3	31
Oregon	14	19.1	23
Pennsylvania	14	8.3	12
Rhode Island	2	7.4	14

	Share of State Small Businesses That Export (%)	Average Expected Increase in Business Exports if Business Had Better Access to Foreign Markets (%)	Share With Excellent/ Good Access to Technology to Solve Exporting Problems (%)
South Carolina	7	12.9	26
South Dakota	6	13.1	9
Tennessee	2	16.3	20
Texas	12	15.5	32
Utah	5	26.4	21
Vermont	20	35.9	24
Virginia	16	11	26
Washington	7	22.9	19
West Virginia	6	21.1	21
Wisconsin	7	17.1	6
Wyoming	1	5	6

Table A3.2

Estimated output and employment tied to small business exports, 2017

	Output (Millions) ($)	Employment (Number)	Output Share (of State Total) (%)	Employment Share (% of State Total)
U.S.	**541,179.10**	**6,071,843**	**2.78**	**3.1**
Alabama	5,497.80	78,714	2.6	2.97
Alaska	1,749.60	15,292	3.39	3.37
Arizona	9,190.60	115,138	2.81	3.09
Arkansas	3,586.60	54,195	2.9	3.3
California	78,307.90	748,525	2.79	3.17
Colorado	10,024.00	115,092	2.89	3.07
Connecticut	6,898.90	67,048	2.6	2.9
Delaware	2,189.60	18,544	3.03	3.18

	Output (Millions) ($)	Employment (Number)	Output Share (of State Total) (%)	Employment Share (% of State Total)
District of Columbia	4,459.30	30,790	3.31	3.43
Florida	29,125.40	373,767	2.97	3.14
Georgia	16,305.80	189,341	2.9	3.11
Hawaii	2,899.30	30,910	3.26	3.35
Idaho	2,173.10	34,478	3	3.44
Illinois	23,113.20	241,274	2.8	3.07
Indiana	7,320.90	105,697	2.09	2.72
Iowa	5,073.20	68,742	2.77	3.32
Kansas	4,479.20	61,039	2.8	3.17
Kentucky	5,132.60	80,376	2.55	3.19
Louisiana	7,142.70	83,196	3	3.08
Maine	1,812.30	26,676	2.94	3.19
Maryland	11,892.30	117,388	2.98	3.17
Massachusetts	14,666.60	144,690	2.71	3.03
Michigan	10,514.10	153,302	2.08	2.72
Minnesota	9,467.50	116,465	2.69	3.1
Mississippi	3,037.00	49,981	2.76	3.14
Missouri	8,487.30	119,842	2.79	3.21
Montana	1,635.50	24,597	3.47	3.64
Nebraska	4,023.10	46,307	3.39	3.51
Nevada	4,796.00	54,754	3.05	3.08
New Hampshire	2,059.30	24,739	2.54	2.8
New Jersey	17,574.40	171,357	2.93	3.13
New Mexico	2,934.30	36,654	3.11	3.34
New York	49,223.00	394,350	3.08	3.17
North Carolina	13,951.40	177,512	2.59	3

	Output (Millions) ($)	Employment (Number)	Output Share (of State Total) (%)	Employment Share (% of State Total)
North Dakota	1,716.50	20,429	3.33	3.53
Ohio	16,307.40	201,173	2.53	2.88
Oklahoma	5,259.50	70,587	2.81	3.07
Oregon	5,699.60	80,489	2.52	3.22
Pennsylvania	21,037.60	236,014	2.8	3.07
Rhode Island	1,639.10	19,049	2.77	2.98
South Carolina	5,343.60	80,621	2.41	2.93
South Dakota	1,659.50	21,319	3.35	3.54
Tennessee	8,896.90	121,535	2.56	3.04
Texas	42,297.40	511,960	2.56	3.02
Utah	4,595.70	59,526	2.77	2.99
Vermont	932.1	13,881	2.86	3.18
Virginia	15,234.90	164,177	2.98	3.16
Washington	14,261.60	141,381	2.73	3.21
West Virginia	2,153.40	29,124	2.95	3.28
Wisconsin	8,053.50	109,407	2.5	2.96
Wyoming	1,348.90	13,724	3.59	3.45

State totals do not add to national total due to rounding, missing localities (e.g., Puerto Rico and other territories, included in the national estimate but not detailed further), and a mix of state-level source data (Census and Moody's) for some sectors within each state.

Table A3.3

Estimated increase in output and employment from an expansion of small business exports

	Increase in Output (Millions)($)	Increase in Jobs (Number)	Increase in Output as a Share of Total State Output (%)	Increase in Jobs as a Share of Total State Jobs (%)
U.S.	**80,886.30**	**890,186**	**0.42**	**14.7**
Alabama	823.00	11,534	0.39	14.7
Alaska	257.00	2,222	0.5	14.5
Arizona	1,379.20	16,946	0.42	14.7
Arkansas	527.20	7,824	0.43	14.4
California	11,715.00	109,673	0.42	14.7
Colorado	1,497.90	16,891	0.43	14.7
Connecticut	1,041.00	9,918	0.39	14.8
Delaware	663.40	4,540	0.49	14.7
District of Columbia	325.40	2,724	0.45	14.7
Florida	4,344.10	54,936	0.44	14.7
Georgia	2,425.60	27,767	0.43	14.7
Hawaii	430.60	4,524	0.48	14.6
Idaho	317.10	4,961	0.44	14.4
Illinois	3,448.80	35,456	0.42	14.7
Indiana	1,115.30	15,614	0.32	14.8
Iowa	737.10	9,880	0.4	14.4
Kansas	659.60	8,824	0.41	14.5
Kentucky	767.10	11,654	0.38	14.5
Louisiana	1,056.20	12,174	0.44	14.6
Maine	268.30	3,893	0.43	14.6
Maryland	1,777.80	17,293	0.45	14.7
Massachusetts	2,217.80	21,409	0.41	14.8

	Increase in Output (Millions)($)	Increase in Jobs (Number)	Increase in Output as a Share of Total State Output (%)	Increase in Jobs as a Share of Total State Jobs (%)
Michigan	1,617.50	22,665	0.32	14.8
Minnesota	1,420.80	17,052	0.4	14.6
Mississippi	450.70	7,287	0.41	14.6
Missouri	1,263.80	17,445	0.42	14.6
Montana	238.40	3,535	0.51	14.4
Nebraska	579.10	6,652	0.49	14.4
Nevada	718.10	8,081	0.46	14.8
New Hampshire	312.20	3,670	0.38	14.8
New Jersey	2,626.70	25,249	0.44	14.7
New Mexico	433.50	5,333	0.46	14.5
New York	7,345.80	58,162	0.46	14.7
North Carolina	2,087.10	26,097	0.39	14.7
North Dakota	247.00	2,922	0.48	14.3
Ohio	2,449.00	29,602	0.38	14.7
Oklahoma	776.80	10,216	0.41	14.5
Oregon	861.20	11,717	0.38	14.6
Pennsylvania	3,141.60	34,680	0.42	14.7
Rhode Island	246.90	2,818	0.42	14.8
South Carolina	805.80	11,843	0.36	14.7
South Dakota	239.00	3,057	0.48	14.3
Tennessee	1,339.90	17,803	0.39	14.6
Texas	6,356.60	74,968	0.38	14.6
Utah	692.3	8,776	0.42	14.7
Vermont	139.00	2,030	0.43	14.6
Virginia	2,267.50	24,107	0.44	14.7
Washington	2,122.70	20,616	0.41	14.6

	Increase in Output (Millions)($)	Increase in Jobs (Number)	Increase in Output as a Share of Total State Output (%)	Increase in Jobs as a Share of Total State Jobs (%)
West Virginia	320.00	4,251	0.44	14.6
Wisconsin	1,199.70	15,952	0.37	14.6
Wyoming	196.8	1,981	0.52	14.4

State totals do not add to national total due to rounding, missing localities (e.g., Puerto Rico and other territories, included in the national estimate but not detailed further), and a mix of state-level source data (Census and Moody's) for some sectors within each state.

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