

United States International Trade Commission

# **Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports**

Investigation No. 332-508

USITC Publication 4125

January 2010



# U.S. International Trade Commission

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# **U.S. International Trade Commission**

Washington, DC 20436  
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# Abstract

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This report describes characteristics of domestic small and medium-sized enterprises (SMEs) and the role they play in U.S. exports. Within the U.S. economy, SMEs account for the vast majority of firms and approximately half the gross domestic product (GDP) generated by nonagricultural sectors. However, SMEs accounted for only about 30 percent of merchandise exports between 1997 and 2007. As was the case for larger firms, SME merchandise goods were primarily exported to Canada and Mexico in 2007, and SME principal exports were computer and electronic products, machinery, and chemicals. Unlike larger firms, SMEs tended to concentrate their merchandise exports in high-income destination markets such as Hong Kong, Israel, and Switzerland, and in labor-intensive product categories such as wood products and apparel and accessories. Moreover, relative to larger firms, growth in the value of SME exports was more dependent upon net new market entrants, particularly among the smallest SMEs. While services export data for SMEs are largely unavailable, data on the location of affiliates for two services industries—(1) finance and insurance and (2) professional, scientific, and technical services—suggest that the United Kingdom and Canada are likely to have been important export destinations for SME firms in these industries in recent years.



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# List of Frequently Used Terms and Acronyms

Affiliate transaction	A transaction that occurs after a firm establishes a branch or subsidiary in a foreign country to sell services directly to consumers in that country and when a consumer purchases services from a branch or subsidiary of a foreign firm located in the consumer's home market.
ARMS	Agricultural Resource Management Surveys.
BEA	U.S. Department of Commerce, Bureau of Economic Analysis.
BLS	U.S. Department of Labor, Bureau of Labor Statistics.
Census	U.S. Department of Commerce, Census Bureau.
Commerce	U.S. Department of Commerce.
Commission	U.S. International Trade Commission.
Cross-border transaction	A transaction that occurs when suppliers in one country sell services to consumers in another country with people, information, or money crossing national boundaries.
ERS	U.S. Department of Agriculture, Economic Research Service.
Employer firms	Firms employing at least one worker or having payroll expenses during the year.
Foreign affiliate	A branch or subsidiary of a parent company, established outside of the national boundaries of the parent company's home market.
Global ultimate owner (GUO)	A parent company with a minimum ownership share of 25.01 percent in its subsidiary.
GDP	Gross domestic product.
Host country	A foreign country where a parent firm has established an affiliate.
Indirect export	A form of export in which an intermediate good, part, or other input is transported domestically for transformation and/or incorporation into a final good for exportation. Such shipments represent domestic transactions; they are not considered exports in U.S. trade statistics.
IRS	U.S. Department of the Treasury, Internal Revenue Service.
ITA	U.S. Department of Commerce, International Trade Administration.
Manufacturers	Firms engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.
NAFTA	North American Free Trade Agreement.

NAICS	North American Industry Classification System.
Nonemployer firms	Firms without paid employees that are subject to federal income tax.
Nonmanufacturers	All firms except those engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products, e.g., wholesalers. This category accounts for merchandise exports whose source of production could not be identified.
OECD	Organisation for Economic Co-operation and Development.
ORBIS	A commercial database that consolidates firm-level statistical information.
Other companies	A census category denoting manufacturers of prepackaged software and books, freight forwarders and other transportation service firms, gas and oil extraction companies, coal mining companies, communications service firms, etc.
PPP	Purchasing power parity, which is a method of measuring the relative purchasing power of different countries' currencies over the same types of goods and services.
SBA	U.S. Small Business Administration.
SME	Small and medium-sized enterprise. For the purposes of this report, the Commission has defined SMEs as firms that employ fewer than 500 employees; farms and exporting services sectors are further classified according to annual revenue parameters.
USDA	U.S. Department of Agriculture.
USDOC	U.S. Department of Commerce.
USITC	U.S. International Trade Commission.
USTR	U.S. Trade Representative.
Wholesale trade	The purchase or sale of (1) goods for resale, (2) capital or durable nonconsumer goods, and (3) raw and intermediate materials and supplies used in production. In chapter 3, the wholesale trade statistic covers total transaction values, which reflect payments for merchandise and the distribution services provided through their sale. In chapter 4, the wholesale trade statistic comprises the value of the distribution services rendered only.

# EXECUTIVE SUMMARY

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This report provides an overview of the current state of small and medium-sized enterprises' (SMEs') participation in U.S. merchandise and services exports. It describes the value of overall SME merchandise exports, lists SME exports' principal products/sectors and destination markets, and assesses how these exports have changed over time. It also provides a general description of SME characteristics, explains their recent role in generating domestic employment and economic activity, and highlights areas in which data limitations impede a more comprehensive understanding of SME participation in U.S. exports.

This report is the first in a series of three interrelated studies by the United States International Trade Commission (USITC, the Commission), requested by USTR, that will collectively describe the role of SMEs in U.S. exports. Together, these reports aim to identify and fill information gaps in published literature on this subject.

For the purposes of this report, the Commission has defined SMEs as firms that employ fewer than 500 employees; farms and firms in exporting services sectors are further classified according to annual revenue parameters.<sup>1</sup>

## Key Findings

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### *Role of SMEs in U.S. Merchandise Exports*

- *Overall:* SMEs accounted for approximately 30 percent of known U.S. merchandise exports between 1997 and 2007 (figure ES.1). In 2007, U.S. SME exports amounted to \$306.6 billion.
- *Leading sectors:* Electrical products, machinery, and chemicals were the top merchandise export categories for SMEs in 2007; these goods were primarily exported to Canada and Mexico. Wood products and apparel and accessories were the sectors with the highest concentrations of SME exports.
- *Leading markets:* In 2007, Canada and Mexico were the largest destination markets for U.S. merchandise exports from firms of all sizes, including SMEs. The main SME export products to these countries were computer and electrical products; machinery; and chemicals. SME exports as a share of total U.S. merchandise exports were highest to Hong Kong, Israel, and Switzerland.
- *Growth led by SME entrants:* Between 1997 and 2007, much of the growth in SME merchandise exports was attributable to an increase in the number of net new market entrants—SMEs that were new to exporting. Export growth from large firms, by contrast, resulted almost exclusively from increases in the value of exports by existing firms.

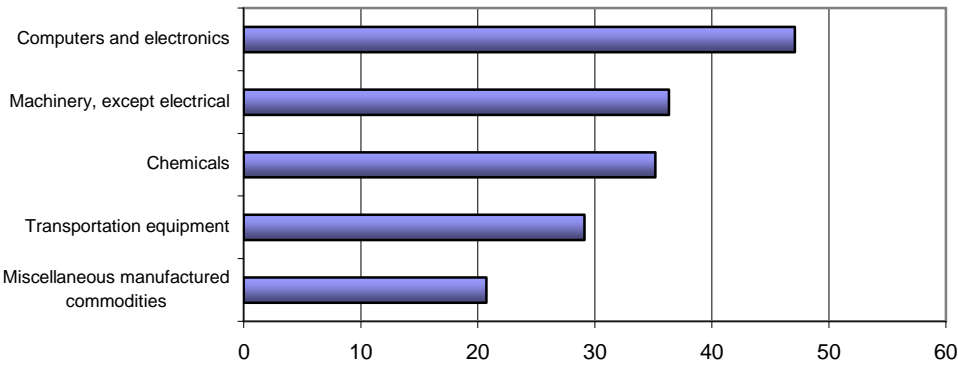
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<sup>1</sup> Farms with fewer than 500 employees and that generate less than \$250,000 in annual revenue are considered SMEs. For the purposes of this report, services sector SMEs are divided into two groups, typical and high-value. The annual revenue of typical SMEs generate up to \$7 million, while high-value SMEs generate up to \$25 million. Both typical and high-value service sector SMEs employ fewer than 500 workers.

**FIGURE ES.1** U.S. merchandise exports



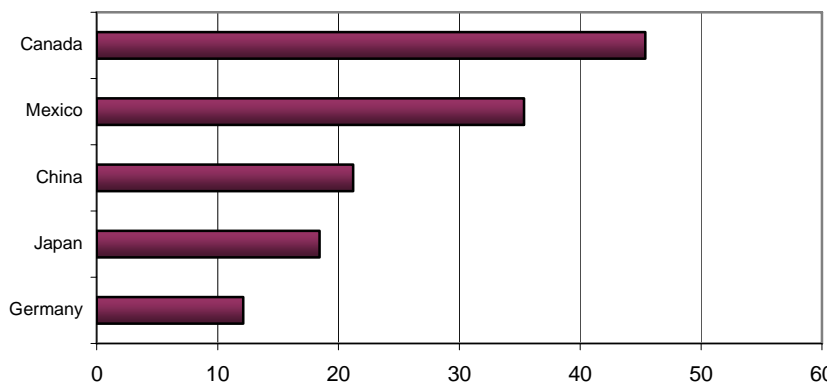
**Top SME merchandise exports, by product, 2007**  
(Billions of \$)



SME share <sup>a</sup>	SME growth <sup>b</sup>	Change in share <sup>c</sup>
percent		percentage points

27.6	59.9	5.6
30.6	95.4	2.3
24.8	143.8	5.4
15.2	66.8	0.5
44.3	106.7	-0.2

**Top SME merchandise exports, by destination market, 2007**  
(Billions of \$)



SME share <sup>d</sup>	SME growth <sup>b</sup>	Change in share <sup>c</sup>
percent		percentage points

23.2	74.4	1.8
28.9	66.4	4.1
34.3	224.3	2.8
31.0	28.8	1.1
26	114.7	2.4

Source: Official Census statistics.

<sup>a</sup> SME share of total merchandise exports, by product, 2007.

<sup>b</sup> SME merchandise export growth, 2002–07.

<sup>c</sup> Change in SME share of total merchandise exports, 2002–07.

<sup>d</sup> SME share of total merchandise exports, by market, 2007.

## ***Role of SMEs in U.S. Services Exports***

- *Overall:* The lack of trade data on SME services inhibits a comprehensive understanding of SME participation in U.S. exports.
- *Leading markets:* In 2006–08, Canada and the U.K. appear to have been among the largest destination markets for U.S. SMEs’ services exports. This inference is based on known correlations between cross-border exports and affiliate operations of U.S. parent firms.
- *Profile of U.S. services SMEs:* Of the three services industries selected for review in this report—wholesale, finance and insurance, and professional services—professional services is the largest in terms of the total number of firms, the average number of employees, and the revenues per firm. Wholesale services rank second.

## ***General Characteristics of U.S. SMEs***

- *Economic activity:* SMEs accounted for approximately half of private nonagricultural gross domestic product (GDP) between 1998 and 2004.
- *Number of firms:* SMEs accounted for 99.9 percent of the 27 million employer and nonemployer private nonfarm businesses in the United States in 2006. The vast majority of SMEs are firms with fewer than 20 employees.
- *Employment:* SMEs employed roughly half of the 120 million nonfarm private sector workers in the United States in 2006. Employment within SMEs and larger firms grew by comparable rates between 1998 and 2006, and was largely fueled by employment growth in services and construction sectors.
- *Innovation:* SMEs are an important source of innovation processes, products, and services and can be more efficient at producing innovation than large firms.
- *Entrepreneurial opportunities:* SMEs provide important opportunities for all U.S. citizens to develop entrepreneurial skills.

## ***Data Limitations***

- *Data availability:* Two prominent data limitations have inhibited a more extensive analysis of the role SMEs play in U.S. exports. These are (1) the lack of firm-size information on the manufacturing firms that provide SME wholesalers with their goods for distribution, and (2) the absence of published data on SME services sector exports.





# CHAPTER 1

## Introduction

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### Purpose

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This report represents the first in a series of three interrelated studies by the United States International Trade Commission (USITC, the Commission), which will collectively describe the role of small and medium-sized enterprises (SMEs) in U.S. exports. These studies are being undertaken at the request of the United States Trade Representative (USTR).

In the United States, as in most industrial countries, SMEs account for a large share of both employment and number of enterprises but only a small share of exports. We would expect small firms to be likely to export much smaller volumes than large firms. There are costs to exporting, however, that may fall disproportionately on small firms—limiting their ability to participate in global trade.<sup>1</sup> For example, SMEs' inability to realize scale economies in gathering and maintaining market information can increase the costs of finding and retaining markets abroad relative to larger firms. Even after a foreign sale has been made, firms must cover the costs of delay between shipping merchandise and receiving payment, as well as the risks associated with damage or loss and order cancellations. A large firm may be able to finance such costs internally and to reduce its risk by diversifying its overseas customers. However, an SME may have to find external financing, which may be particularly costly due to its relatively small sales volumes and limited overseas customer base, particularly during periods of tightened credit markets. Some SMEs appear to overcome such impediments by either exporting through wholesalers or associating their business operations with larger firms by integrating with global supply chains or franchising.<sup>2</sup>

This report provides an overview of the current state of SMEs' participation in U.S. merchandise and service exports. It describes the value of overall SME exports, lists the principal products/sectors and destination markets involved, and assesses how such exports have changed over time. It also provides a general description of SME characteristics, explains their role in generating domestic employment and economic activity, and highlights areas in which data limitations inhibit a more comprehensive understanding of SME participation in U.S. exports.

The Commission's second and third reports in this series will build on this report's findings.<sup>3</sup> Specifically, the second report will draw upon information published in this report and in other sources to compare U.S. SMEs' export performance to that of SMEs in the European Union and, to a limited extent, other leading economies; identify trade barriers reported by U.S. SMEs and strategies firms have employed to overcome those barriers; and describe benefits that U.S. SMEs have gained from free trade agreements

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<sup>1</sup> OECD, *Top Barriers and Drivers to SME Internationalization*, 2009.

<sup>2</sup> OECD, *Enhancing the Role of SMEs in Global Value Chains*, 2007.

<sup>3</sup> See October 5, 2009 USTR letter to the USITC (Appendix A). The second SME report, "Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms," will be completed by July 6, 2010—see 74 Fed. Reg. 62812 (December 1, 2009). The third SME report, "Small and Medium-Sized Enterprises: Characteristics and Performance," will be completed by October 6, 2010—see 74 Fed. Reg. 65787 (December 11, 2009).

and other trading agreements between the United States and other countries. The third report will identify, to the extent possible, ways of overcoming some of the data problems described in this report to provide a fuller understanding of SMEs' role in overall U.S. exports, most notably in the services sector. The third report will also identify trade barriers that may disproportionately affect SME export performance, as well as possible linkages between exporting and SME performance.

## Scope

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The scope of this report encompasses all sectors of the U.S. economy. U.S. production data used in this report encompass all sectors of the U.S. economy as defined by the North American Industry Classification System (NAICS). Similarly, the U.S. merchandise export data used in this report encompass all chapters of the international Harmonized Commodity Description and Coding System (HS). Due to data limitations, the export services sector data encompass only U.S. SMEs with foreign affiliates in the wholesale trade; finance and insurance; and professional, scientific, and technical service sectors (see chapter 4).<sup>4</sup>

### *What Is an Enterprise?*

The scope of this report is influenced by the way it defines an enterprise and sets the size parameters for various types of enterprises. This report uses the U.S. Census Bureau (Census) definition of an enterprise, which is a business organization consisting of one or more domestic establishments under common ownership or control.<sup>5</sup> For the purposes of this report, the terms “enterprise,” “firm,” “business,” and “company” represent the same thing and will be used interchangeably. According to Census, the number of employees within an enterprise is determined by the number of full- and part-time workers across all associated establishments who were on the payroll during pay periods in the month of March. Enterprises' revenue is determined by consolidating revenues across all associated establishments.<sup>6</sup>

### *What Is an SME?*

There is no universally accepted definition of an SME, even within the U.S. government. This situation reflects the relative nature of the “small” and “medium” size classifications, which can apply differently to firms in the manufacturing, agricultural, and service sectors. In recognition of these differences, using the number of employees and annual firm revenue as basic classification criteria, this report will use technical

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<sup>4</sup> Wholesale trade includes merchant wholesalers of durable and nondurable goods. Finance includes credit intermediation and related activities; securities; commodity contracts; other financial investments and related activities; and funds, trusts, and other financial vehicles. Insurance includes insurance carriers and related activities. Professional, scientific, and technical services include legal services; architecture and engineering; computer system design; and management, scientific, and technical consulting, as well as advertising and public relations. As noted in chapter 4, wholesale, finance and insurance, and professional services were identified as having the largest proportion of affiliate sales by U.S. firms among all services sectors. In addition, U.S. cross-border exports of services are highest in the finance and insurance, and professional services sectors.

<sup>5</sup> Census, “Statistics of U.S. Businesses – Definitions.”

<sup>6</sup> Ibid.

thresholds previously established by other U.S. government institutions, including those of the U.S. Department of Commerce (Commerce), the U.S. Small Business Administration (SBA), and the U.S. Department of Agriculture (USDA), as guidelines. These definitions are summarized in table 1.1 below.

**TABLE 1.1** USITC Report 1 definitions of small and medium-sized enterprises

	Manufacturing and non-exporting services firms <sup>a</sup>	Exporting services firms <sup>b</sup>		Farms
		Most	High value <sup>c</sup>	
Number of employees	< 500	< 500	< 500	< 500 <sup>d</sup>
Revenue	Not applicable	≤ \$7 million	≤ \$25 million	< \$250,000
Defining institution	SBA Advocacy <sup>e</sup>	SBA / SBA Advocacy <sup>f</sup>	SBA / SBA Advocacy <sup>f</sup>	USDA
Data source	U.S. Census	ORBIS	ORBIS	USDA

<sup>a</sup> Includes exporting and nonexporting manufacturing firms and nonexporting services firms.

<sup>b</sup> Selected on the basis of size and export potential, and includes wholesale trade services; professional, scientific, and technical services; and finance and insurance services.

<sup>c</sup> Computer services was the only sector in this category.

<sup>d</sup> This threshold was imposed by Commission staff to partially harmonize definitions across sectors; it was not imposed by the defining institution.

<sup>e</sup> SBA Advocacy from Census data.

<sup>f</sup> Revenue parameters established by SBA; employee number established by SBA Advocacy for research purposes.

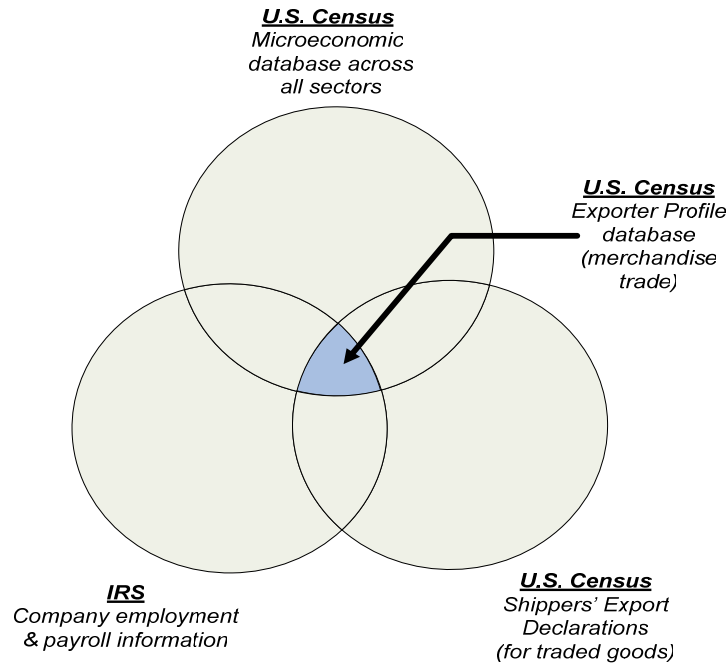
Source: Compiled by USITC staff.

The definition used for SMEs by SBA’s Office of Advocacy (SBA Advocacy) is the most straightforward, as it includes all enterprises with fewer than 500 employees. Census employs this definition to delineate its data by firm size across all sectors of the U.S. economy (using NAICS categories), which include both manufacturing and service enterprises. Box 1.1 identifies how Census matches this information against merchandise trade data to obtain information on exporting behavior of firms in various size categories. However, because this match is only performed for merchandise trade, export information on SME services remains largely unaccounted for.

To help define and retrieve export data on SME services and farms, information from the SBA, USDA, and ORBIS (a commercial database) was used. Specifically, the SBA uses annual revenue parameters to classify SMEs in various service subsectors, but these parameters differ depending on the value of the services being performed. While the vast majority of SME service subsectors fall in the \$7 million and under annual revenue threshold, a small number of others—those in computer services—have higher revenue despite their small number of employees, and consequently are defined by the

**BOX 1.1** How Census Derives its Exporter Profile Database

Using economic censuses and surveys, Census maintains a large database that consolidates a wealth of information on all U.S. companies across all nonfarm sectors of the economy. Included in this database are firm-size categories, which are defined by the number of workers employed by individual companies. To extract export-specific information by firm size classification, Census takes a subset of the company information it maintains on manufacturing firms (not services firms) and matches that against supplementary documentation it has on merchandise trade. This information is further matched against employment and payroll information maintained by the Internal Revenue Service (IRS) and merchandise export statistics compiled from Shippers' Export Declarations.<sup>a</sup> Together, this consolidated information helps create Census's Export Profile database, which allows Census to disaggregate merchandise export information by firm size. Because Census does not publish information on data that are matched against services or agricultural trade, SME export information in these sectors is largely unaccounted for.



Source: Official Census statistics, *A Profile of U.S. Exporting Companies, 2006–07*, April 9, 2009. Information for the figure was compiled by Commission staff using information from Census and the UPS Web site. [https://www.ups.com/content/us/en/shipping/international/documents/intl\\_forms/declaration.html](https://www.ups.com/content/us/en/shipping/international/documents/intl_forms/declaration.html) (accessed December 18, 2009).

<sup>a</sup> Shipper Export Declarations filings are required by Census for U.S. exports in which the value of at least one commodity exceeds \$2,500. Shipments to Canada are exempt from filing unless an export license or permit is required.

Commission using a higher (\$25 million) parameter.<sup>7</sup> The USDA also uses annual revenue to differentiate farms by size, but it does not use a “medium” category; it defines as “small” only those farms that earn less than \$250,000 in annual revenue, and considers all others “large.”

<sup>7</sup> Those subsectors that fall under the \$7 million revenue parameter are subsumed in the wholesale trade; finance and insurance; and professional, scientific, and technical service sectors that are considered in this report. For wholesalers, this includes services firms trading both durable and nondurable goods. For finance and insurance, this includes services firms in credit intermediation and related activities; securities; commodity contracts; other financial investments and related activities; and funds, trusts, other financial vehicle services, and insurance carriers and related activities. For professional, scientific, and technical services, it includes legal services; architecture and engineering; computer system design; and management, scientific, and technical consulting, as well as advertising and public relations.

In an attempt to partially harmonize these definitions, this report uses SBA Advocacy’s “fewer than 500 employees” definition of SMEs across all sectors, as that accounts for the vast majority (approximately 99 percent) of firms in the data used by the Commission.

### ***Time Frame***

Data limitations made it difficult to use a consistent decade-long time interval to analyze SME production and export trends across various sectors of the U.S. economy. Accordingly, the chosen time frame was dictated by the amount of quality information that was available for each sector considered. A 2002–07 time period was primarily used for the general characteristics and the SME merchandise trade analyses in chapters 2 and 3, whereas a 2006–08 time period was used for the SME services trade analysis in chapter 4. Whenever possible, attempts were made to supplement the description of trends in the given time periods with qualitative and quantitative information for other periods of time.

## **Analytic Framework**

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This report examines U.S. SMEs in the context of the well-established findings on U.S. firms that export. From the large body of literature that examines Census data in depth, researchers have learned that just a small share of U.S. firms export.<sup>8</sup> Those that do are distinctive. They tend to be larger and more productive, use relatively more capital-intensive and skilled-worker-intensive production processes, and pay higher wages than U.S. non-exporting firms.<sup>9</sup> Many of these characteristics appear to be to “prerequisites” for exporting. Most importantly, even SMEs that export display these distinctive characteristics relative to nonexporting SMEs.

To provide context to the analysis of SMEs, comparisons were made to their large-firm counterparts as consistently as possible (data permitting). This approach helped supplement the analysis by defining attributes of SMEs and identifying those that were unique. However, data limitations precluded using such an approach for service sector exports.

## **Organization of the Report**

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The structure of this report reflects its aim of providing an overview of publicly available information on SMEs that is mostly focused on explaining their participation in U.S. exports.

In addition to providing the framework for this report, chapter 1 provides a summary table of data limitations that have inhibited a more comprehensive understanding of SME participation in U.S. exports. While these data limitations are identified throughout this report, the main ones are summarized in this introductory chapter to give a fuller perspective on the data problems.

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<sup>8</sup> Bernard, Jensen, and Schott, “Importers, Exporters and Multinationals,” 2009, 514; Bernard et al., “Firms in International Trade,” April 2007.

<sup>9</sup> Bernard and Jensen, “Exceptional Exporter Performance,” 1999.

Chapter 2 describes broad attributes of U.S. SMEs that differentiate these forms of enterprises from larger firms. It begins by explaining distinctions between farm and nonfarm firms, and between employer and nonemployer firms, and shows that the vast majority of SME production is conducted by nonfarm firms with at least one employee. The chapter also gives a general overview of SME characteristics, describes their role in generating domestic employment and economic activity, and highlights characteristics of SMEs that export. The chapter also describes some of their distinctive traits, such as SMEs' special role with regard to innovation and their higher concentration of minority-owned businesses.

Chapter 3 provides an overview of the role SMEs have had in U.S. merchandise exports. It begins by describing how Census disaggregates export data by size and type of firm, making it possible to identify differences between SMEs' and large firms' exporting behavior in manufacturing, wholesaling, and "other" firms.<sup>10</sup> The chapter then describes the value of overall SME exports, the SME share of total U.S. exports, and how these have changed over time. It also describes characteristics of SME exports, including the sectors and markets that are their predominant destinations, and shows how these characteristics differ from those of the large firms that have a disproportional influence on overall U.S. merchandise exports.

Chapter 4 describes SMEs' participation in international services trade. It begins by explaining that although official services trade data are not disaggregated by firm size, most U.S. firms provide services to foreign consumers through foreign affiliates, rather than through exports. This chapter describes what is known about the affiliate operations of U.S. parent companies to help identify markets to which U.S. services SMEs are most likely to export. It adds focus to its analysis by restricting its scope to the three largest industries for affiliate activity: wholesale trade; finance and insurance; and professional, scientific, and technical services.

## **Information Sources**

This report consolidates a large body of publicly available information on SMEs and their role in U.S. exports. While the vast majority of data are derived from Census, critical quantitative and qualitative information has also come from other branches of Commerce, the SBA, and USDA. Publications from additional sources—other U.S. government institutions; multinational organizations, including the Organisation for Economic Co-operation and Development (OECD) and World Bank; the National Bureau of Economic Research; and academic institutions—have provided supplementary information. Information from ORBIS, a proprietary database, was also used in this report.

## **Data Limitations**

In this report, the Commission has summarized publicly available data related to U.S. SMEs in the manufacturing, agriculture, and services sectors. Table 1.2 outlines the principal gaps in the available data for each sector. As noted earlier, the gaps in the data inhibit a more comprehensive understanding of SME participation in export trade.

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<sup>10</sup> "Other" firms refers to manufacturers of prepackaged software and books, freight forwarders and other transportation service firms, gas and oil extraction companies, coal mining companies, and communications service firms.

<b>Data Limitation</b>	<b>Description</b>	<b>Sector</b>	<b>Data Source</b>
Inconsistent SME definitions	<p>Definitions of SMEs:</p> <ul style="list-style-type: none"> <li>• The Small Business Administration (SBA) uses the most comprehensive definitions, but different offices within the SBA provide different definitions for different purposes.</li> <li>• The SBA Office of Size Standards has various definitions, mainly for grant and program management, which vary across industries based on number of employees and revenues.</li> <li>• The SBA Office of Advocacy defines an SME for research purposes as employing fewer than 500 workers, but its data and analysis are largely confined to nonfarms.</li> <li>• The USDA defines farms as “small” or “large” only, a binary approach that is confined to the agriculture sector.</li> </ul>	All sectors	SBA, SBA Advocacy, USDA
Inconsistent SME data availability	Most information about characteristics of nonfarm SMEs comes from Census data and analysis by SBA Advocacy. Census data and research become available in different time periods. More up-to-date information will become available in 2010 with the results of the 2007 Economic Census.	All sectors	Census, SBA Advocacy
Firms size of original manufacturer	The data classify exports according to the firm size of the owner of record at the time of export. This is often a wholesaler or other trading firm, so the firm size of record is not necessarily the same as the size of the manufacturer of the goods exported.	Merchandise exports	Census, <i>Profile of U.S. Exporting Companies</i>
Missing data	Data on firm size are compiled by Census through a matching process, which matches known U.S. exporters to specific export transactions. For approximately 12 percent of U.S. exports, there are no matched data. In addition, the data set only includes exporters with shipments valued at more than \$2,500.	Merchandise exports	Census, <i>Profile of U.S. Exporting Companies</i>
Estimates of the number of exporters that have changed over time	Census has been improving its ability to match the number of exporters with particular export transactions over time. Therefore, Census notes that year-to-year comparisons of changes in the number of exporters, particularly for small firms, may be due in part to improved Census estimation methods.	Merchandise exports	Census, <i>Profile of U.S. Exporting Companies</i>
No data on U.S. services sector SMEs that export or have affiliates	The data on firm size compiled by Census are matched only to merchandise exports. No similar process or data are available for exports of services.	Services exports	Census
Available services exports do not break out data by firm size	Data on cross-border exports of services are compiled by BEA through surveys. The BEA does not publish a firm-size breakout, and small firms, generally with exports below \$6 million, are encouraged but not required to complete surveys.	Services exports	BEA

*Sources:* Compiled by Commission staff from the identified sources.

For the manufacturing sector, Census provides fairly detailed information on merchandise exports by SMEs, disaggregated according to various attributes including value, products, and principal markets. However, total exports are aggregated by firm size (by summing manufacturers, wholesalers, and “other” firms’ exports) which leads to ambiguity about the size of the firms that sell wholesalers their products. For example, if an SME wholesaler receives its products from a large manufacturing firm, the entire export is considered an SME export for statistical purposes, thereby overstating SMEs’ export contributions.

For the services sector, no authoritative export information is available. While this study uses information from a proprietary database to provide partial information on SME

participation in services trade, without official export statistics on U.S. services SMEs either from Census or from Commerce's Bureau of Economic Analysis (BEA) it is not possible to furnish a more complete picture. The forthcoming third Commission report on SMEs is expected to provide additional insight into this area, largely through information collected from a customized questionnaire.



# CHAPTER 2

## SME Characteristics

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This chapter presents information on the characteristics of SMEs, with an emphasis on the SME role in employment, employment growth, and economic activity. Because the focus of this report is on SME exports, this chapter also provides information on the characteristics of SME exporters. The data used to describe SMEs mostly cover the period 2002–07, although longer periods are occasionally covered to reflect broader trends. Whether data are available for more recent years depends on the timing of Census surveys, which are the sources of most SME data. More up-to-date information on SME characteristics will become available in 2010–11 from the 2007 Economic Census.

SMEs in the United States vary in size and are represented in all sectors of the economy, including manufacturing, services, farming, and other sectors.<sup>1</sup> As noted in Chapter 1, SMEs in the nonfarm sector include employer firms with fewer than 500 employees and nonemployer firms.<sup>2</sup> Much of the information on nonfarm SMEs focuses on employer firms. Nonemployers, the most numerous SMEs, account for a very small share (less than 4 percent) of nonfarm business receipts.<sup>3</sup> Owner-operators of farm SMEs are primarily involved in crop and animal production and have less than \$250,000 in farm sales annually.<sup>4</sup> Information on SMEs is presented separately in this chapter for nonfarm and farm businesses.<sup>5</sup>

Most businesses in the United States are SMEs (table 2.1). In 2006, 99.9 percent of private U.S. nonfarm businesses, were classified as SMEs, according to data from Census and SBA Advocacy.<sup>6</sup> Among the 6.0 million employer-based nonfarm businesses in 2006,

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<sup>1</sup> Throughout this chapter, “manufacturing” includes industries in North American Industry Classification System (NAICS) codes 31–33; “services” include industries in NAICS codes 22 and 42–92; “farm sectors” include industries in NAICS codes 111 and 112; and “other nonfarm sectors” include mining, quarrying, and oil and gas extraction; construction; and forestry, fishing and hunting, and agricultural support services (NAICS codes 21, 23, and 113–115). Services sectors include those classified by the U.S. Bureau of Labor Statistics (BLS) as “service-providing industries.” See BLS, *Service-Providing Industries*.

<sup>2</sup> Employer firms are defined as those employing at least one employee (or having payroll expenses during the year), whereas nonemployers are businesses that have no paid employees and are subject to federal income tax. Most nonemployers are self-employed individuals operating very small unincorporated businesses. However, nonemployers can also earn wages in employer firms—e.g., a caterer that works for an employer by day, but provides catering services on weekends and evenings. Information on employer and nonemployer firms comes from two data sources within Census—*Statistics of U.S. Businesses* and *Nonemployer Statistics*—both of which exclude farm production enterprises. The Census surveys also exclude most government employees and agencies. In the *Statistics of U.S. Businesses*, the size of a firm is determined by the summed employment of all associated establishments, including franchises. See Census, *Statistics of U.S. Businesses*.

<sup>3</sup> Census, *Nonemployer Statistics*, July 2009.

<sup>4</sup> A farm business is defined as any business where the primary occupation of the operator(s) is farming. Information on the number and characteristics of small farms is obtained primarily from the USDA, Economic Research Service (ERS) annual *Agricultural Resource Management Survey (ARMS)*. This definition does not include farms with operators either reporting being retired or primarily involved in occupations other than farming, due to this study’s focus on commercial operations. The definition of large farms includes non-family farms since the *ARMS* does not distinguish between small and large non-family farms.

<sup>5</sup> The data are presented separately because data reporting is split between the USDA for farms and the SBA for other industries.

<sup>6</sup> SBA Advocacy, Data on Small Business, U.S. Data (dataset). SBA Advocacy’s data on the number of SMEs and SME employment are from Census, *Statistics of U.S. Businesses*.

**TABLE 2.1** U.S. businesses by employment size (thousands), 2006–07

	SME	Large Firm	Total
<b>Nonfarm<sup>a</sup></b>			
Employer	6,004.0	18.1	6,022.1
Nonemployer	20,768.6	( <sup>c</sup> )	20,768.6
Total	26,772.6	18.1	26,790.7
Share of total (percent)	99.9	0.1	100.0
<b>Farms<sup>b</sup></b>			
Number	546.0	257.1	803.1
Share of total (percent)	68.0	32.0	100.0

Sources: SBA Advocacy, Data on Small Business, U.S. Data, from Census data; USDA, ERS, ARMS, August 6, 2009.

<sup>a</sup> Data are for 2006.

<sup>b</sup> Data are for 2007. Farms are classified as small or large. Commercial farms only.

<sup>c</sup> Not applicable.

only 18,000, or 0.3 percent, had 500 or more employees and were classified as large. In 2007, among 803,100 commercial farms, 32 percent, or 257,100, were classified as large, using a standard of \$250,000 or more in farm sales.<sup>7</sup>

SMEs make significant contributions to the U.S. economy in terms of employment, job creation, entrepreneurship, and U.S. economic activity, as measured by gross domestic product (GDP).<sup>8</sup> In 2004 (the latest year for which data are available), SMEs contributed about 50 percent of U.S. nonagricultural GDP.<sup>9</sup> SME employment and contributions to GDP are concentrated in services sectors, followed by manufacturing and mining, and construction. Although employment by employer SMEs, as a percentage of private nonfarm employment, declined slightly from 53.0 percent to 50.2 percent between 1992 and 2006, BLS figures show that SME employers were responsible for creating 64.1 percent of net new jobs from 1992 to 2009.<sup>10</sup> Nonemployer SMEs are also important in the growth of new employer firms and their employment.<sup>11</sup>

SME exports contributed just 3.8 percent to the SME share of GDP in 2004, compared to 11.5 percent for the contribution made by exports to large-firm GDP, based on Census data for direct merchandise exports.<sup>12</sup> This relatively low SME share partly reflects the fact that a higher share of large-firm GDP is associated with goods-producing industries in the manufacturing and mining sectors. In addition, economic research has shown that larger firms export more, as they tend to be less resource-constrained than smaller

<sup>7</sup> Data are from USDA, ERS, ARMS, August 6, 2009. These data are for commercial farms only.

<sup>8</sup> GDP is a common measure of economic activity. It is a measure of a country's overall economic output.

<sup>9</sup> Kobe, *The Small Business Share of GDP, 1998–2004*, 2007, 1. Kobe's estimates exclude GDP from the agricultural sector (farms, forestry, fishing and hunting, and agricultural support services).

<sup>10</sup> BLS, Business Employment Dynamics Database, Supplemental Firm Size Tables, table D, and SBA Advocacy, Small Business Data, U.S. Data.

<sup>11</sup> Davis et al., "Measuring the Dynamics of Young and Small Businesses," 2009.

<sup>12</sup> Exports as a share of GDP are estimated using Kobe's figures for large- and small-firm GDP and SME and large-firm merchandise exports from Census, *Exporter Profiles, 2004–2005*, exhibit 1b. These numbers are not perfectly comparable, as the GDP estimates do not include value added from the agricultural sector, and the exports include agricultural commodities. However, the GDP data capture the value added from wholesalers, food processors, and other service providers in exports of goods. Additionally, as noted in Chapters 1 and 3, wholesaler exports include goods that originate in large or small firms.

firms.<sup>13</sup> However, there is little information on the extent to which SME manufacturers export through wholesalers and other intermediaries, as well as indirect exports by SMEs through larger companies.

## Characteristics of Nonfarm SMEs

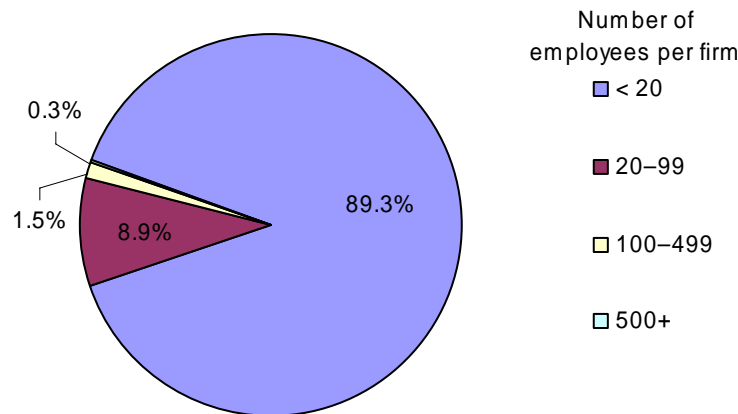
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### *Number of Businesses and Employment*

SMEs tend to employ a limited number of workers: whether employer or nonemployer, most have fewer than 20 employees. In 2006, Census counted 26.8 million businesses in the United States, including 20.8 million nonemployers<sup>14</sup> and 6.0 million employer firms.<sup>15</sup> SMEs accounted for 99.7 percent of the employer firms in 2006, and firms with fewer than 20 employees accounted for the largest percentage, 89.3 percent, of such firms (figure 2.1). Including both employer and nonemployer firms, SMEs accounted for 99.9 percent of all U.S. firms in 2006.

**FIGURE 2.1** Nonfarm private employer firms by firm size, 2006

#### Most employer businesses had fewer than 20 employees



Total number of firms = 6,022,127

Source: SBA Advocacy, Data on Small Business, U.S. Data, from Census data.

<sup>13</sup> See Bernard, Jensen, and Schott, "Importers, Exporters and Multinationals," 2009, 514; Dhanaraj and Beamish, "A Resource-Based Approach to the Study of Export Performance," 2003, 245.

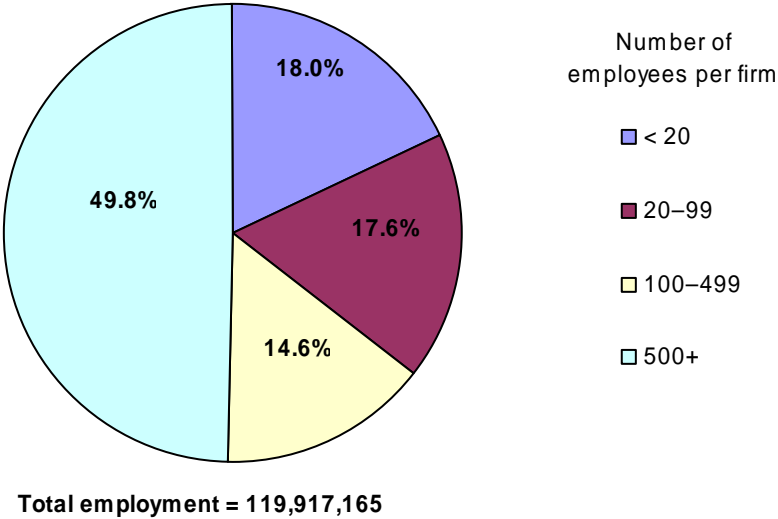
<sup>14</sup> The most recent data for nonemployers for 2007 place their number at 21.7 million. See SBA Advocacy, *Small Business Profile*, October 2009, table 1, 2.

<sup>15</sup> SBA Advocacy, *Frequently Asked Questions*, September 2009, 1.

While SMEs account for a high percentage of the number of U.S. firms, their share in employment is much smaller, although significant. In 2006, SMEs employed slightly over half (50.2 percent) of the 119.9 million nonfarm private sector workers in the United States, with the remainder employed by large firms (figure 2.2).<sup>16</sup> SMEs with fewer than 100 employees accounted for 35.6 percent of nonfarm employment and 70.9 percent of total SME employment, indicating that an important share of employment occurs in relatively small firms.

**FIGURE 2.2** Nonfarm private employment by firm size, 2006

**SMEs accounted for over half of U.S. nonfarm private employment**



Source: SBA Advocacy, Data on Small Business, U.S. Data, from Census data.

Among employer firms, most SME workers are found in the services sectors, as are most U.S. workers from large firms, reflecting broader employment trends in the U.S. economy.<sup>17</sup> The services sectors are a large and heterogeneous category, comprising wholesale and retail trade services; real estate; professional, scientific, and technical services; financial and insurance services; and a number of other services. Services accounted for 79.0 percent of SME employment in 2006, while manufacturing accounted for 10.1 percent, and “other” sectors (e.g., construction and mining)<sup>18</sup> accounted for 10.9 percent. In contrast, large firms employed a slightly higher percentage of workers in manufacturing (12.7 percent) and services (85.0 percent) and a much lower percentage (2.3 percent) in the “other” category.

<sup>16</sup> If the 20.8 million nonemployers were included, the percentage of employment in SMEs would be higher. Employment in nonemployer and employer firms is not aggregated because the former includes part-time activities of individuals that may be employed elsewhere.

<sup>17</sup> U.S. employment in services increased at an annual rate of 1.7 percent from 1996 to 2006, but employment fell at an annual rate of 1.9 percent in manufacturing. See Figueroa and Woods, “Industry Output and Employment Projections,” 2007, table 1, 54.

<sup>18</sup> Construction employment is 92 percent of total employment in this category.

SMEs in the 100- to 499-employee category have the highest percentage of employment in manufacturing—14.5 percent—among all sizes of firms (figure 2.3). Important manufacturing industries in this size class include fabricated metals, food processing, and machinery manufacturing.

Employment data for the services sectors indicate that the distribution of employees among large firms versus SMEs varied somewhat according to sector. Employment in wholesale and retail trade sectors in 2006 was substantial for both large and small firms (figure 2.4). Employment in professional, scientific, and technical services accounted for a relatively high share of employment in very small firms—13.1 percent of services employment for firms with fewer than 20 employees, compared to 6.1 percent for large firms. Among firms with fewer than 20 employees, the most important categories of employment in this sector were legal services; architecture, engineering, and related services; and accounting, bookkeeping, and tax preparation services.

Nonemployer firms are also most heavily concentrated in the services sectors. In 2007 (the latest year for which data are available), 14.0 percent of nonemployer firms were in professional, scientific, and technical services, followed by “other services” (13.7 percent).<sup>19</sup> Additionally, construction accounted for 12.2 percent of nonemployer firms, followed by real estate and rental leasing (10.7 percent).<sup>20</sup>

### ***Employment Growth***

The share of employer SMEs (firms with fewer than 500 employees) in total private nonfarm employment remained roughly constant from 1998 to 2006; these firms accounted for 50.2 percent of employment in 2006, compared to 50.9 percent in 1998. This is in contrast to the longer-term trend from 1992 to 2006, when SME employment fell from 53.0 percent to 50.2 percent among employer firms.

Employment in larger SMEs (firms with 100–499 employees) increased at a slightly higher rate than employment in other firm sizes, particularly after 2002, thus contributing to slowing the long-term trend (figure 2.5).<sup>21</sup> The higher employment growth in firms with 100–499 employees after 2002 reflects increased employment in construction and services sectors, such as accommodation and food services, and finance and insurance. For larger firms, the sectors with the highest employment growth rates were enterprise management, health care and social services, and education.

The changes in employment shares between large and small firms reflect the dynamics of growing and contracting firms over time. Each year, new firms open and established firms exit, or reduce or expand their workforces, altering the employment in firm size

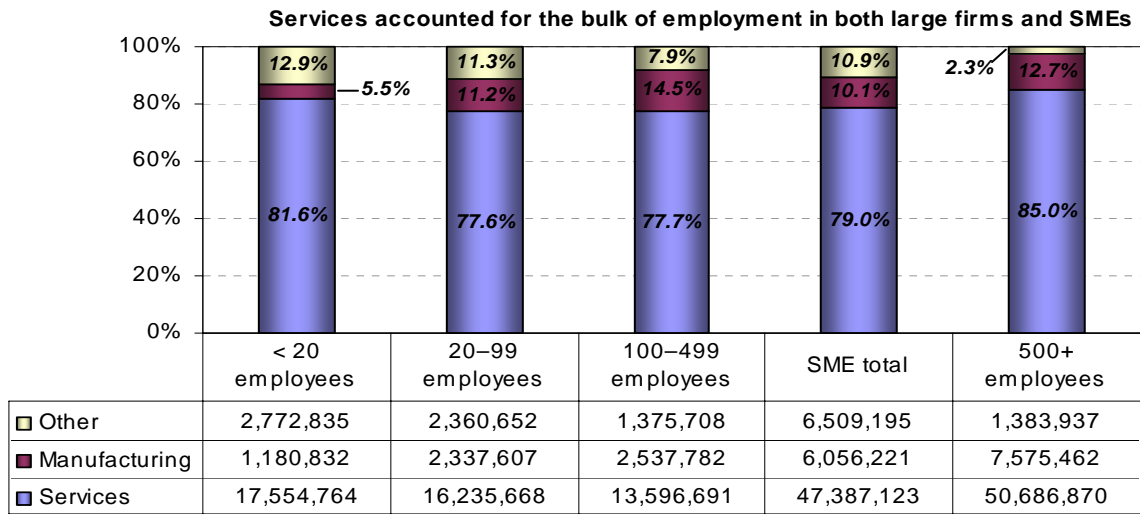
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<sup>19</sup> The “other services” sector includes establishments not classified elsewhere, such as equipment and machinery repair, dry cleaning and laundry services, photofinishing services, and dating services, among others.

<sup>20</sup> SBA Advocacy, *Small Business Profile*, October 2009, table 1, 2, based on Census, *Nonemployer Statistics*.

<sup>21</sup> The data in figure 2.5 show the annual increases in employment for all firms in each size category, based on an index where 1998 = 100. The compound annual growth rates (CAGRs) are based on the annual employment changes.

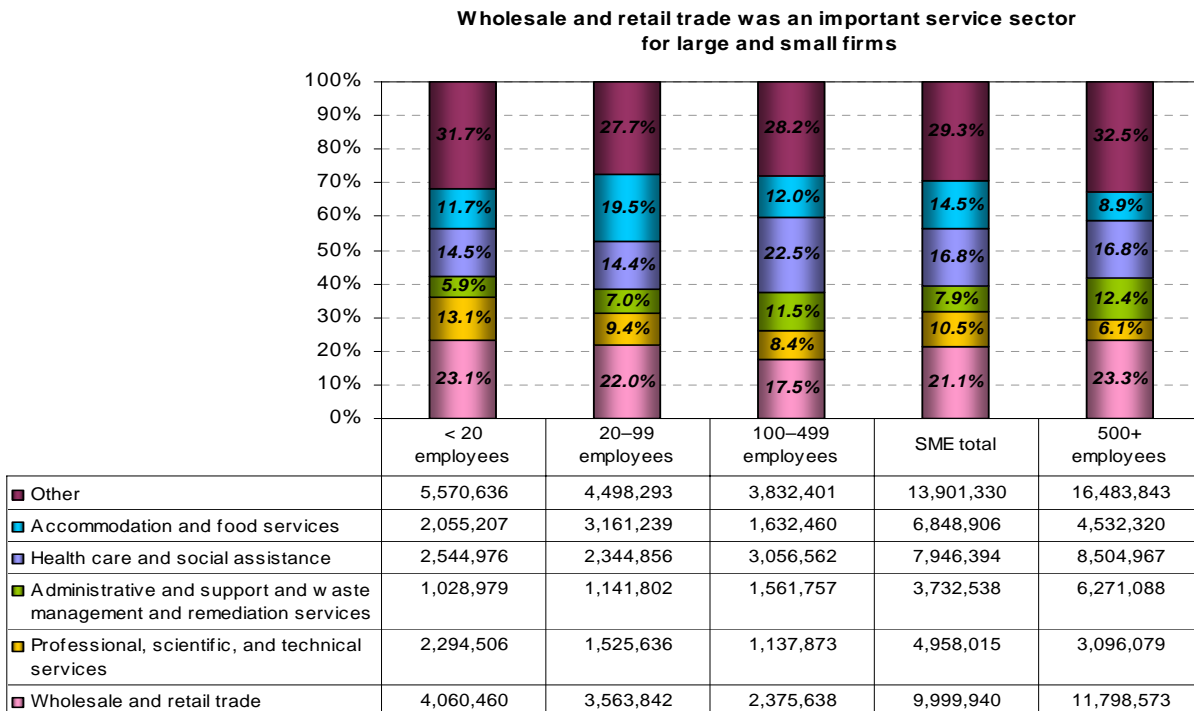
**FIGURE 2.3** Sectoral employment by firm size, 2006



Source: SBA Advocacy, Data on Small Business, U.S. Data, from Census data.

Note: "Other" includes mining, quarrying, and oil and gas extraction; and construction. Excludes employment in agriculture, forestry, fishing and hunting; and data that could not be classified.

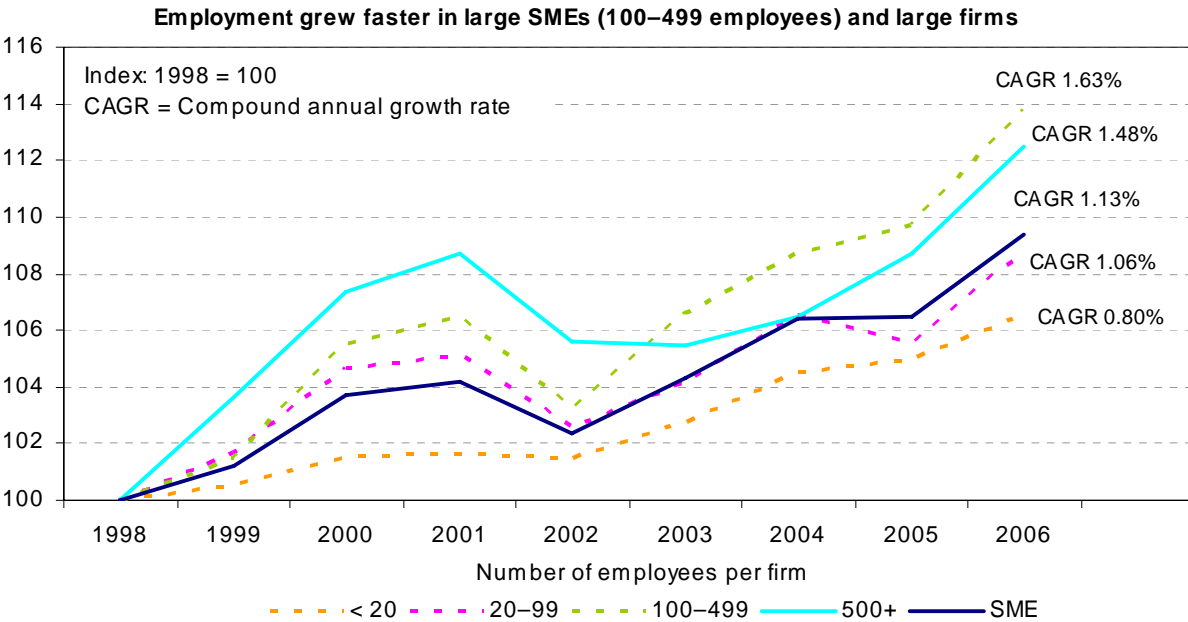
**FIGURE 2.4** Services sector employment by firm size, 2006



Source: SBA Advocacy, Data on Small Business, U.S. Data, from Census data.

Note: "Other" include utilities; transportation and warehousing; information; finance and insurance; real estate and rental leasing; management of companies and enterprises; art, entertainment, and recreation; educational services; and other services.

**FIGURE 2.5** Growth of nonfarm private employment by firm size, 1998–2006



Source: SBA Advocacy, Data on Small Business, U.S. Data, from Census data.

classes from one year to the next.<sup>22</sup> However, changes in employment shares can be misleading when examining job creation and net employment by firm size because the employment trends include the migration of firms into larger size classes.<sup>23</sup>

BLS data on net new jobs, which hold the firm’s size class constant, highlight the importance of employer SMEs in creating new jobs.<sup>24</sup> According to the data on net new jobs, SMEs accounted for 64.1 percent, on average, of net new jobs created per quarter by private sector firms during the approximately 16 years from the third quarter of 1992 to the first quarter of 2009 (figure 2.6).<sup>25</sup> Growth in net new jobs was evenly distributed across SMEs regardless of firm size. Significantly, 38.4 percent of gross job gains occurred in SMEs with fewer than 20 employees, compared to 22.7 percent for firms with 500 or more employees (figure 2.7). However, these small firms also accounted for 39.1 percent of gross job losses, reflecting the greater stability of larger firms.<sup>26</sup>

<sup>22</sup> For example, SBA Advocacy estimates that in 2008, 627,000 new firms were born and 595,000 firms closed. According to SBA Advocacy, 7 out of 10 new employer firms last at least two years, and about half survive five years. Most new firms start small. SBA Advocacy, *Frequently Asked Questions*, September 2009, 1.

<sup>23</sup> Edmiston, “The Role of Small and Large Businesses in Economic Development,” 2007, 75–78. Edmiston argues that the effects of small business failures and of the migration of small firms into larger size classes have outweighed the effects of migration of large firms into smaller size classes and small business startups, with the result that the employment share of larger firms has increased over time.

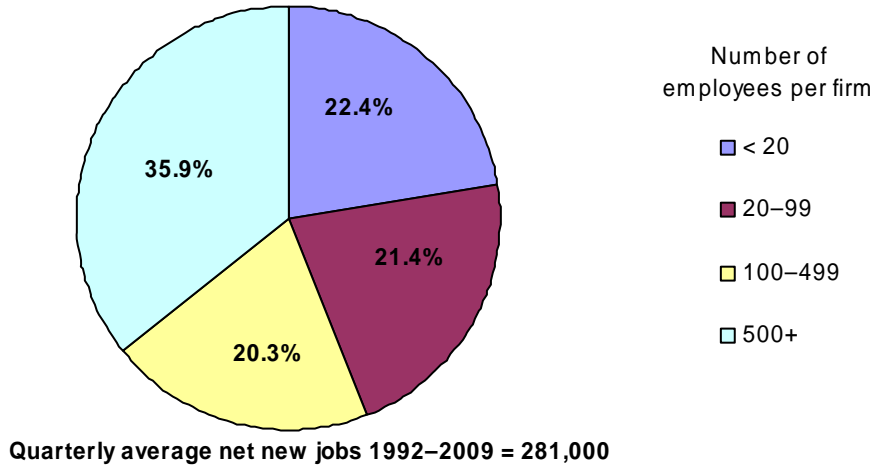
<sup>24</sup> BLS uses the dynamic sizing method, which allocates each firm’s employment gain or loss during a quarter to the class size in which the change occurred. See BLS *Business Employment Dynamics Technical Note*, November 19, 2009. “Net new jobs” is the difference between job gains from opening or expanding firms and job losses from shrinking or closing firms. The data on net new jobs is from the BLS, Business Employment Dynamics Database. The database includes job gains and losses by establishments on a quarterly basis. It excludes government workers, private households, and establishments without employees.

<sup>25</sup> BLS, Business Employment Dynamics Database, Supplemental Firm Size Tables, table D.

<sup>26</sup> These job losses result in part from the relatively high exit rates of firms with 1–4 employees. BLS, Supplemental Firm Size Tables, table C.

**FIGURE 2.6** Average quarterly share of nonfarm private net new jobs by firm size, 1992–2009

**SMEs accounted for 64.1 percent of net new jobs**

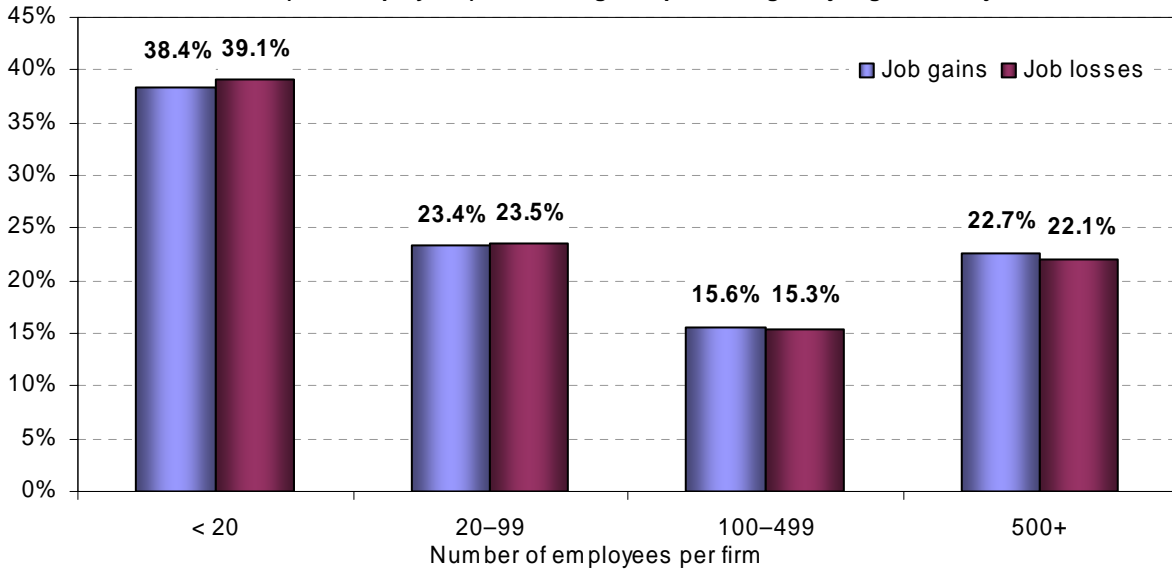


Source: BLS, Business Employment Dynamics Database, table D.

Note: Data cover the third quarter of 1992 to the first quarter of 2009

**FIGURE 2.7** Average quarterly share of job gains and losses by firm size, 1992–2009

**Small SMEs (< 20 employees) had the highest percentage of job gains and job losses**



Source: BLS, Business Employment Dynamics Database, table C.

Note: Data cover the third quarter of 1992 to the first quarter of 2009



Business startups, most of which start small, are also significant in generating job growth and new employment.<sup>27</sup> According to a recent study, private sector business startups accounted for 3 percent of new jobs on average per year during 1980–2005.<sup>28</sup>

The impact of nonemployer firms on employment and employment growth is less clear than for employer firms. The number of nonemployers increased faster than the number of employer businesses between 1998 and 2006, reflecting the relative ease of exit and entry into business for nonemployers (figure 2.8). However, according to research based on 2002 Census data, the majority of these businesses are not “job creators,” but rather part-time efforts to earn supplemental income.<sup>29</sup> Other research has found that some nonemployers create the foundation for future employer businesses. In studying nearly half of all nonemployer businesses in 40 industries from 1992 to 2000, this research found that over a three-year period, 3 percent of 7 million nonemployers (220,000 businesses) migrated to become employers.<sup>30</sup> More significantly, this 3 percent of firms represented 28 percent of young firms (three years old or less) in the sample, suggesting opportunities for employment growth from nonemployer firms.

### ***Economic Activity***

SMEs contributed \$4.7 trillion to the U.S. economy in 2004, or roughly 50 percent of U.S. private nonagricultural GDP.<sup>31</sup> The SME share of nonagricultural GDP remained relatively stable from 1998 to 2004.<sup>32</sup> The services sectors were the most important for SME economic activity, accounting for 79.0 percent of SMEs’ contribution to GDP. The wholesale and retail trade sectors combined accounted for the largest share of SME GDP (15.3 percent), followed by real estate (11.6 percent) and professional, scientific, and technical services (11.1 percent). Manufacturing (combined with mining) ranked fourth among the economic sectors, accounting for 11.0 percent of SME GDP in 2004, followed by construction (10.0 percent) (figure 2.9).

The GDP pattern is different for large firms, where manufacturing and mining accounted for 23.3 percent of large firms’ contribution to GDP in 2004, followed by wholesale and retail trade (figure 2.10). Other notable differences between SMEs’ and large firms’ contributions to GDP include the relatively larger roles of financial and insurance services in large-firm GDP and professional, scientific, and technical services in small-

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<sup>27</sup> According to SBA Advocacy, 99.8 percent of new employer establishments were started by small firms. See *Frequently Asked Questions*, 2009, 1.

<sup>28</sup> Haltiwanger, Jarmin, and Miranda, *Jobs Created from Business Startups in the United States*, 2009, 1. This study suggests that U.S. net employment growth would have been negative, on average, without these jobs. The authors also found that startups remained robust, even during cyclical contractions, particularly for firms with 1–4 employees.

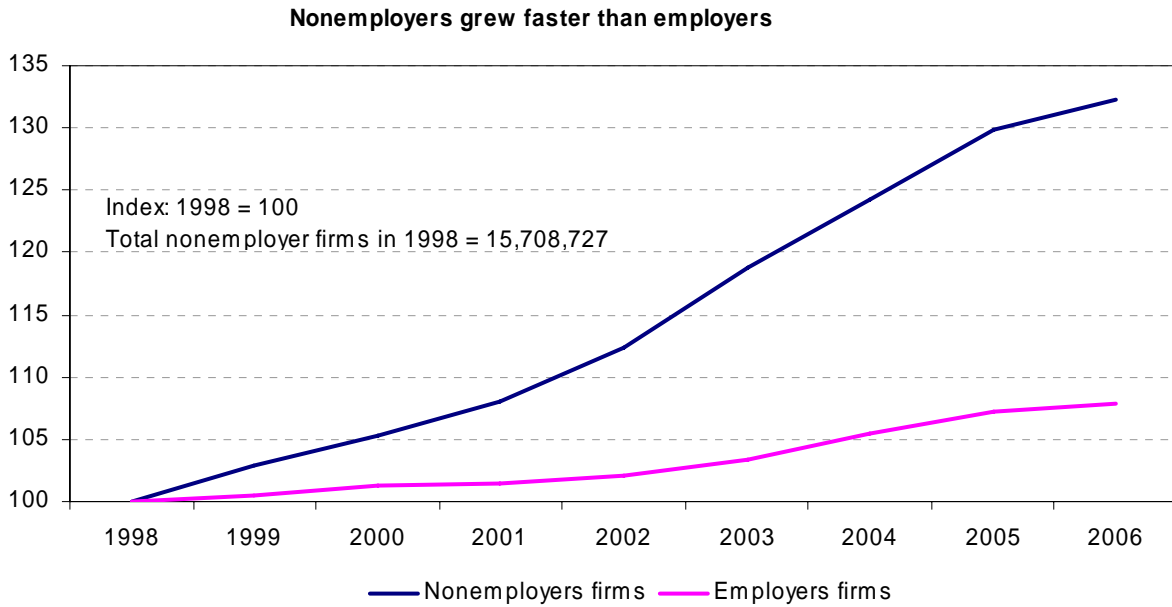
<sup>29</sup> Shane, “Nonemployer Firms: The Impact of Companies without Employees,” July 13, 2009.

<sup>30</sup> Davis et al., “Measuring the Dynamics of Young and Small Businesses,” 2009, 331.

<sup>31</sup> Kobe, *The Small Business Share of GDP, 1998–2004*, 2007. This study was prepared for SBA Advocacy. Kobe notes that estimates of small-firm GDP have often not covered the agricultural sector. Estimates of large- and small-firm GDP are based on compensation, business taxes, and gross operating income data from BEA.

<sup>32</sup> *Ibid.*, 1.

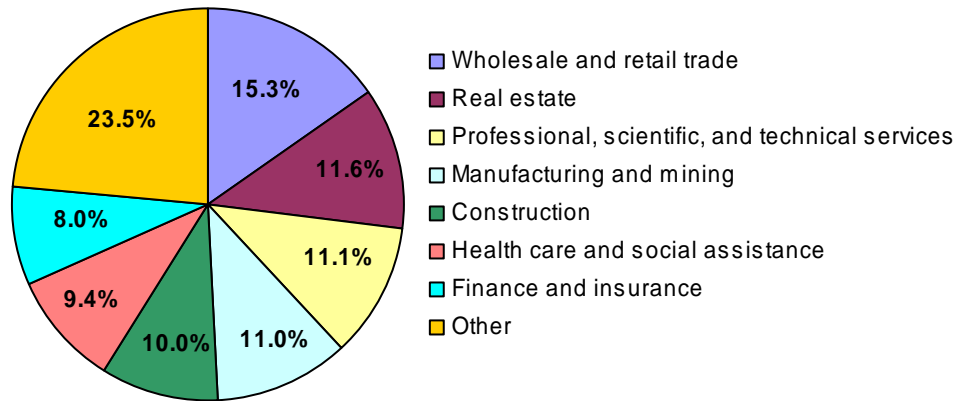
**FIGURE 2.8** Growth of nonfarm private nonemployer and employer firms, 1998–2006



Source: SBA Advocacy, Data on Small Business, Nonemployer Statistics and U.S. Data, from Census

**FIGURE 2.9** SME nonagricultural GDP by sector, 2004

**Services sectors accounted for the largest shares of SME GDP**



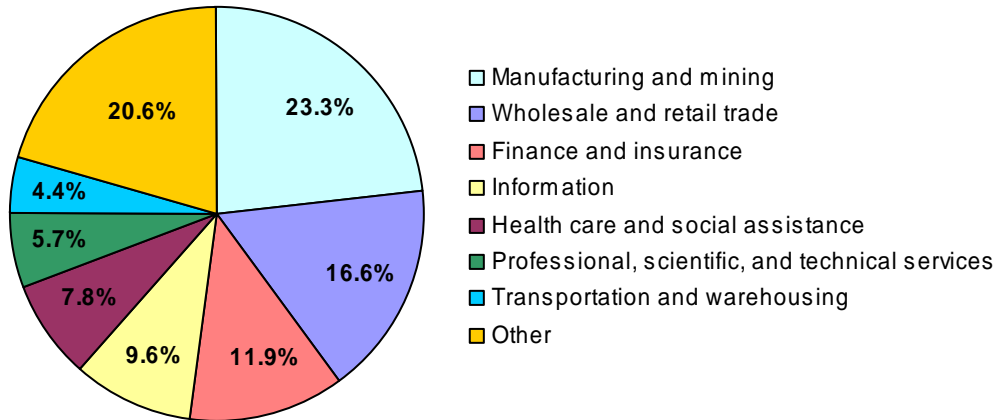
**SME GDP = \$4.7 trillion**

Source: Kobe, *The Small Business Share of GDP, 1998–2004, 2007*, 8-9.

Note: "Other" includes services sectors: utilities, transportation, information, education, entertainment, accommodation and food, administrative and support and waste management and remediation services, management of companies, and other services.

**FIGURE 2.10** Large firms' nonagricultural GDP by sector, 2004

**Manufacturing and mining sectors accounted for the largest share, but services sectors as a group predominated**



**Large firms' GDP = \$4.6 trillion**

Source: Kobe, *The Small Business Share of GDP, 1998-2004*, 2007, 8-9.

Note: "Other" includes construction and services sectors: utilities, education, entertainment, accommodation and food, administrative and support and waste management and remediation services, management of companies, and other services.

firm GDP. SMEs accounted for over 80 percent of the construction and "other services" sectors' contributions to U.S. GDP.<sup>33</sup>

Other indicators of economic activity highlight the importance of SMEs in the U.S. economy. In 2002 (latest available data), SMEs accounted for 40 percent of U.S. firm sales.<sup>34</sup> Additionally, SMEs accounted for 44 percent of U.S. payrolls in 2006.<sup>35</sup>

### Other Characteristics of SMEs

Besides employment, SMEs provide two other unique contributions to the U.S. economy. These contributions are (1) the role that SMEs play in innovation and (2) the opportunities they provide for all citizens, including minorities, to develop entrepreneurial skills and grow businesses.

SMEs are an important source of innovative processes, products, and services. One way to measure a firm's propensity to innovate is through patent filings. A recent study released by SBA Advocacy demonstrates that small firms produce significantly more patents per employee than large firms and that their patents are more technologically important, according to patent impact metrics.<sup>36</sup> Small firms also have been found to be

<sup>33</sup> Kobe, *The Small Business Share of GDP, 1998-2004*, 2007, 1.

<sup>34</sup> SBA Advocacy, Data on Small Business, U.S. Data.

<sup>35</sup> Ibid.

<sup>36</sup> Breitzman and Hicks, *An Analysis of Small Business Patents*, November 2008, iii.

more profit- and cost-efficient, producing more innovations for a given amount of research and development expenditures.<sup>37</sup> While both large firms and SMEs undertake innovations that result in technological advances, SMEs can be more efficient in the innovative process.<sup>38</sup>

In 2002, minority-owned businesses represented roughly 18 percent of all firms and were mostly SMEs rather than large companies.<sup>39</sup> In comparison, minorities represented approximately 27 percent of the labor force in 2000, according to Census.<sup>40</sup> More specifically, among employer firms, minority-owned businesses accounted for approximately 11.6 percent of firms with fewer than 500 employees and for an estimated 2.5 percent of firms with 500 or more employees in 2002.<sup>41</sup> Approximately 85 percent of minority-owned employer firms employed fewer than 10 employees, as compared to an estimated 80 percent of white-owned employer firms.<sup>42</sup> Small-business opportunities are also important to minorities and immigrants because an increasing percentage of remittances abroad from immigrants in the United States are related to small-business transactions.<sup>43</sup> Additionally, a study for SBA Advocacy found that approximately 16 percent of the companies in their sample of high-tech companies had at least one foreign-born person among their founding teams, which highlights the important role of foreign-born individuals in U.S. high-tech entrepreneurship.<sup>44</sup>

## Characteristics of Small Farm Businesses

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Although 68 percent of all U.S. farm businesses in 2007 were small farms, small farms accounted for only 11 percent (\$31 billion) of the total commercial value of all agricultural production in 2007 (figure 2.11). By contrast, large farms accounted for 32 percent of all farm businesses and 89 percent of the value of farm production.

Although small farms contributed less than one-third of the total value of farm production for any given commodity in 2007, small farm contributions varied significantly by commodity. Small farms accounted for 15–30 percent of the value of production of various field crops (e.g., grains and oilseeds) and other livestock (e.g., horses, sheep, and goats) (figure 2.12). The smallest farms were more likely to be involved in agricultural production requiring less labor and capital investment and having lower costs, such as grazing animals (e.g., cattle and other livestock).<sup>45</sup>

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<sup>37</sup> Vossen, “Combining Small and Large Firm Advantages in Innovation,” 1998, 6–7.

<sup>38</sup> Edmiston, “The Role of Small and Large Businesses,” 2007, 89.

<sup>39</sup> “Minority-owned” is defined as any firm with “Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or Hispanic or Latino” owners holding a 51 percent or larger stake. Census, *2002 Survey of Business Owners: Statistics for Minority-owned Firms*.

<sup>40</sup> The Commission defined a minority as an individual of “Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or Hispanic or Latino” race or ethnicity. To derive labor force participation rates for this segment of the population, the Commission subtracted Census’ “White non-Hispanic” U.S. labor force data from U.S. labor force totals. See Census, 2000 EEO Data Tool. Minority-owned business statistics for SMEs and large firms can be found in Census, *2002 Survey of Business Owners: Company Summary*, 2006, table C (firms with employees) and table D (firms with no paid employees).

<sup>41</sup> Census, *2002 Survey of Business Owners: Small Employer Firms*, 2009.

<sup>42</sup> Census, *2002 Survey of Business Owners: Company Summary*, 2006, table Q.

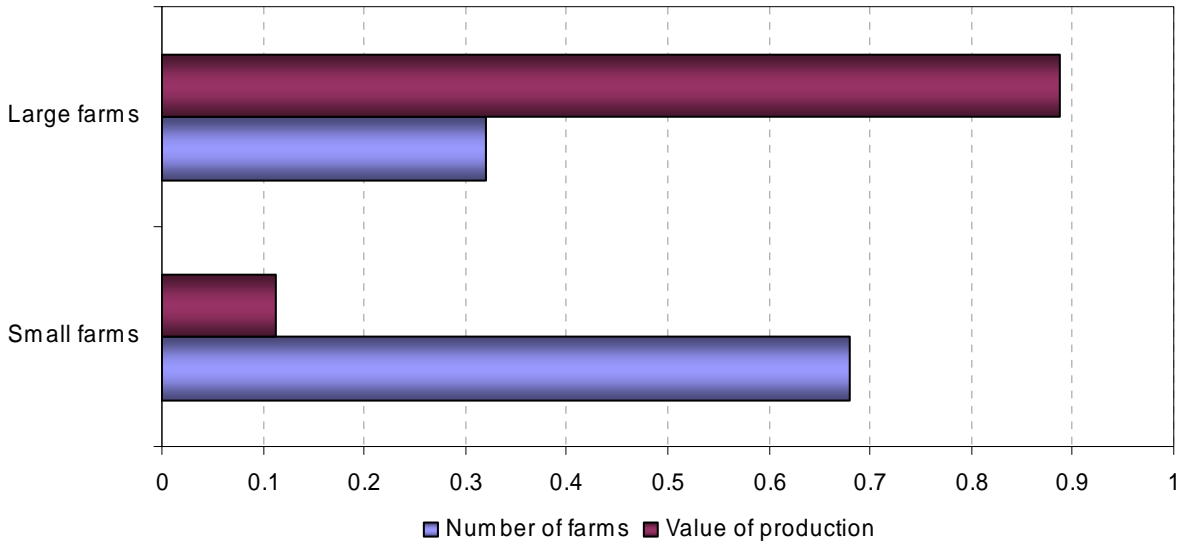
<sup>43</sup> National Minority Business Council, e-mail message to Commission staff, December 2, 2009.

<sup>44</sup> Hart, Acs, and Tracy, *High-Tech Immigrant Entrepreneurship in the United States*, July 2009, 33.

<sup>45</sup> Hoppe et al., *Structure and Finances of U.S. Farms*, June 2007, 9.

**FIGURE 2.11** Value of commercial farm production and number of farms by farm size, 2007

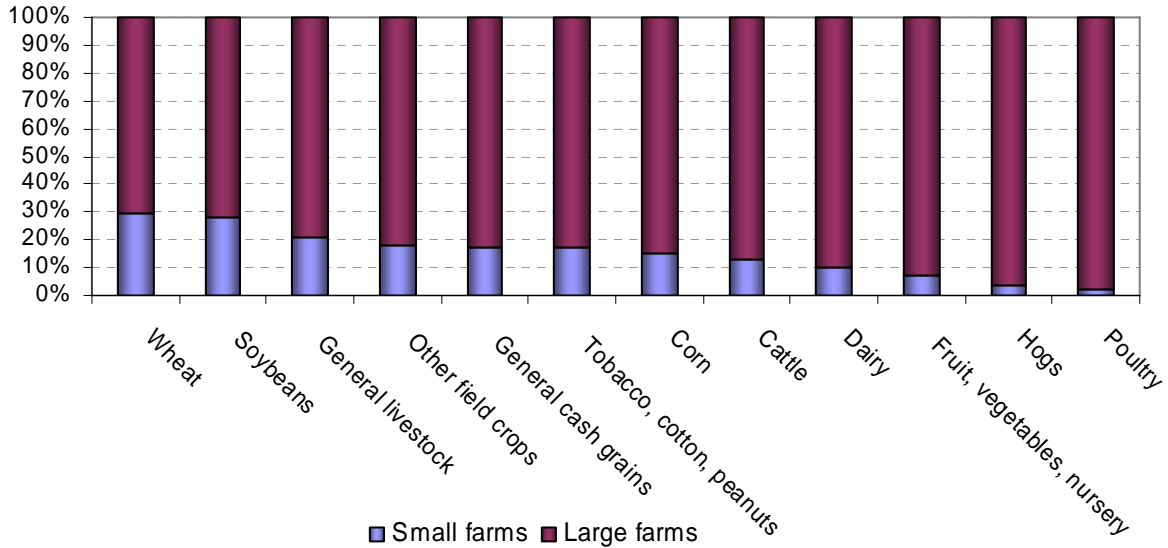
**The value of commercial production for large farms was much higher than for small farms, despite the smaller number of large farms**



Source: USDA, ERS, ARMS, August 6, 2009.

**FIGURE 2.12** Value of commercial farm production by crop and farm size, 2007

**Large farms have a higher share in the value of commercial crop and livestock production than small farms**



Source: USDA, ERS, ARMS, August 6, 2009.

Farms whose size was near the boundary between “large” and “small” were more likely to specialize in field crop production, while the largest farms were more apt to be involved in poultry, hogs, and high-value crops (e.g., fruits, vegetables, and nurseries). Higher-value agricultural products are typically produced on large farms due to higher labor requirements and necessary marketing expertise.<sup>46</sup> Swine production, for example, is dominated by large farms due to production efficiencies associated with larger operations that specialize in a single phase of production and contract production.<sup>47</sup>

It is uncommon for a farmer to directly engage in exporting agricultural products. Instead, agricultural products are typically purchased by an intermediary, such as a cooperative or private firm (e.g., Cargill), that purchases large quantities of a commodity from numerous farmers. The intermediary then either processes the commodity or sells the commodity directly to a domestic or foreign buyer.

## Characteristics of SMEs as Exporters

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### *Characteristics of Firms That Export*

Most U.S. firms, including SMEs, do not export directly to foreign markets. According to a study for SBA Advocacy, less than 2 percent of all U.S. firms exported directly in 2002.<sup>48</sup> Merchandise exports also constituted a smaller share of the economic activity of SMEs than of larger firms. As noted above, exports accounted for 3.8 percent of SME GDP in 2004—only one-third of the proportion (11.5 percent) that exports contributed to large-firm GDP, based on Census figures for direct merchandise exports.

According to a recent study, while most firms do not export, those that do tend to be larger and more productive. One study found that 3.1 percent of U.S. firms exported goods in 2000 and that the top 1 percent of these exporting firms accounted for 11.0 percent of U.S. workers and 80.9 percent of the value of U.S. exports.<sup>49</sup> This study also found that firms that exported (particularly firms in the retail and wholesale trade), as well as those that switched from nonexporting to exporting, increased their employment more rapidly than other firms between 1993 and 2000. Significantly, exporters have been shown to be more skill- and capital-intensive, to display higher productivity, and to pay higher wages than nonexporting firms.<sup>50</sup> These same characteristics differentiate exporting and nonexporting firms regardless of the size of the exporting firm.<sup>51</sup>

Manufacturers, service providers, and farms have different marketing channels they use to supply foreign markets. They can sell directly to foreign customers or use export intermediaries (such as wholesalers, transportation companies, brokers, or processors) who use their products/services in their sales abroad (figure 2.13). Further research is

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<sup>46</sup> Hoppe et al., *Structure and Finances of U.S. Farms*, June 2007, 10.

<sup>47</sup> Key and McBride, “The Changing Economics of U.S. Hog Production,” December 2007, 27.

<sup>48</sup> Headd and Sadde, *Do Business Definition Decisions Impact Small Business Research Results?* 2008.

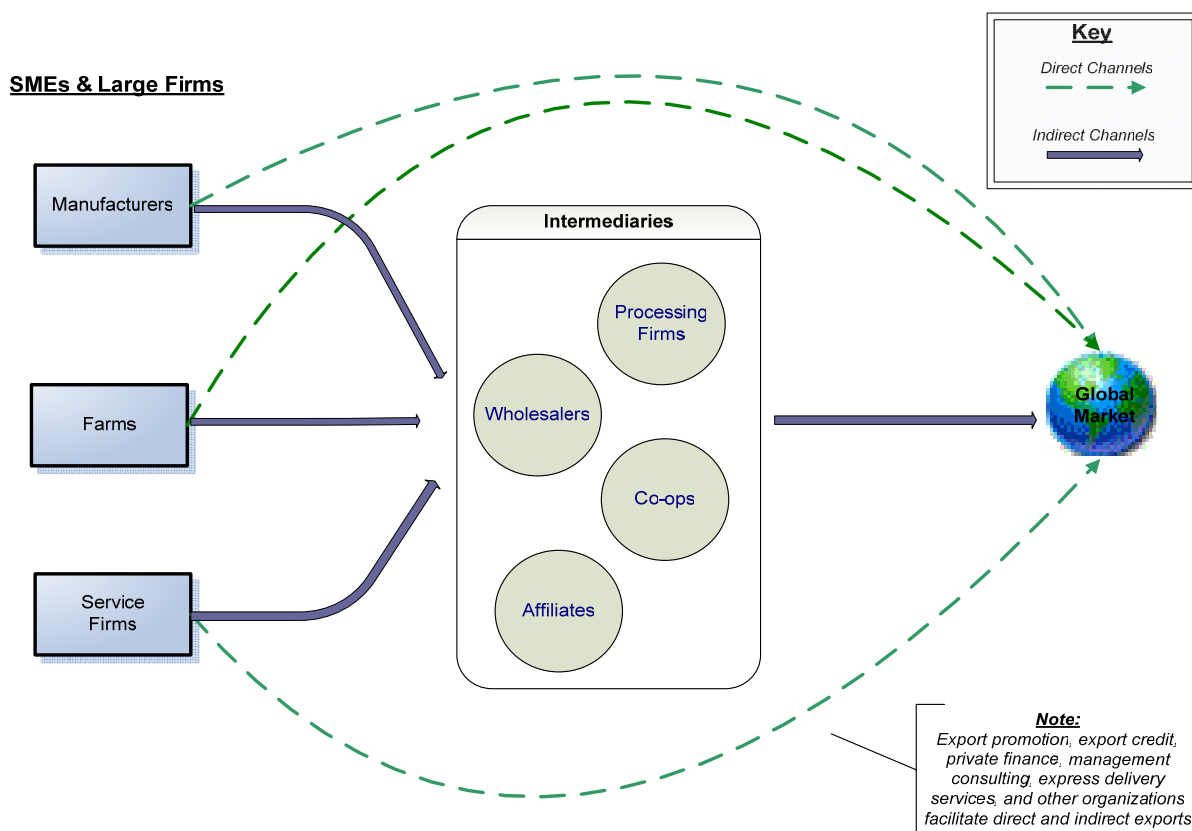
Data are from the Census’ 2002 *Survey of Business Owners*. This survey will be updated in 2010.

<sup>49</sup> Bernard, Jensen, and Schott, “Importers, Exporters and Multinationals,” 2009, tables 1 and 2, 514.

<sup>50</sup> Bernard et al., “Firms in International Trade,” 2007, 105.

<sup>51</sup> Ibid.

**FIGURE 2.13** Avenues for firm exports



Source: Commission staff.

needed to more fully understand the characteristics of SMEs that contribute to export supply chains.

### ***Constraints on SME Exporters***

Compared to larger firms, SMEs are typically characterized as “resource-constrained,” a situation that lessens their ability to export. SMEs are more likely to face scarcities of financial and human resources that limit their ability to act on opportunities abroad. For example, such factors as limited personnel, the inability to meet quality standards, lack of financial backing, and insufficient knowledge of foreign markets may be important constraints affecting SME exporters.<sup>52</sup> Exporting is often viewed as a risky venture that can be costly to the firm; to be successful, a small firm must acquire sufficient resources to mitigate the higher risk of operating in international markets.<sup>53</sup> To help SMEs mitigate some of the risk associated with selling abroad, several U.S. government agencies,

<sup>52</sup> Patel and D’Souza, *Leveraging Entrepreneurial Orientation to Enhance SME Performance*, 2009, 3. These constraints are often referred to as organizational impediments.

<sup>53</sup> Dhanaraj and Beamish, “A Resource-Based Approach to the Study of Export Performance,” 2003, 245.

including the U.S. Export-Import Bank, the Overseas Private Investment Corporation, the SBA, Commerce, and others, have instituted formal programs that facilitate SME exports.

According to a study for the National Federation of Independent Business (NFIB), SMEs must often deal with higher costs of goods sold and a reduced ability to absorb regulatory and other business costs because the unit cost of many goods and services declines as companies become larger and purchases increase.<sup>54</sup> Scale economies provide larger manufacturing establishments a competitive advantage in exporting, according to The Manufacturing Institute (TMI).<sup>55</sup> However, the Internet, government programs, and new technologies that benefit smaller-scale production of commoditized products have helped to increase SME export sales.<sup>56</sup> The share of manufacturing SMEs reporting to the National Association of Manufacturers that exports account for more than one-fourth of their sales grew from 3.8 percent in 2001 to 12.8 percent in 2008.<sup>57</sup>

Many of the businesses operated by SMEs are not export-oriented. In a survey undertaken for the NFIB in 2008, “Exporting My Products/Services” was ranked as the least important problem, out of 75, facing small business owners, and had remained unchanged since 1986.<sup>58</sup> According to this survey, growth for small businesses often means expanding in the local area, not selling in foreign markets. On the other hand, “Exporting My Products/Services” was considered a “critical” problem for 2 percent of the firms in the NFIB survey.

### **Entrepreneurial Orientation and SME Exports**

Recently, a study for SBA Advocacy examined entrepreneurial orientation, as defined by risk-taking, proactiveness, and innovativeness, as a factor affecting SMEs’ ability to export.<sup>59</sup> Based on a survey of 270 manufacturing SMEs,<sup>60</sup> this study found that certain entrepreneurial characteristics, such as being proactive and taking risks, helped small firms overcome export impediments and improve export performance. Proactive firms, as defined in this study, are those that anticipate future market needs; risk-taking firms were defined as those that deviate from the status quo; and innovative firms were defined as those that engage in and support new ideas and creativity.<sup>61</sup> The study suggested that proactiveness and risk-taking help firms to create a first-mover advantage through anticipating future demand and bringing new products quickly into the marketplace. In regard to innovation and export performance, the study suggested that resource-strapped SMEs might imitate, rather than innovate, and standardize their products or services as strategies to reduce the liabilities of being small.<sup>62</sup>

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<sup>54</sup> Phillips and Wade, *Small Business Problems & Priorities*, June 2008, 49.

<sup>55</sup> TMI, *Facts about Modern Manufacturing*, 2009, 20.

<sup>56</sup> Ibid.

<sup>57</sup> Ibid.

<sup>58</sup> Phillips and Wade, *Small Business Problems & Priorities*, June 2008, 10. Roughly 80 percent of the NFIB survey firms had fewer than 20 employees, a firm category reflective of the size distribution in the U.S. economy. The problem of most concern to the survey firms was the cost of health care.

<sup>59</sup> Patel and D’Souza, *Leveraging Entrepreneurial Orientation to Enhance SME Performance*, 2009.

<sup>60</sup> Their study limited SMEs to less than 250 employees.

<sup>61</sup> These three attributes were measured using nine-item, seven-point scales developed in the literature.

<sup>62</sup> Patel and D’Souza, *Leveraging Entrepreneurial Orientation to Enhance SME Performance*, 2009, 23.

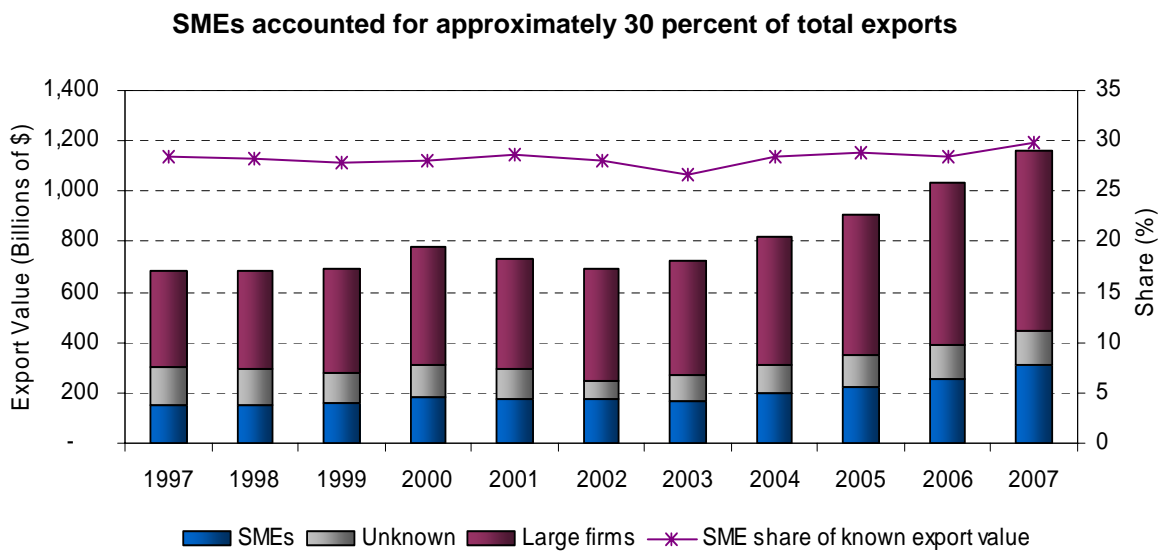


# CHAPTER 3

## The Role of SMEs in U.S. Merchandise Exports

SMEs accounted for approximately 30 percent of known U.S. merchandise exports between 1997 and 2007 (figure 3.1). During this period, the value of SMEs' merchandise exports increased from \$152.9 billion to \$306.6 billion (100.5 percent), and large firms' merchandise exports increased from \$385.1 billion to \$719.2 billion (86.7 percent).<sup>1</sup> While SMEs' principal export products and markets were broadly similar to those of large firms as of 2007, SMEs exported a higher share to higher-income small markets.

**FIGURE 3.1** U.S. merchandise exports by firm size and share of exports by SMEs, 1997–2007



Source: Official Census statistics.

Note: SME and large-firm export data are classified as known values—export values for which Census was able to match the reported exporter with its firm size. The “unknown” value is the difference between total recorded exports and the known values.

The characteristics of exports by SMEs and large firms are broadly similar: the principal markets for both are Canada and Mexico, and the principal products exported are computers and electronics products and machinery. SMEs differ from large firms in terms of which export markets they sell to and the type of export products they sell. For example, SMEs have substantially increased their share of merchandise exports to high-income small markets such as Israel and Switzerland as well as their export share of lower export value product categories, such as apparel and wood products. In addition,

<sup>1</sup> Total U.S. merchandise exports amounted to \$1.2 trillion in 2007, up 69.1 percent from 1997. Both SME export growth (100.5 percent) and large-firm export growth (86.7 percent) were higher than total export growth because of the negative growth associated with the “unknown” portion of the data (the data for which the size of the exporting firm is unknown).

whereas large firms increased export value almost exclusively by increasing the average amount each firm exported (value per firm), SME merchandise exports grew during 1997–2007 both because existing SMEs were exporting more (value per firm) and because more SMEs were exporting (number of exporting SMEs).

As described in chapter 1, data on SME merchandise exports come from various sources within Census and cover the period 1997–2007.<sup>2</sup> These data include merchandise exports broken down by firm type (manufacturing, wholesale, and “other”), firm size, types of products exported, and export markets (see box 3.1).<sup>3</sup> Census matched merchandise export data (from such sources as Shippers Export Declarations and IRS information) with information in its Business Register database to develop export statistics with firm size and firm type attributes of “known” values. The “unknown” export value, therefore, is the merchandise export data that Census was unable to match to a specific company in its Business Register database.<sup>4</sup> This chapter presents data on trends in overall merchandise export value, principal export markets, and principal export products, by SME and large firms.<sup>5</sup> Each section also provides data and analysis by firm type and firm size, as appropriate.<sup>6</sup> The data presented hereafter do not include the exports by firms for which the size of the exporting firm is “unknown” (see footnote 1).

Although manufacturers accounted for the largest share of merchandise exports—64.0–74.5 percent of all U.S. merchandise exports between 1997 and 2007 (figure 3.2)—exports by nonmanufacturers (wholesalers and “other”) grew at a much faster pace (130.4 percent) than total U.S. merchandise exports (69.1 percent). Consequently, nonmanufacturers increased their share of total export value by approximately 6 percentage points. Within nonmanufacturing exports, the value of wholesalers’ exports increased much faster than the value of exports by “other” firms—11.1 percent per year compared to 6.1 percent per year during 1997–2007. As a result, wholesaler exporters

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<sup>2</sup> SME export data are available from 1997 to 2007. The Commission chose 2002 as the base year for product- and market-specific analysis because of two factors: 2002 was the first year to have significantly fewer missing data than previous years, and 2002 coincided with the Economic Census. The Economic Census (conducted every five years by Census) generated detailed information on production and employment for SMEs for 1997 and 2002 that can be easily matched to the export data given in this report.

<sup>3</sup> Firm type includes manufacturer, wholesaler, and “other.” The wholesaler firm type includes firms engaged in wholesaling of merchandise, generally without transformation. “Other” firms include manufacturers of prepackaged software and books; freight forwarders and other transportation service firms; business services firms; firms that provide engineering and management services; gas and oil extraction companies; coal mining companies; communications service firms; and a number of small specialties. Firm sizes include 0–19 employees, 20–99 employees, 100–499 employees, and 500+ employees. As described in chapter 1, SMEs are firms with 0–499 employees. Product data are available by 3-digit North America Industry Classification System (NAICS) categories, 2002–07. Merchandise export data by country cover the top 20 countries based on 2007 SME exports for the 2002–07 period.

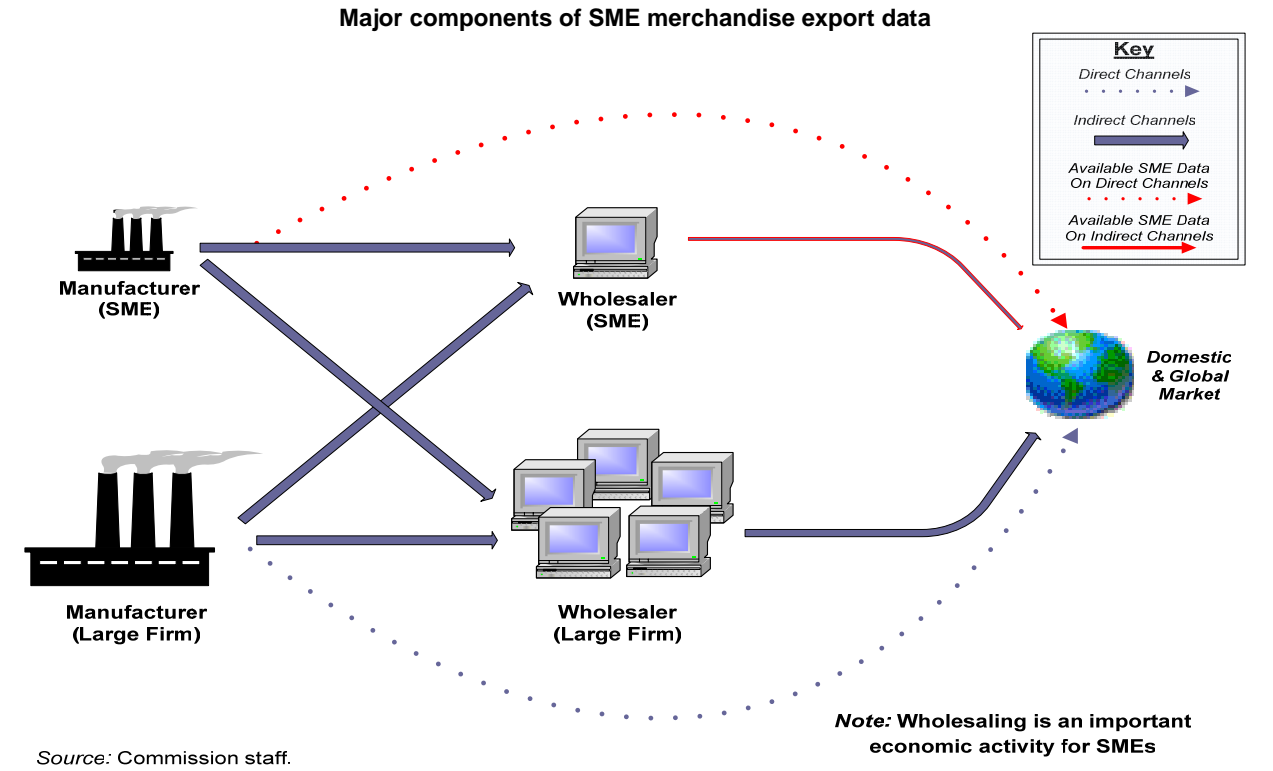
<sup>4</sup> Two sources of possible data distortion should be noted. First, because Census was unable to match every merchandise export transaction to its Business Register database, it gave priority to higher export values. Second, because the percentage of merchandise trade value that is unknown tended to decrease each year, the number of small exporting companies and their associated “known” value are most likely understated in earlier years.

<sup>5</sup> Data on merchandise exports by market and product are available only at the manufacturer/nonmanufacturer level. U.S. merchandise exports data by wholesalers and “other” firms are unavailable.

<sup>6</sup> See appendix C for additional data.

**BOX 3.1** Limited Information on Original Manufacturers

Assessment of the overall value, attributes, and source of growth of SME exports is hampered by the lack of information on the original suppliers of manufactured goods. The limitations associated with SME wholesalers' exports present a particular challenge: although the exporting firm may be an SME, it may have sourced the exported products either from another SME or from a large firm. The same is true for large wholesalers. Consequently, figures on SME wholesaler exports do not necessarily comprehensively reflect SME production, exports of SME products, or SME manufacturing employment. Moreover, the heterogeneous nature of "other" firms also obscures comparisons between export activity and domestic economic activity. The Commission believes, however, that for manufacturers, the size of the producing and exporting firms are more closely associated than for exports by nonmanufacturing firms such as wholesalers. The figure below illustrates how official wholesale SME export data could reflect manufacturing conducted by large manufacturers, which would skew our understanding of SME export behavior.



**FIGURE 3.2** U.S. merchandise exports by firm type, 1997–2007



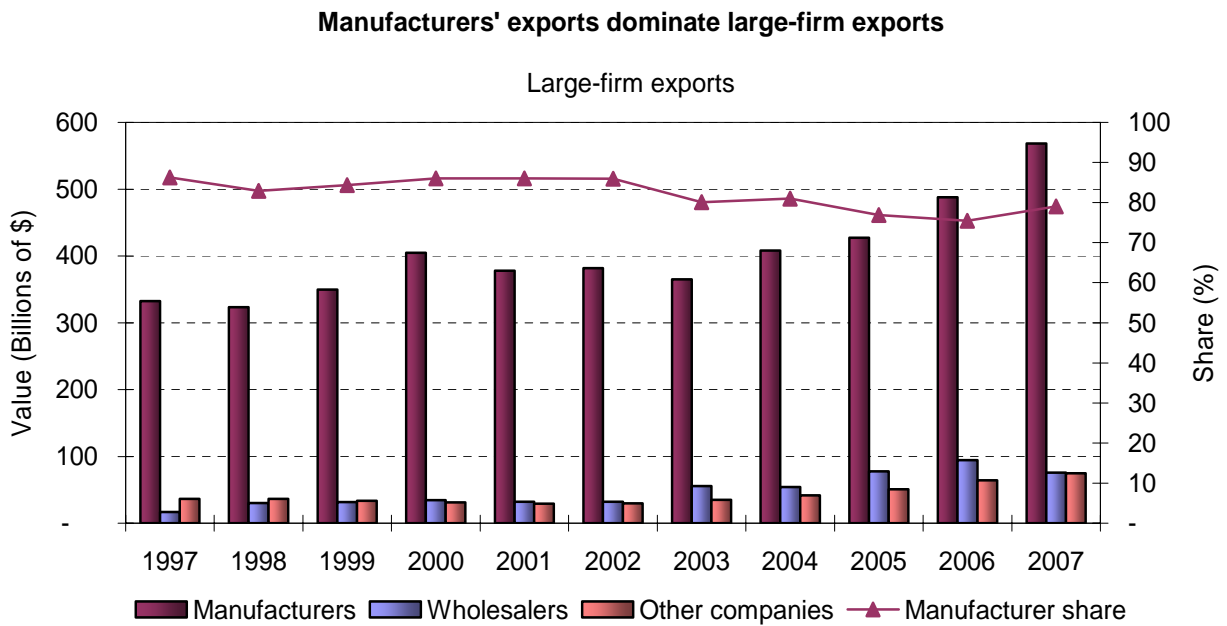
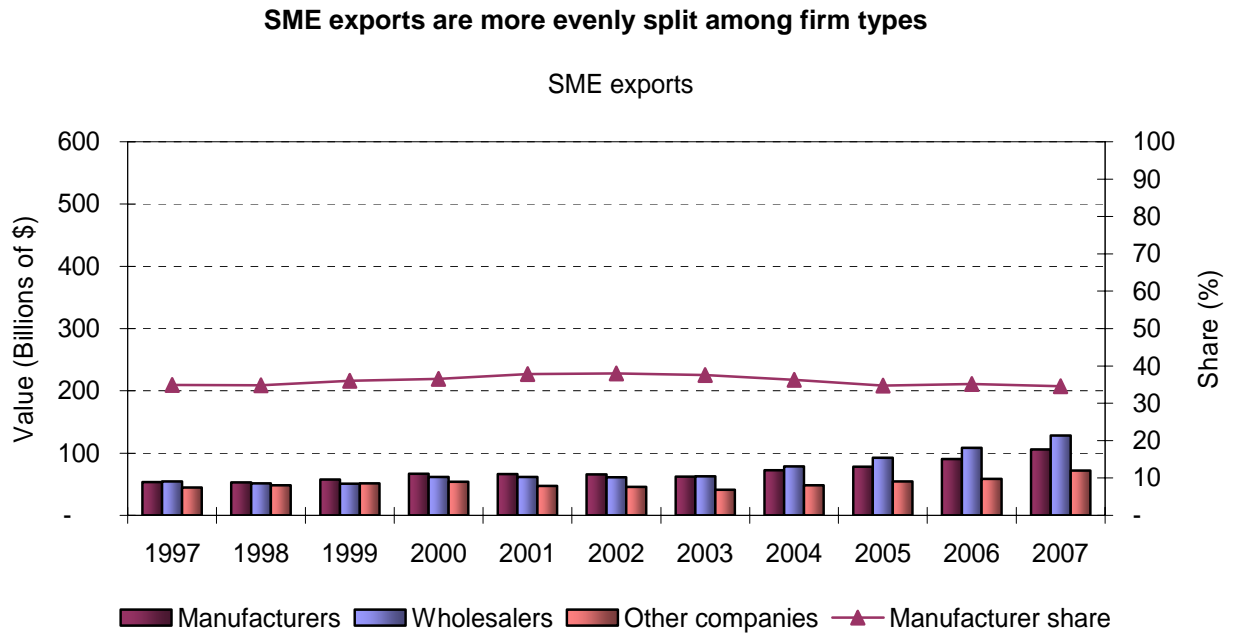
Source: Official Census statistics.

increased their share of nonmanufacturer exports from 47 percent to 60 percent over this period.

SME participation, however, differs substantially across different types of firms. Whereas SMEs represented a small share of manufacturer exports (15.7 percent), they represented the majority of nonmanufacturer exports (57.1 percent). SMEs' share of nonmanufacturer exports has, however, declined from 65.3 percent in 1997, as exports by large nonmanufacturer firms grew faster than those by SME nonmanufacturer firms. Furthermore, as discussed in box 3.1, due to data limitations, it is unclear what share of these merchandise exports were actually manufactured primarily by SMEs, as wholesalers may purchase their merchandise from both SMEs and large firms. Merchandise exports by SMEs also were more evenly distributed among firm types than merchandise exports by large firms (figure 3.3).

As noted, total exports generally increased either because more firms exported (increase in the number of exporting firms) or because exporting firms, on average, exported more (increase in the average per-firm export value), or both. The role of these two sources of export value growth differed between large firms and SMEs, as well as among SME size categories. While total SME merchandise exports increased rapidly between 1997 and 2007, this increase is attributable both to an approximately 80 percent increase in the export value per firm and to an approximately 30 percent increase in the number of exporting firms (an increase of nearly 60,000 firms from 190,000 in 1997). By contrast, the number of large exporting firms remained relatively unchanged (increasing by 75 firms or 1.1 percent), whereas export value per firm increased 48.1 percent during this period. Therefore, while SMEs contributed 31.5 percent of the overall export value growth, they accounted for nearly 100 percent of the growth in the number of exporting firms (figure 3.4).

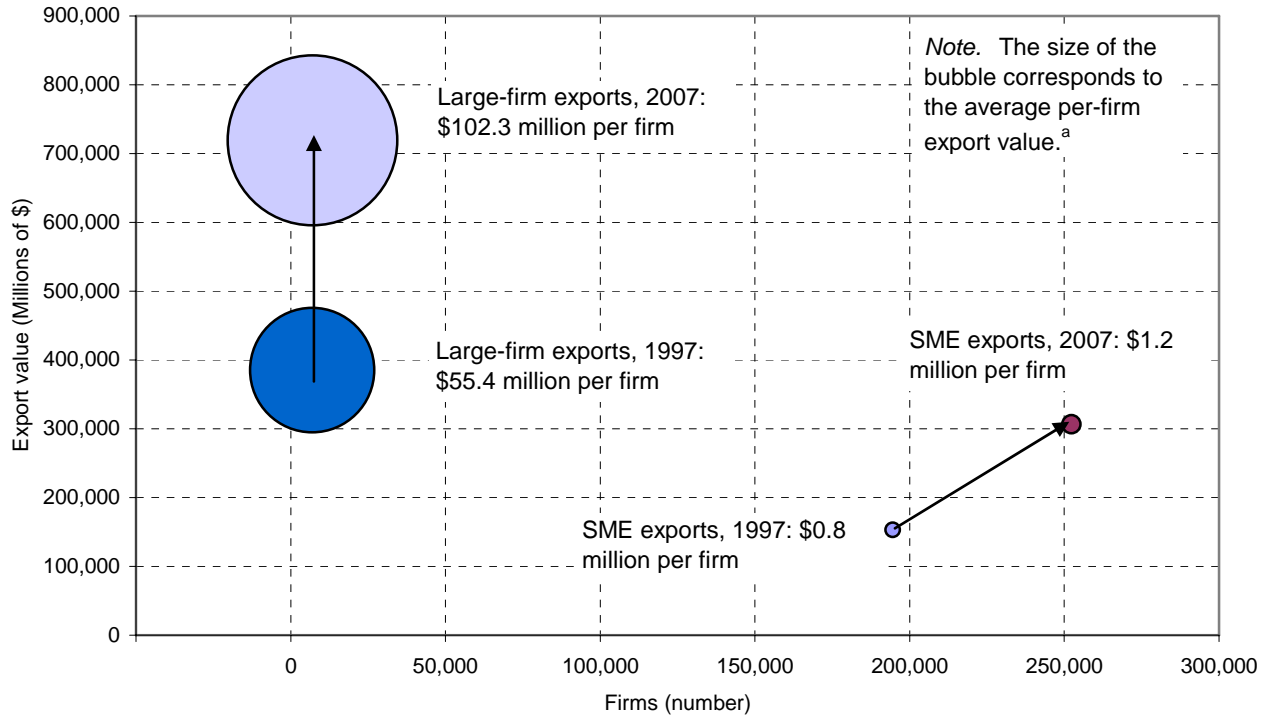
**FIGURE 3.3** U.S. merchandise exports by firm type and firm size, 1997–2007



Source: Official Census statistics.

**FIGURE 3.4** U.S. merchandise exports, by value of exports, number of exporting firms, and average export value per firm by firm size, 1997 and 2007

**By value, exports for all firm sizes increased substantially during 1997–2007, but the number of exporting firms with fewer than 20 employees also increased**



Source: Official Census statistics.

Note: Space was needed on the left of the 0 value on the horizontal axis to accommodate the size of the bubbles.

<sup>a</sup> The average exports value per firm size for 1997 and 2007 is plotted by the total value of exports (Y-axis) and total number of exporting firms (X-axis). The bubble titles include information on firm size, year, and the per-firm average export value (total firm size divided by number of exporting firms).

The extent to which SMEs exported depended on the size of the firm. In general, the larger the SME, the more it exported and the more the average export value per firm increased.<sup>7</sup> Census data confirmed that SMEs with fewer than 20 employees accounted for almost all of the growth in the number of exporting firms (94.8 percent in 1997–2007). However, they exported, on average, only \$0.76 million per firm (an increase of 53.3 percent over 1997). SME firms with 20–99 employees each exported an average of nearly \$1.5 million (an increase of 63.0 percent over 1997), and SMEs with 100–499 employees exported nearly \$5.4 million per firm (an increase of 105.1 percent over 1997).

<sup>7</sup> This is consistent with what Bernard and Jensen found in 1999. Bernard and Jensen, “Exceptional Exporter Performance,” 1999.

## Export Markets

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NAFTA partners Canada and Mexico were the largest export markets for both SME and large-firm merchandise during 2002–07. Combined, these markets accounted for 30.8 percent of total U.S. merchandise exports in 2007—21.8 percent of SME exports and 32.9 percent of large-firm exports (figure 3.5). As noted above, the principal SME exports to Canada and Mexico were computers and electrical products, machinery, and chemicals. Compared to large firms, SMEs accounted for a higher share of exports to smaller high-income markets, such as Hong Kong, Israel, and Switzerland. For example, the SME share of total U.S. merchandise exports to Hong Kong, Israel, and Switzerland combined was 41.6 percent in 2007, well above the SME share of total exports (30.2 percent). The main SME exports to Hong Kong, Israel, and Switzerland were miscellaneous manufactured commodities, computers and electrical products, and chemicals.

Although Canada and Mexico were the leading markets for both SME and large-firm exports between 2002 and 2007, export growth to these markets during this period was below average. Whereas total exports grew by 96.7 percent for SMEs and 63.0 percent for large firms, export growth to Canada and Mexico combined was 70.8 percent for SMEs and 48.0 percent for large firms. In contrast, emerging markets such as China and India had above-average export growth for both SMEs and large firms. SME and large-firm exports to China and India combined increased more than 200 percent (225.7 percent for SMEs and 214.9 percent for large firms) between 2002 and 2007. The product categories that contributed the most to SME export growth to these emerging markets were machinery, chemicals, and computers and electrical products. As a result of the differing growth rates between the leading markets (Canada and Mexico) and emerging markets (China and India), the former's share of total SME exports decreased from 29.8 percent in 2002 to 25.9 percent in 2007, and the latter's share of total SME exports increased from 5.0 percent to 8.4 percent over the same period.

### *Manufacturer Exports by Market*

As shown in figure 3.6, for the 20 markets examined, manufacturer SME exports exhibited a closer relationship between market characteristics (such as size of market, per capita income, and GDP growth) and performance (e.g., SME export market share and change in SME export market share from 2002 to 2007) than large-firm manufacturer exports did.<sup>8</sup> Specifically, SME performance was generally above average for U.S. export markets in the highest-income small markets, average for U.S. export markets in the largest markets, and below average for U.S. export markets in large emerging markets (figure 3.6).<sup>9</sup> For example, the markets where manufacturer SMEs had the largest export

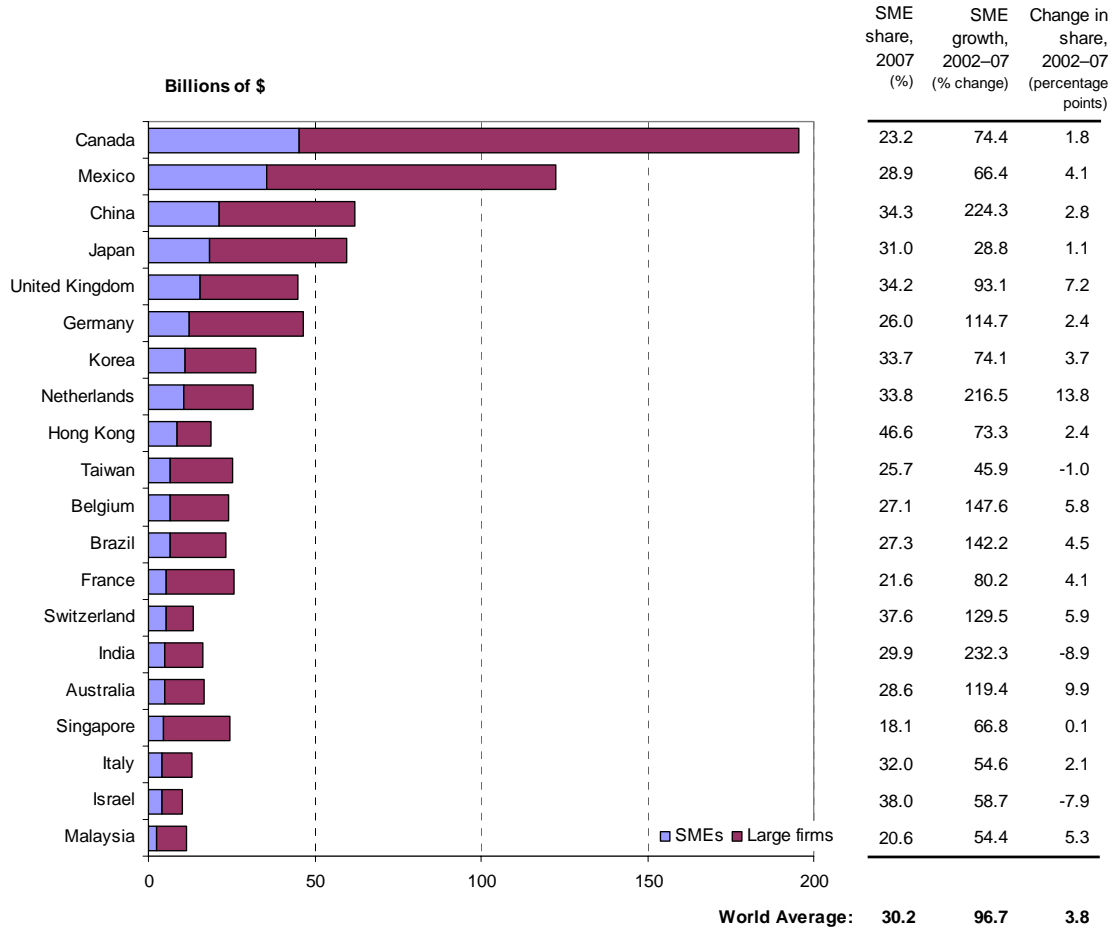
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<sup>8</sup> Analysis similar to that displayed in figure 3.6 was done for exports from all firm types. The corresponding figure can be found in Appendix C (figures C.1 and C.2).

<sup>9</sup> “Highest-income small markets” are countries in which the 2007 GDP PPP per capita was more than \$32,000 and to which the United States exported more than \$10 billion but less than \$35 billion. “Largest markets” are countries that are not defined as emerging markets and that received more than \$45 billion in exports from the United States in 2007. “Large emerging markets” are countries in which 2007 GDP PPP per capita was less than \$10,000, GDP growth was more than 5 percent, and exports from the United States exceeded \$15 billion. Hong Kong and Singapore were excluded as outliers due to their roles in transshipment.

**FIGURE 3.5** U.S. merchandise exports to 20 major markets

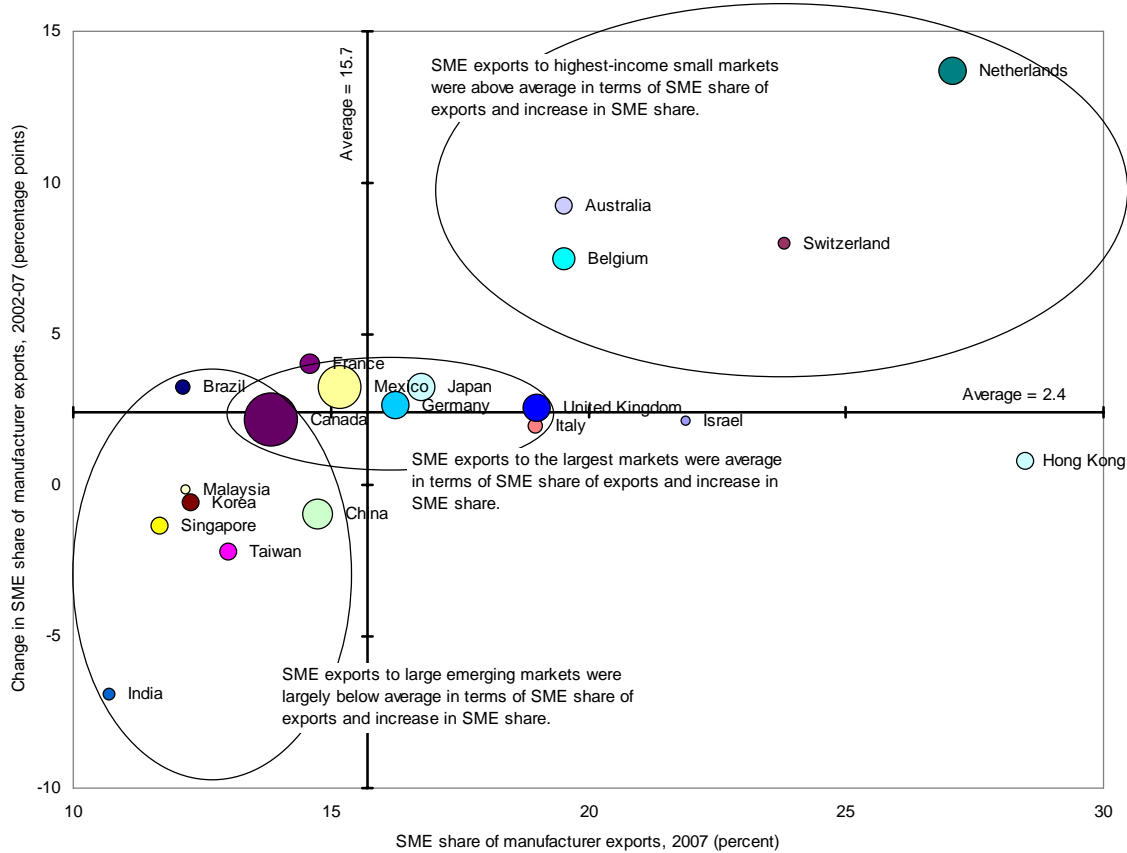
**Canada and Mexico have been major destinations**



Source: Official Census statistics.



**FIGURE 3.6** U.S. manufacturer merchandise exports by major destination market, 2007.



Source: Official Census statistics.

Note: The large ovals group together the different types of major markets to which SMEs export: highest-income small markets, largest markets, and large emerging markets. The small circles represent the relative value of SME manufacturer exports. The grid lines show the relative position of two significant for all destination markets: the SME share of exports (15.7 percent) and the change in SME share of exports (2.4 percentage points).

market share and the largest increase in export market share were the Netherlands and Switzerland. By contrast, despite a 190.4 percent increase in manufacturer SME exports, manufacturer SME export share in emerging markets such as China, Brazil, and India remained below average and changed very little from 2002 to 2007.

### *Nonmanufacturer Exports by Market*<sup>10</sup>

In general, the breakdown of leading markets for nonmanufacturer SMEs by value was broadly similar to that for SME exports from all firm types. Nonmanufacturer exports, however, reflect the relatively large role of SMEs in nonmanufacturer (wholesaling and “other”) exports. As described above, SMEs represent 57.1 percent of nonmanufacturer exports, compared to 30.2 percent of exports from all firm types. As a result, the relatively large SME shares in almost all markets for nonmanufactured goods reflect this difference in SME exporting activity by firm type. In addition, SME market shares in emerging markets were substantially higher than the SME share of total nonmanufacturer

<sup>10</sup> Merchandise exports by firms other than the manufacturers, e.g., wholesalers.

exports (57.1 percent). For example, the SME nonmanufacturer share for China and India combined was 69.4 percent, more than 12 percentage points above the average.

## **Principal Products**

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Like those of large firms, SME exports are concentrated in four main product categories: computers and electronic products, chemicals, machinery, and transportation equipment. These four product categories combined accounted for almost 50 percent of total SME exports (figure 3.7). SME export market shares for these product categories were either below or essentially equal to the SME share of total exports. Transportation equipment had the smallest SME market share (15.2 percent) relative to large firms. The leading product categories in terms of SME export market share were in two of the lowest export value product categories: wood products, and apparel and accessories. Although these products combined made up less than 1 percent of total exports, SMEs accounted for more than 50 percent of the value of these products.

A surge in petroleum prices explains much of the almost 500 percent increase in the value of petroleum product exports between 2002 and 2007. Primary metals, beverages and tobacco products, and chemicals also had relatively large percent increases in export value over the period. Although the primary export markets for these high-growth products were Canada and Mexico, increases in exports to the Netherlands, China, and Germany also played an important role.

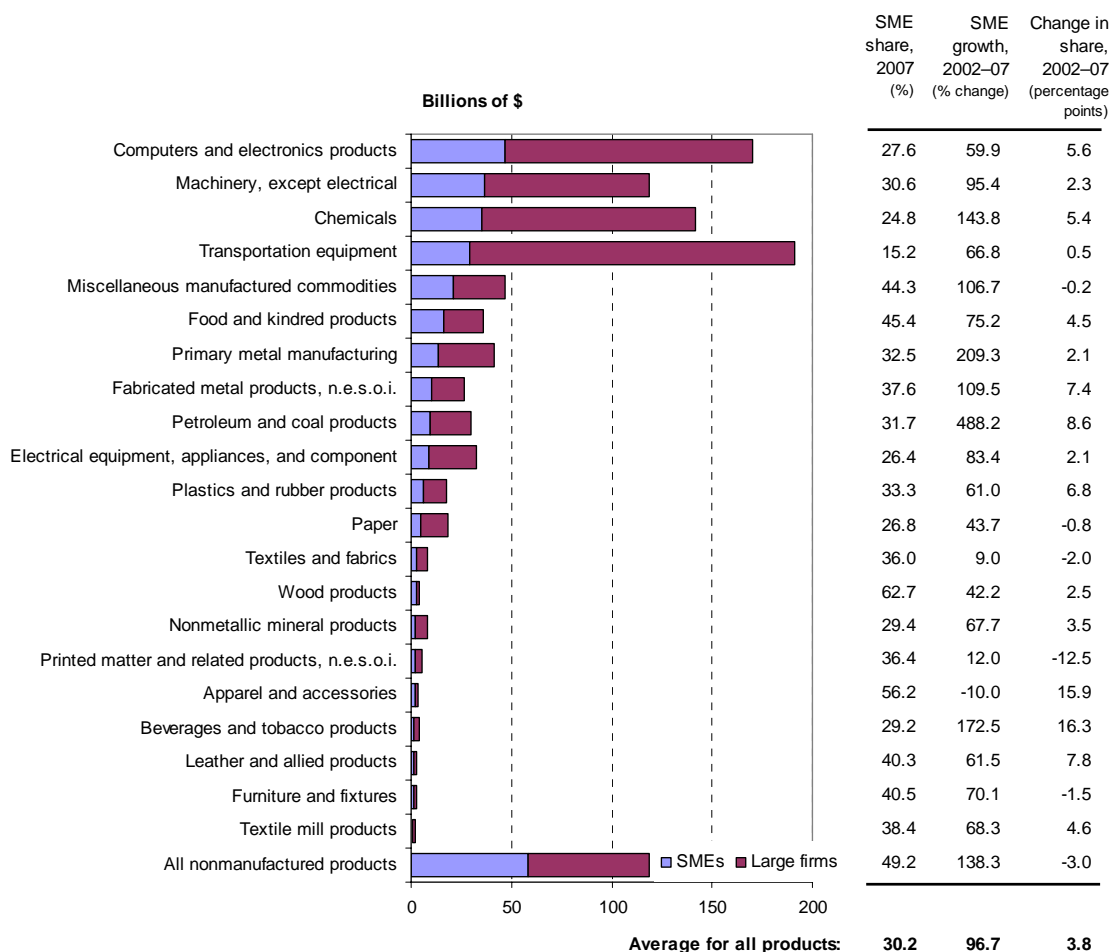
While petroleum products led in percent growth of SME export value, SMEs gained the most export market share in smaller product categories, such as beverages and tobacco products, apparel and accessories, and leather products. SMEs increased their export market share by an average of 11.0 percentage points for these product categories, compared to an average increase in SME market share of 3.8 percentage points. Unlike other product categories, the increase in SME market share for apparel and accessories is largely the result of a steep decline in exports of these products by large firms since 2002. The largest markets for SME exports of beverages and tobacco products, apparel and accessories, and leather products combined were Mexico, Canada, and Japan.

### ***Manufacturer Exports by Product***

Similar to SME exports from all firm types, computers and electronic products, machinery, and chemicals were the leading export product categories for manufacturer SMEs, and SMEs had relatively larger shares of manufacturer exports in smaller product categories. Whereas petroleum products led in growth of SME export value from all firm types, primary metals led in manufacturer SME export value growth, increasing almost 200 percent from 2002 to 2007. Similar to petroleum, however, this large increase is generally due to the high relative increase in prices for raw materials, especially metals, during that period. As with SMEs of all firm types (figure 3.7), manufacturer SMEs gained the most market share in smaller product categories, such as beverages and tobacco products, apparel and accessories, and leather products.

**FIGURE 3.7** U.S. merchandise exports by product category

**SMEs export chiefly computers/electronic products, machinery, chemicals, and transportation equipment**



Source: Official Census statistics.

Note: The abbreviation “n.e.s.o.i.” stands for “not elsewhere specified or included.”

***Nonmanufacturer Exports by Product***

As was the case with SME exports from all firm types, the leading product categories for nonmanufacturer SME exporters were computers and electronic products, transportation equipment, machinery, and chemicals. These products accounted for 42.3 percent of all nonmanufacturer SME exports in 2007 (figure 3.7). One significant difference between exports from all firm types and nonmanufacturer exports was the SME share of transportation equipment exports. Whereas the SME share of this product category was 15.2 percent for exports from all firm types (well below the average SME market share for all firm types), SMEs captured 66.2 percent of nonmanufacturer exports (above the average for SME nonmanufacturer exports). As with exports from all firm types, petroleum products and primary metals had the largest percentage increases in value among all nonmanufacturer SME exports (almost 700 percent and more than 200 percent, respectively) from 2002 to 2007. Nonmanufacturer SMEs gained the most export share in beverages and tobacco products, increasing from 59.6 percent in 2002 to 87.1 percent in 2007.



# CHAPTER 4

## The Role of SMEs in U.S. Services Exports

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Limited information exists regarding exports of services by SMEs.<sup>1</sup> However, this chapter provides some information pertaining to the likely destination of SME services exports by comparing data on affiliate transactions with data on traditional cross-border exports in three services sectors: wholesale trade services; professional, scientific, and technical services; and finance and insurance services (box 4.1). At the firm level, affiliate transactions and cross-border exports are often complements, a point that will be further discussed at the end of this chapter.

### **BOX 4.1** BEA Data on International Service Transactions, and Differences Between Tradable and Nontradable Services

The BEA publishes data on both cross-border and affiliate trade in services. “Cross-border transactions” occur when suppliers in one country sell services to consumers in another country, with people, information, or money crossing national boundaries in the process. Such transactions appear explicitly as imports and exports in the balance of payments. Firms also provide services to foreign consumers through affiliates established in host countries, with the income generated by “affiliate transactions” appearing as direct investment income in the balance of payments. The channel of delivery used by service providers depends primarily on the nature of the services. For example, finance and insurance services and professional services may be supplied through both cross-border trade and affiliate transactions. Wholesale services, however, are typically provided through affiliate transactions rather than through cross-border channels.

There is a significant body of economic literature that refers to tradable and nontradable services. In this literature, a tradable service is one that (a) can be exported in the conventional sense of the term (i.e., it crosses a border *en route* from the provider to the consumer) and (b) is captured as an export in the U.S. balance of payments. A tradable service occurs, for instance, when a U.S. firm, large enough to be included in BEA trade data, electronically transmits an architectural design to a Canadian builder. A nontradable service fails to meet one of the two criteria above. Haircuts and auto repairs are typical examples of nontradable services. The premise of the distinction is that though haircut and auto repair services may be traded, for instance, by the establishment of a foreign affiliate, their contributions to the U.S. economy in terms of jobs and GDP, may be different.

The United States is one of the world’s leading participants in global services trade. Before 1997, U.S. services trade had been largely dominated by cross-border exports and imports. In recent years, however, growth in U.S. cross-border trade has been outpaced by growth in U.S. affiliate transactions.<sup>2</sup> The establishment of foreign affiliates by U.S. services firms is increasingly common, as firms recognize that most services are better supplied in proximity to the principal or final customers.<sup>3</sup> In addition, in some sectors, foreign regulations may effectively limit the provision of services to affiliate transactions. For example, in the insurance sector, some countries require that the foreign provision of personal lines of insurance be carried out by affiliates in order to comply with domestic financial solvency requirements.<sup>4</sup> In other services sectors, uncertainty over the protection of intellectual property rights (IPR) in foreign markets leads some firms to provide services through affiliates, thus keeping their intellectual property in-house,

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<sup>1</sup> In a services roundtable hosted by the USITC on December 2, 2009, participants noted both the lack of comprehensive data on the services sector, as compared to the manufacturing sector, and the unavailability of specific data on cross-border trade by services SMEs. Hearing transcript, in connection with the Services Roundtable 2009, 44, 46–47.

<sup>2</sup> BEA, *Survey of Current Business*, October 2009, Table F, 33.

<sup>3</sup> *Ibid.*, 22–23 and Table F, 33. Approximately 20 percent of affiliate transactions take place with customers outside the host country of the affiliate.

<sup>4</sup> USITC, *Property and Casualty Insurance Services: Competitive Conditions in Foreign Markets*, Investigation No. 332-499, March 2009, 3-1.

rather than through cross-border exports to unaffiliated firms.<sup>5</sup> In 2006, U.S. firms' sales of services through their foreign affiliates reached \$890 billion, whereas U.S. cross-border exports of services were less than half that amount at \$411 billion.<sup>6</sup> U.S. cross-border exports of services were largest in business, professional, and technical services;<sup>7</sup> travel services; and royalties and license fees (figure 4.1).<sup>8</sup>

The affiliate transactions data presented in this chapter were gathered from ORBIS, a proprietary database. Although the ORBIS database is used primarily by investment banks and government agencies to track corporate financial activity, it is used in this chapter to obtain specific information on U.S. services SMEs with foreign affiliates. This information is not presently published by Census or BEA, though some SME activity may be captured by BEA in its aggregate data on cross-border trade and affiliate transactions in services (box 4.2).<sup>9</sup> It should be noted that while ORBIS data provide a preliminary snapshot of activity by U.S. services SMEs and their foreign affiliates, the data represent only a subset of total U.S. services SMEs operating domestically and in foreign markets. A comparison of Census and ORBIS data on U.S. services SMEs shows that ORBIS captures approximately 19 percent of services SMEs in the three primary services sectors examined here: wholesale trade services; professional, scientific, and technical services; and finance and insurance services (table D.1, appendix D).<sup>10</sup>

## Overview of Trade Data on U.S. Services SMEs

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As noted previously, data on cross-border exports by U.S. SMEs in the services sector are unavailable.<sup>11</sup> This section discusses data on services supplied by foreign affiliates of U.S. services SMEs in three industries: wholesale trade services; professional, scientific, and technical services; and finance and insurance services.<sup>12</sup> In 2006, the latest year for which complete data are available from BEA, sales in these three industries accounted for 55 percent of total sales by foreign affiliates of U.S. firms. No other industry accounted for more than 10 percent of total sales (figure 4.2).<sup>13</sup>

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<sup>5</sup> BEA, *Survey of Current Business*, October 2009, 30.

<sup>6</sup> *Ibid.*, 23.

<sup>7</sup> *Ibid.*, 40 and 61. The category "business, professional, and technical services" found in BEA cross-border trade data is similar to the category of "professional, scientific, and technical services" found in BEA affiliate transaction data. However, the former includes such services as mining and operational leasing, whereas the latter does not.

<sup>8</sup> BEA, *Survey of Current Business*, October 2009, 40.

<sup>9</sup> In 2006, Census published data on U.S. services firms under its *County Business Patterns* survey. The data cover approximately 15 services sectors. For each sector, the data provide information on the number of firms in the sector (which includes the total number of both SME and non-SME firms), the number of employees in the sector, and total annual payrolls. The services data in the *County Business Patterns* survey do not capture any information on trade by U.S. services firms.

<sup>10</sup> See Appendix D, Tables 2 and 3, showing the distribution of ORBIS data vis-à-vis Census data for all firms by employment category and for firms within the finance, professional, and wholesale services sectors by employment category. In both cases, the distributions for ORBIS and Census data are roughly the same, indicating that the ORBIS sample may be representative of the data captured by Census.

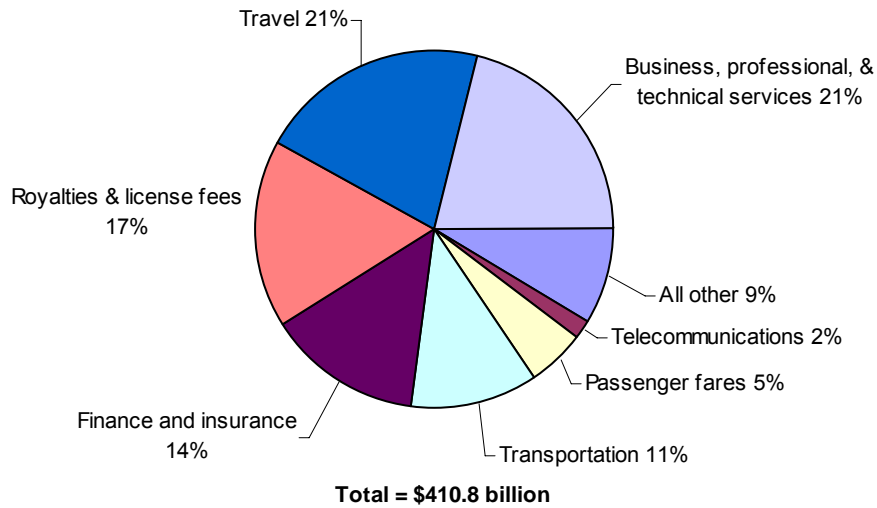
<sup>11</sup> BEA official, e-mail correspondence with USITC staff, October 26, 2009; BEA, "Channels of Delivery of Services Sold in International Markets," October 1999, 50.

<sup>12</sup> Services sector categories are based on industry codes in the North American Industry Classification System (NAICS).

<sup>13</sup> BEA, *Survey of Current Business*, October 2009, 61.

**FIGURE 4.1** U.S. cross-border exports of services, by industry, 2006

**Business and travel services lead U.S. cross-border exports of services**



Source: BEA, *Survey of Current Business*, table 1, October 2009, 40.

Note: Trade data exclude public-sector transactions.

**BOX 4.2** Collection Methods for BEA Data on Cross-Border Trade and Affiliate Transactions

BEA compiles data on U.S. cross-border exports (and imports) of services and U.S. affiliate sales (and purchases) of services from surveys that it distributes to U.S. and foreign firms. The surveys require that firms report export receipts or affiliate sales above a specified dollar amount. For certain professional services, for example, firms are required to report exports or sales in excess of \$6 million. The floor for reporting certain financial services is \$20 million, and for insurance services, \$8 million. The limits are set so as not to unduly burden smaller businesses, which may lack the resources needed to respond to such surveys. However, U.S. firms with export receipts or affiliate sales below established thresholds are required to provide estimates of their earnings “based on recall, without conducting a manual records search.” Although BEA does not capture or report information on firm size for U.S. parent companies or their foreign affiliates, it is likely that a portion of U.S. firms that report below-threshold income from exports or affiliate sales are SMEs.

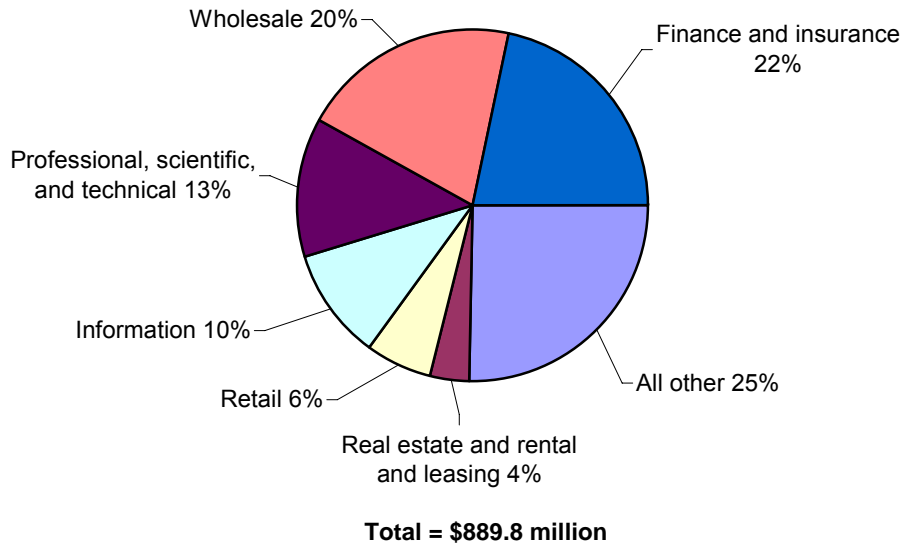
Source: BEA, “International Services Surveys Conducted by the BEA,” March 2007; hearing transcript, in connection with the Services Roundtable 2009, 47; and BEA official, e-mail correspondence with Commission staff, October 26, 2009.

The effects on U.S. employment from sales by foreign affiliates of U.S. services firms are likely to be less than those arising from cross-border exports of services. In general, whereas an increase in cross-border exports of services by U.S. firms may lead to a direct expansion of U.S. employment, the establishment of foreign affiliates of U.S. firms increases employment in the location of the foreign affiliate.<sup>14</sup> Nonetheless, there may be marginal gains to U.S. employment arising from foreign affiliate sales. For example, the establishment of foreign affiliates by U.S. firms may require additional U.S. personnel to

<sup>14</sup> BEA, “Channels of Delivery of Services Sold in International Markets,” October 1999, 50.

**FIGURE 4.2** Sales by foreign affiliates of U.S. services firms, by industry, 2006<sup>a</sup>

**Wholesale, finance, and professional services led sales by foreign affiliates of U.S firms**



Source: BEA, *Survey of Current Business*, table 9.1, October 2009, 61.

<sup>a</sup> Services supplied by majority-owned foreign affiliates of U.S. parent firms.

monitor and comply with regulations in the foreign affiliate’s host country and to coordinate activities between the foreign affiliate and its U.S. parent.<sup>15</sup>

## Profile of U.S. Services SMEs

For the purposes of gathering data on U.S. services SMEs from ORBIS, the Commission established an employee ceiling of 499 and a revenue ceiling of \$7 million for all selected services sectors, except computer services.<sup>16</sup> Because it appears from ORBIS that most U.S. services SMEs have far fewer than 500 employees, the revenue ceiling served as the binding constraint for the data search. The data search was further refined by selecting U.S. services SMEs that have affiliate operations in foreign countries, with the U.S. SME identified as the foreign affiliates’ global ultimate owner, or parent firm.<sup>17</sup> No limitations regarding employment size or operating revenues were placed on foreign affiliates of U.S. services SMEs.

<sup>15</sup> USITC, *Property and Casualty Insurance Services: Competitive Conditions in Foreign Markets*, Investigation No. 332-499, March 2009, 3-1.

<sup>16</sup> The employee ceiling of 499 conforms to the ceiling used in the report’s companion analysis of U.S. SMEs in the manufacturing sector. The revenue ceiling of \$7 million was imposed to ensure the relevance of data search results on ORBIS and was based on guidelines published by the U.S. Small Business Administration in *Table of Small Business Size Standards Matched to North American Industry Classification System Codes* (effective August 22, 2008). According to these guidelines, the revenue ceiling for the computer services sector is \$25 million.

<sup>17</sup> A global ultimate owner must have a minimum ownership share of 25.01 percent in its affiliates.



Among the three large service categories selected for review—wholesale, finance and insurance, and professional services—professional services is the largest sector in terms of the total number of firms, the average number of employees, and the revenues per firm, followed by wholesale services (table 4.1). For all three industries, the total number of firms decreases as average employment size increases: the number of firms reporting 0–19 employees is 383; 20–99 employees, 372; 100–299 employees, 219; and 300–499 employees, 81 (table 4.2).<sup>18</sup> However, the revenues per firm recorded in all three industries appear to rise substantially as firms increase employment from 0–19

**TABLE 4.1** Number of firms, average employees, and revenues per firm for SMEs in selected services industries, latest available year<sup>a</sup>

Sector	Number of firms	Average employees	Revenues per firm (thousand \$)
Wholesale trade	318	81	1,888
Merchant wholesalers, durable goods	224	78	1,961
Merchant wholesalers, nondurable goods	94	90	1,710
Finance and insurance	231	72	1,486
Credit intermediation and related activities	13	58	787
Securities, commodity contracts, and other financial Investments and related activities	143	78	1,435
Insurance carriers and related activities	19	61	1,506
Funds, trusts, and other financial vehicles	56	63	1,761
Professional, scientific, and technical services	506	85	4,622
Legal services	6	57	163
Architectural, engineering, and related services	40	103	1,652
Computer systems design and related services	283	84	6,815
Management, scientific, and technical consulting services <sup>b</sup>	141	83	1,582
Advertising, public relations, and related services	36	85	2,397
All sectors	1,055	81	3,201

Source: Bureau Van Dijk, ORBIS database, accessed November 6, 2009.

<sup>a</sup> Aggregated from latest available firm-level data for the years 2006, 2007, and 2008.

<sup>b</sup> Includes administrative management and general management services, information services, and other management consulting services such as medical technology and healthcare consulting services.

<sup>18</sup> It is uncertain whether the decrease in the number of firms reporting a total number of employees of between 100 and 499 is reflective of a general trend among U.S. services SMEs or a function of the revenue ceiling established for the purposes of the data search.

**TABLE 4.2** Number of firms by employment size for SMEs in selected service sectors, latest available year<sup>a</sup>

Sector	0-19	20-99	100-299	300-499
Wholesale trade	127	102	62	27
Merchant wholesalers, durable goods	88	73	47	16
Merchant wholesalers, nondurable goods	39	29	15	11
Finance and insurance	104	73	32	22
Credit intermediation and related activities	9	2	1	1
Securities, commodity contracts, and other financial investments and related activities	66	42	21	14
Insurance carriers and related activities	6	7	2	4
Funds, trusts, and other financial vehicles	23	22	8	3
Professional, scientific, and technical services	152	197	125	32
Legal services	4	0	2	0
Architectural, engineering, and related services	9	17	9	5
Computer systems design and related services	67	126	77	13
Management, scientific, and technical consulting services <sup>b</sup>	60	42	26	13
Advertising, public relations, and related services	12	12	11	1
All sectors	383	372	219	81

Source: Bureau Van Dijk, ORBIS database.

<sup>a</sup> Aggregated from latest available firm-level data for the years 2006, 2007, and 2008.

<sup>b</sup> Includes administrative management and general management services, information services, and other management consulting services such as medical technology and healthcare consulting services.

employees to 20–99 employees (table 4.3). The data are insufficient to determine whether this trend continues as firms' employment exceeds 100.

In terms of geography, the majority of U.S. services SMEs with foreign affiliates (in the three industries selected for review) are located in California (18 percent), New York (16 percent), and Massachusetts (7 percent). These three states also account for the largest number of U.S. services SME employees as well as the highest total revenues. The majority of foreign affiliates of U.S. services SMEs are located in Europe (52 percent), followed by Asia and Oceania (24 percent), North American neighbors Canada and Bermuda (15 percent), and Latin America and the Caribbean (8 percent) (figure 4.3). Canada and the United Kingdom are the top two host countries for foreign affiliates of U.S. firms in wholesale and professional services (table 4.4). In both sectors, these two countries account for more than 60 percent of foreign affiliates established by U.S. services SMEs.

By contrast, in finance and insurance services, Japan is the leading destination for foreign affiliates (18 percent), followed by the United Kingdom (13 percent) and Canada (6 percent).<sup>19</sup> In general, foreign affiliates of U.S. SMEs in finance and insurance services appear more geographically dispersed than do those in the wholesale and U.S.

<sup>19</sup> BEA, *Survey of Current Business*, October 2009, 61. According to BEA data from 2006, the leading markets for foreign affiliate sales of U.S. firms in wholesale, professional, and finance and insurance services include, among others, Canada, Japan, and the United Kingdom.

**TABLE 4.3** Revenues per firm by employment size for SMEs in selected services industries (thousand \$), latest available year<sup>a</sup>

Sector	0-19	20-99	100-499
Wholesale trade	1,293	4,262	( <sup>b</sup> )
Merchant wholesalers, durable goods	1,214	4,483	1,042
Merchant wholesalers, nondurable goods	1,457	3,331	( <sup>b</sup> )
Finance and insurance	575	3,745	( <sup>b</sup> )
Credit intermediation and related activities	783	1,600	( <sup>b</sup> )
Securities, commodity contracts, and other financial investments & related activities	566	4,029	2,561
Insurance carriers and related activities	780	2,100	2,658
Funds, trusts, and other financial vehicles	480	3,639	( <sup>b</sup> )
Professional, scientific, and technical services	886	5,531	( <sup>b</sup> )
Legal services	163	( <sup>b</sup> )	( <sup>b</sup> )
Architectural, engineering, and related services	317	2,893	( <sup>b</sup> )
Computer systems design and related services	1,193	6,633	16,134
Management, scientific, and technical consulting services <sup>c</sup>	590	3,766	2,650
Advertising, public relations, and related services	1,664	3,715	( <sup>b</sup> )
All sectors	920	4,975	( <sup>b</sup> )

Source: Bureau Van Dijk, ORBIS database, accessed November 6, 2009.

Note: Due to incomplete data, sector revenue per firm does not include all subsectors within NAICS 6-digit categories.

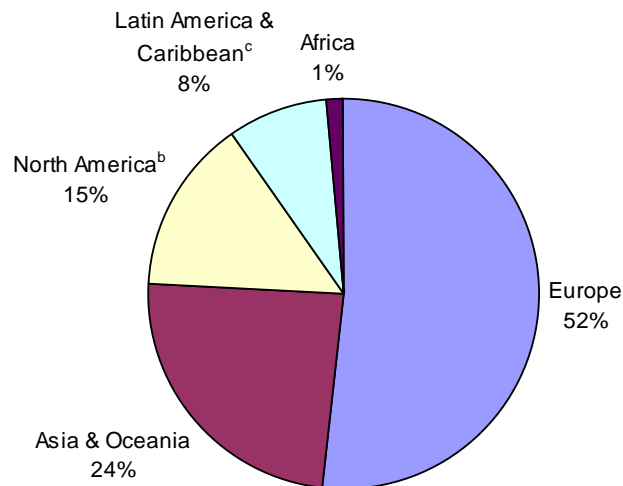
<sup>a</sup> Aggregated from latest available firm-level data for the years 2006, 2007, and 2008.

<sup>b</sup> Not available.

<sup>c</sup> Includes administrative management and general management services, information services, and other management consulting services such as medical technology and healthcare consulting services.

**FIGURE 4.3** Geographic location of foreign affiliates of U.S. services SMEs, by region, latest available year<sup>a</sup>

Foreign affiliates of U.S. services SMEs are most prevalent in Europe



Source: Bureau Van Dijk, ORBIS database, accessed November 6, 2009.

<sup>a</sup> Latest data available, 2006–08.

<sup>b</sup> Comprises Bermuda and Canada.

<sup>c</sup> Includes Mexico.

**TABLE 4.4** Top 10 countries for foreign affiliates of U.S. services SMEs, by industry, latest available year<sup>a</sup>

Wholesale Trade Services			Professional, Scientific, and Technical Services			Finance and Insurance Services		
Country	Number of affiliates	Percent share	Country	Number of affiliates	Percent share	Country	Number of affiliates	Percent share
Canada	108	31.1	United Kingdom	287	48.4	Japan	2,014	18.0
United Kingdom	106	30.6	Canada	82	13.8	United Kingdom	1,494	13.4
Mexico	31	8.9	Germany	52	8.8	Canada	666	6.0
Germany	19	5.5	Netherlands	30	5.1	Korea	621	5.6
France	12	3.5	Mexico	20	3.4	Taiwan	606	5.4
Netherlands	12	3.5	France	15	2.5	Australia	483	4.3
Spain	6	1.7	China	12	2.0	India	411	3.7
Ireland	6	1.7	British Virgin Islands	9	1.5	Bermuda	357	3.2
Russia	4	1.2	Brazil	6	1.0	Germany	313	2.8
Brazil	3	0.9	Spain	6	1.0	France	295	2.6
Total (top 10)	310	88.6	Total (top 10)	523	87.5	Total (top 10)	7,543	65.0

Source: Bureau Van Dijk, ORBIS database.

<sup>a</sup> Aggregated from latest available firm-level data for the years 2006, 2007, and 2008.

professional services sectors. Whereas the top 10 destinations for foreign affiliates of SMEs in wholesale and professional services account for nearly 90 percent of all foreign affiliates in these sectors, in finance and insurance services, this ratio is only 65 percent. Overall, foreign affiliates of U.S. services SMEs were located in 97 countries.

### *Connection between Affiliate Sales and Cross-Border Exports*

Comparison of ORBIS data and international services data published by BEA suggest that predominant affiliate host countries also tend to be predominant export markets (table 4.5). Specifically, countries identified as the predominant affiliate host markets by ORBIS represent 6 of the top 10 export markets for finance and insurance services and 7 of the top 10 markets for professional services,<sup>20</sup> suggesting the two modes of provision are complements. A similar statement for wholesaling cannot be made due to the nature of this service, which is provided largely through affiliates. While the BEA data capture exports by all firms, not only those by SMEs, this relationship between affiliate sales and exports could provide clues to SME service export destinations.

Recent empirical analysis tends to support the view that exports and affiliate sales are complements.<sup>21</sup> A horizontally integrated firm, which provides identical services at different locations, will decide to export or establish affiliates based on its size, its

<sup>20</sup> BEA, "Sales by Majority-Owned Nonbank Foreign Affiliates," 2007.

<sup>21</sup> See, for instance, Blonigen, "In Search of Substitution between Foreign Production and Exports," February 2001, 81–104; Helpman et al., "Export Versus FDI," January 2003; Buch and Lipponer, "FDI Versus Exports: Evidence from German Banks," March 2007, 805–26.

**TABLE 4.5** Top 10 countries for foreign affiliates of U.S. services SMEs and cross-border exports in selected service industries

Finance and insurance services		Professional, scientific, and technical services	
Affiliates <sup>a</sup>	Cross-border exports <sup>b</sup>	Affiliates <sup>a</sup>	Cross-border exports <sup>b</sup>
Japan	United Kingdom	United Kingdom	United Kingdom
United Kingdom	Canada	Canada	Japan
Canada	Japan	Germany	Canada
Korea	Bermuda	Netherlands	Ireland
Taiwan	Netherlands	Mexico	Germany
Australia	Germany	France	Netherlands
India	France	China	Switzerland
Bermuda	Switzerland	British Virgin Islands	Mexico
Germany	Australia	Brazil	France
France	Belgium-Luxembourg	Spain	China

Source: Bureau Van Dijk, ORBIS database, BEA, *Survey of Current Business*, tables 5.2 and 6.1, October 2009, 52–55.

Note: BEA does not report wholesale trade services in part due to the nature of the service, which must be delivered in proximity to consumers.

<sup>a</sup> Aggregated from latest available firm-level data for the years 2006, 2007, and 2008.

<sup>b</sup> Cross-border exports are for 2008.

productivity, actual or anticipated variable transportation and information costs, tariff and nontariff measures, and fixed costs associated with establishing an affiliate. Firms tend to export (rather than establish overseas affiliates) when they are smaller or less productive, target relatively open markets, and perceive variable costs as being lower than fixed costs. Since firms differ from each other with respect to these factors, some will export while others will establish affiliates. Vertically integrated firms, organized to reduce costs, commonly feature exports from one division to another, with the recipient selling services in its local market. Intermediate services typically include management services, back-office services (e.g., accounting and data processing), financial services, and transfers of intangible intellectual property. BEA data indicate that in 2008, U.S. parents exported services valued at \$106.7 billion to foreign affiliates, while U.S. affiliates exported services valued at \$26.2 million to foreign parents. Combined, these exports accounted for 26 percent of total U.S. services exports.<sup>22</sup>

<sup>22</sup> BEA, *Survey of Current Business*, October 2009, p. 40.



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**APPENDIX A**  
**Request Letter**

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EXECUTIVE OFFICE OF THE PRESIDENT  
THE UNITED STATES TRADE REPRESENTATIVE  
WASHINGTON, D.C. 20508

October 5, 2009

The Honorable Shara L. Aranoff  
Chairman  
U.S. International Trade Commission  
500 E Street, S.W.  
Washington, D.C. 20436

SECRET NUMBER
2690
Office of the Secretary Int'l Trade Commission

2009 OCT 7 AM 9:18  
OFFICE OF THE SECRETARY  
U.S. INTERNATIONAL TRADE COMMISSION

Dear Chairman Aranoff,

Small and medium-sized enterprises (SMEs) are vital to the U.S. economy. SMEs represent over 99 percent of employer firms in the United States and account for just over half of all private sector employment. Even more important to a country seeking rapid job gains in a post-recession economy, SMEs have generated almost two-thirds of net new jobs in the last 15 years. Although SMEs constitute 97 percent of all exporting firms, they only account for 30 percent of the total value of U.S. exports. Many analysts believe that the SMEs' share of U.S. exports could be larger if national policy more clearly focused on the special constraints to exporting faced by these firms.

**As U.S. trade policies strive to open markets, enforce trade agreements, and support the healthy expansion of trade, it is critical that SMEs benefit as much as possible from exporting goods and services to foreign markets and contribute as much as they can to overall U.S. export growth. To achieve this goal, certain constraints to exports by these firms may need to be removed.**

As the Administration considers policy initiatives to strengthen the export presence of U.S. SMEs in the global marketplace, it would benefit significantly from a detailed assessment of the present role of SMEs in U.S. trade. It is notable, in reviewing current information, that there are many gaps in our understanding of SME's and their exports. The Commission's specialized knowledge of U.S. trade and the breadth and depth of the Commission's trade-focused resources can address these gaps. Therefore under the authority of section 332(g) of the Tariff Act of 1930, I request that the Commission investigate the role of U.S. SMEs in trade, using data obtained from the U.S. Bureau of the Census and other databases, a literature review, and primary data collected through questionnaires, interviews, and hearings, to the extent possible. I further request that the Commission deliver its work in three reports, as follows:

### Report I

In the first report, the Commission should give an overview of the current state of SMEs' participation in U.S. exports. **The report should describe, to the extent possible, characteristics of SMEs, their exports, and their role in generating employment and economic activity in the U.S. economy.** The report should focus on merchandise and services exports by U.S. SMEs, providing information on the value of SME exports, the

products and sectors involved, large markets for U.S. SMEs' exports, and how SME exports have changed over time with respect to these factors. This report should also identify gaps in currently available data that may inhibit a more comprehensive understanding of SME participation in export trade. The report should be delivered within three months from receipt of this letter.

## **Report II**

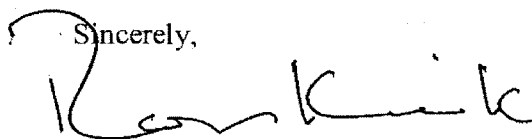
**In the second report, we request that the Commission assist in analyzing the performance of U.S. SME firms in exporting compared to SME exporting in other leading economies. As one way of comparing American performance to that of other countries we request that the Commission compare the exporting activity of EU and U.S. SMEs and analyze the distinctions between U.S. and EU firms in terms of sectoral composition, firm characteristics, and exporting behavior. The Commission should also identify barriers to exporting noted by U.S. SMEs, as well as SME strategies to overcome special constraints and reduced trade costs on SME exports. Also, the Commission should identify the benefits to SMEs from increased export opportunities, including free trade agreements and other trading arrangements. The second report should be delivered no later than nine months from the receipt of this letter.**

## **Report III**

The third report should, to the extent possible, examine U.S. SMEs engaged in providing services, including the characteristics of firms that produce tradable services, the growth in these services exports, and the differences between SME and large services exporters. Also, the Commission should identify how data gaps might be overcome to further enhance our understanding of SMEs in services sector exports. In addition, for both goods and services exports, the third report should identify trade barriers (nontariff barriers and tariffs) that may disproportionately affect SME export performance, as well as possible linkages between exporting and SME performance. Finally, it should provide insights on the degree to which SMEs operate as multinationals, as affiliate firms, or as contributors of "indirect exports" to international trade through sales to larger exporting firms. The third report should be delivered one year from receipt of the request letter.

I anticipate that the Commission's reports will be made available to the public in its entirety. Therefore, the reports should not contain any confidential business or national security information.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Kirk", written in a cursive style.

Ronald Kirk

**APPENDIX B**  
***Federal Register* Notice**

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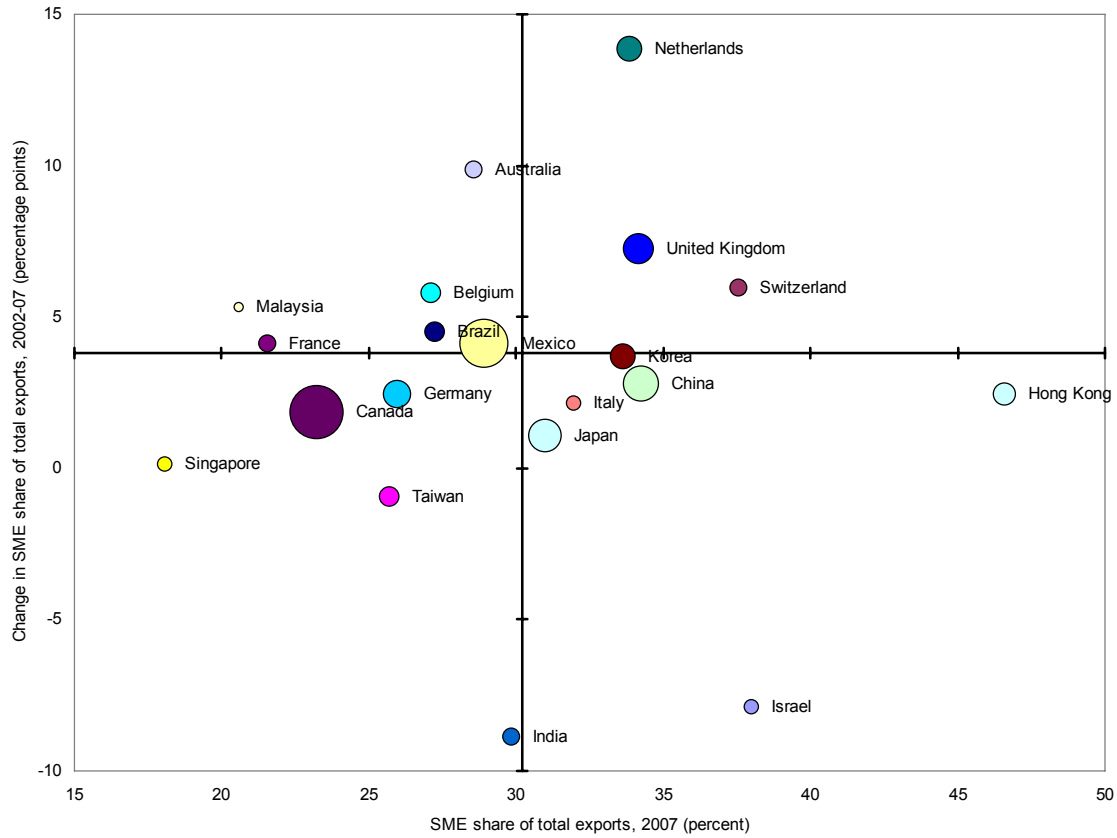
## **APPENDIX C**

### **Additional Information on SME Merchandise Exports**

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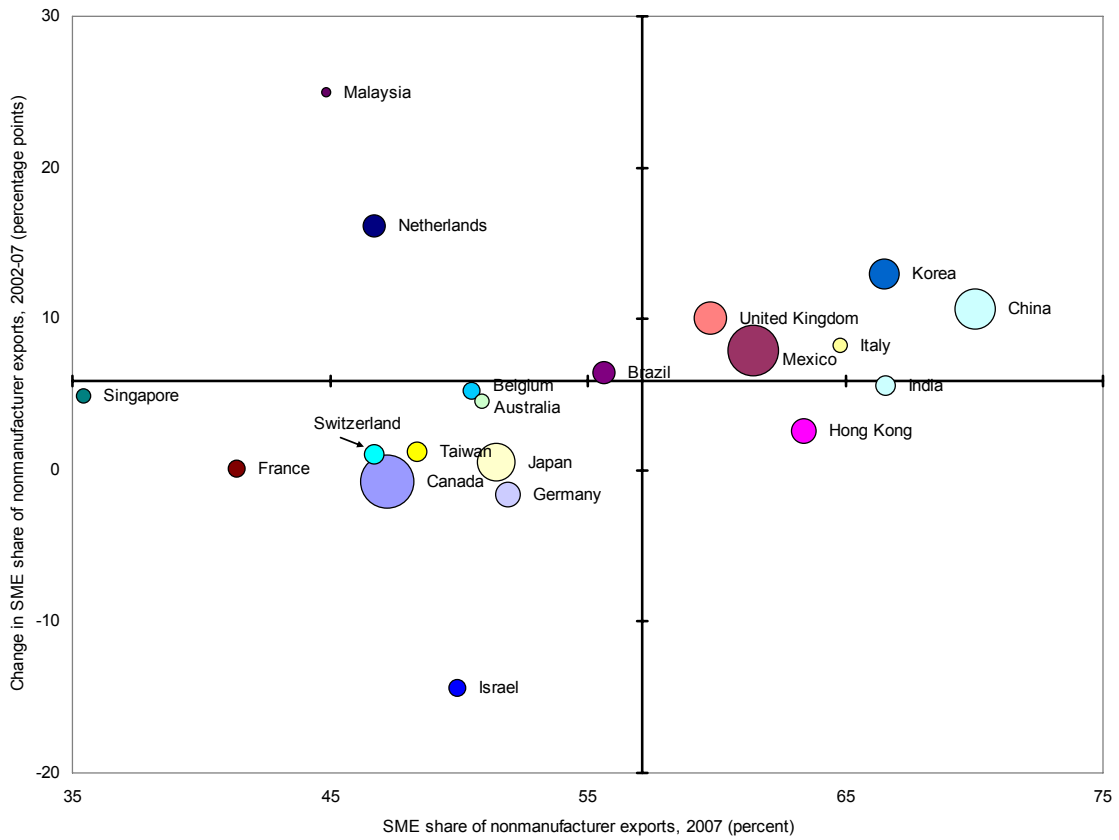
**FIGURE C.1** U.S. total merchandise exports by major destination market, 2007



*Source:* Official statistics of the U.S. Department of Commerce, Census Bureau.

*Note:* The large ovals group together the different types of major markets to which SMEs export: highest-income small markets, largest markets, and large emerging markets. The small circles represent the relative value of SME manufacturer exports. The grid lines show the relative position of two significant for all destination markets: the SME share of exports (30.2 percent) and the change in SME share of exports (3.8 percentage points).

**FIGURE C.2** U.S. nonmanufacturer merchandise exports by major destination market, 2007



*Source:* Official statistics of the U.S. Department of Commerce, Census Bureau.

*Note:* The large ovals group together the different types of major markets to which SMEs export: highest-income small markets, largest markets, and large emerging markets. The small circles represent the relative value of SME manufacturer exports. The grid lines show the relative position of two significant for all destination markets: the SME share of exports (57.1 percent) and the change in SME share of exports (5.9 percentage points).







**TABLE C.3** Average U.S. merchandise exports, per firm, 1997–2007

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>All companies</b>											
0–19 employees	0.50	0.51	0.46	0.54	0.56	0.54	0.46	0.54	0.60	0.71	0.76
20–99 employees	0.88	0.94	0.92	0.84	0.79	0.78	0.93	1.02	1.09	1.26	1.44
100–499 employees	2.62	2.79	2.89	3.11	2.91	2.88	3.38	4.17	4.64	4.92	5.37
SME	0.79	0.81	0.76	0.82	0.80	0.78	0.79	0.92	1.00	1.11	1.22
500+ employees	55.38	55.92	54.74	60.97	59.44	59.39	67.48	77.05	86.07	97.93	102.30
Total	2.67	2.79	2.63	2.82	2.70	2.67	2.86	3.14	3.37	3.79	3.96
<b>Manufacturers</b>											
0–19 employees	0.47	0.55	0.51	0.62	0.68	0.66	0.49	0.55	0.63	0.81	0.91
20–99 employees	0.52	0.51	0.57	0.61	0.60	0.60	0.68	0.72	0.77	0.87	0.96
100–499 employees	2.51	2.60	2.90	3.13	3.00	2.97	3.52	4.27	4.39	5.03	5.46
SME manufacturers	0.86	0.90	0.92	1.02	1.01	0.99	1.01	1.13	1.21	1.39	1.54
500+ employees	90.03	91.54	99.66	115.02	112.92	113.66	123.61	142.42	156.06	176.45	196.93
Total	5.88	6.02	6.19	6.81	6.42	6.42	6.59	7.18	7.50	8.54	9.43
<b>Wholesalers</b>											
0–19 employees	0.54	0.52	0.50	0.60	0.59	0.58	0.54	0.64	0.73	0.89	0.97
20–99 employees	1.22	1.26	1.16	1.16	1.19	1.18	1.38	1.65	1.74	2.05	2.34
100–499 employees	3.80	4.00	3.79	4.50	4.39	4.32	5.02	6.43	8.07	8.02	8.74
SME wholesalers	0.81	0.82	0.75	0.86	0.86	0.85	0.86	1.03	1.17	1.33	1.48
500+ employees	34.48	47.27	44.84	46.39	44.02	44.27	87.11	85.32	102.64	121.99	97.11
Total	1.05	1.28	1.21	1.34	1.29	1.28	1.61	1.73	2.14	2.47	2.33
<b>Other</b>											
0–19 employees	0.47	0.47	0.40	0.46	0.47	0.44	0.36	0.43	0.46	0.48	0.51
20–99 employees	1.33	1.57	1.41	0.94	0.71	0.71	0.91	0.92	1.02	1.15	1.32
100–499 employees	2.08	2.41	2.31	2.22	1.76	1.73	2.03	2.52	2.82	2.61	3.03
"Other" SMEs	0.69	0.73	0.63	0.62	0.58	0.54	0.54	0.62	0.67	0.68	0.75
500+ employees	13.04	13.05	9.94	9.05	8.86	8.85	11.09	13.68	17.13	21.02	22.25
Total	1.19	1.24	1.00	0.95	0.90	0.86	0.96	1.12	1.24	1.39	1.47

Source: Official Census statistics.

**TABLE C.4** Total U.S. merchandise exports, by country and firm size, 2002 and 2007

	2002			2007			2002-07		
	SME	Large	Total	SME	Large	Total	SME	Large	Total
	Value (Millions of \$)						Change (%)		
Canada	26,014	95,619	121,633	45,378	150,036	195,413	74.4	56.9	60.7
Mexico	21,239	64,463	85,702	35,347	86,927	122,273	66.4	34.8	42.7
China	6,542	14,226	20,768	21,214	40,693	61,907	224.3	186.0	198.1
Japan	14,314	33,500	47,814	18,430	40,994	59,424	28.8	22.4	24.3
Germany	5,643	18,313	23,956	12,116	34,535	46,650	114.7	88.6	94.7
United Kingdom	7,967	21,593	29,561	15,388	29,637	45,025	93.1	37.3	52.3
Korea	6,232	14,546	20,778	10,847	21,379	32,226	74.1	47.0	55.1
Netherlands	3,375	13,494	16,869	10,681	20,874	31,555	216.5	54.7	87.1
France	3,057	14,420	17,477	5,509	20,007	25,516	80.2	38.7	46.0
Taiwan	4,448	12,231	16,679	6,490	18,750	25,241	45.9	53.3	51.3
Singapore	2,650	12,098	14,747	4,418	20,039	24,458	66.8	65.6	65.8
Belgium	2,617	9,658	12,275	6,482	17,428	23,910	147.6	80.5	94.8
Brazil	2,612	8,855	11,466	6,327	16,883	23,210	142.2	90.7	102.4
Hong Kong	5,007	6,325	11,331	8,679	9,940	18,619	73.3	57.2	64.3
Australia	2,197	9,550	11,747	4,819	12,057	16,876	119.4	26.2	43.7
India	1,452	2,293	3,745	4,825	11,327	16,151	232.3	393.9	331.2
Switzerland	2,229	4,818	7,047	5,116	8,498	13,613	129.5	76.4	93.2
Italy	2,709	6,376	9,086	4,190	8,921	13,111	54.6	39.9	44.3
Malaysia	1,500	8,294	9,794	2,316	8,920	11,236	54.4	7.5	14.7
Israel	2,456	2,891	5,347	3,899	6,356	10,255	58.7	119.9	91.8
Subtotal	124,259	373,564	497,823	232,468	584,201	816,669	87.1	56.4	64.0
All other	34,233	67,784	102,017	79,216	135,121	214,337	131.4	99.3	110.1
Total	158,492	441,347	599,839	311,684	719,322	1,031,007	96.7	63.0	71.9
	Share (%)						Change in share (%)		
Canada	16.4	21.7	20.3	14.6	20.9	19.0	-1.9	-0.8	-1.3
Mexico	13.4	14.6	14.3	11.3	12.1	11.9	-2.1	-2.5	-2.4
China	4.1	3.2	3.5	6.8	5.7	6.0	2.7	2.4	2.5
Japan	9.0	7.6	8.0	5.9	5.7	5.8	-3.1	-1.9	-2.2
Germany	3.6	4.1	4.0	3.9	4.8	4.5	0.3	0.7	0.5
United Kingdom	5.0	4.9	4.9	4.9	4.1	4.4	-0.1	-0.8	-0.6
Korea	3.9	3.3	3.5	3.5	3.0	3.1	-0.5	-0.3	-0.3
Netherlands	2.1	3.1	2.8	3.4	2.9	3.1	1.3	-0.2	0.2
France	1.9	3.3	2.9	1.8	2.8	2.5	-0.2	-0.5	-0.4
Taiwan	2.8	2.8	2.8	2.1	2.6	2.4	-0.7	-0.2	-0.3
Singapore	1.7	2.7	2.5	1.4	2.8	2.4	-0.3	0.0	-0.1
Belgium	1.7	2.2	2.0	2.1	2.4	2.3	0.4	0.2	0.3
Brazil	1.6	2.0	1.9	2.0	2.3	2.3	0.4	0.3	0.3
Hong Kong	3.2	1.4	1.9	2.8	1.4	1.8	-0.4	-0.1	-0.1
Australia	1.4	2.2	2.0	1.5	1.7	1.6	0.2	-0.5	-0.3
India	0.9	0.5	0.6	1.5	1.6	1.6	0.6	1.1	0.9
Switzerland	1.4	1.1	1.2	1.6	1.2	1.3	0.2	0.1	0.1
Italy	1.7	1.4	1.5	1.3	1.2	1.3	-0.4	-0.2	-0.2
Malaysia	0.9	1.9	1.6	0.7	1.2	1.1	-0.2	-0.6	-0.5
Israel	1.5	0.7	0.9	1.3	0.9	1.0	-0.3	0.2	0.1
Subtotal	78.4	84.6	83.0	74.6	81.2	79.2	-3.8	-3.4	-3.8
All other	21.6	15.4	17.0	25.4	18.8	20.8	3.8	3.4	3.8

Source: Official Census statistics.

**TABLE C.5** Manufacturers merchandise exports, by country and firm size, 2002 and 2007

	2002			2007			2002-07		
	SME	Large	Total	SME	Large	Total	SME	Large	Total
	Value (Millions of \$)						Change (%)		
Canada	10,422	78,757	89,179	19,478	121,138	140,617	86.9	53.8	57.7
Mexico	7,078	52,185	59,264	13,049	72,949	85,998	84.4	39.8	45.1
China	2,087	11,183	13,270	5,907	34,155	40,063	183.0	205.4	201.9
Japan	3,631	23,217	26,849	5,875	29,152	35,028	61.8	25.6	30.5
Germany	2,460	15,552	18,011	5,525	28,438	33,964	124.6	82.9	88.6
United Kingdom	3,330	16,919	20,250	5,374	22,905	28,279	61.4	35.4	39.7
Netherlands	1,391	8,994	10,385	5,606	15,092	20,697	303.0	67.8	99.3
Korea	1,549	10,494	12,043	2,400	17,133	19,533	55.0	63.3	62.2
France	1,442	12,122	13,564	2,758	16,109	18,867	91.3	32.9	39.1
Belgium	1,072	7,793	8,864	3,530	14,535	18,065	229.4	86.5	103.8
Singapore	1,384	9,230	10,613	2,094	15,811	17,905	51.3	71.3	68.7
Taiwan	1,630	9,080	10,710	2,105	14,079	16,184	29.1	55.1	51.1
Brazil	672	6,860	7,532	1,841	13,311	15,152	173.8	94.0	101.2
Australia	933	8,092	9,025	2,352	9,680	12,031	151.9	19.6	33.3
India	339	1,581	1,920	1,137	9,476	10,613	235.5	499.2	452.6
Italy	1,048	5,100	6,148	1,785	7,616	9,401	70.3	49.3	52.9
Hong Kong	1,582	4,123	5,704	2,554	6,407	8,961	61.5	55.4	57.1
Malaysia	736	5,229	5,965	1,018	7,325	8,343	38.2	40.1	39.9
Switzerland	527	2,800	3,327	1,293	4,140	5,433	145.5	47.9	63.3
Israel	438	1,777	2,215	957	3,413	4,369	118.6	92.0	97.3
Subtotal	43,750	291,088	334,838	86,637	462,864	549,501	98.0	59.0	64.1
All other	8,672	51,122	59,794	19,422	105,681	125,102	124.0	106.7	109.2
Total	52,422	342,209	394,632	106,059	568,545	674,603	102.3	66.1	70.9
	Share (%)						Change in share (%)		
Canada	19.9	23.0	22.6	18.4	21.3	20.8	-1.5	-1.7	-1.8
Mexico	13.5	15.2	15.0	12.3	12.8	12.7	-1.2	-2.4	-2.3
China	4.0	3.3	3.4	5.6	6.0	5.9	1.6	2.7	2.6
Japan	6.9	6.8	6.8	5.5	5.1	5.2	-1.4	-1.7	-1.6
Germany	4.7	4.5	4.6	5.2	5.0	5.0	0.5	0.5	0.5
United Kingdom	6.4	4.9	5.1	5.1	4.0	4.2	-1.3	-0.9	-0.9
Netherlands	2.7	2.6	2.6	5.3	2.7	3.1	2.6	0.0	0.4
Korea	3.0	3.1	3.1	2.3	3.0	2.9	-0.7	-0.1	-0.2
France	2.7	3.5	3.4	2.6	2.8	2.8	-0.1	-0.7	-0.6
Belgium	2.0	2.3	2.2	3.3	2.6	2.7	1.3	0.3	0.4
Singapore	2.6	2.7	2.7	2.0	2.8	2.7	-0.7	0.1	0.0
Taiwan	3.1	2.7	2.7	2.0	2.5	2.4	-1.1	-0.2	-0.3
Brazil	1.3	2.0	1.9	1.7	2.3	2.2	0.5	0.3	0.3
Australia	1.8	2.4	2.3	2.2	1.7	1.8	0.4	-0.7	-0.5
India	0.6	0.5	0.5	1.1	1.7	1.6	0.4	1.2	1.1
Italy	2.0	1.5	1.6	1.7	1.3	1.4	-0.3	-0.2	-0.2
Hong Kong	3.0	1.2	1.4	2.4	1.1	1.3	-0.6	-0.1	-0.1
Malaysia	1.4	1.5	1.5	1.0	1.3	1.2	-0.4	-0.2	-0.3
Switzerland	1.0	0.8	0.8	1.2	0.7	0.8	0.2	-0.1	0.0
Israel	0.8	0.5	0.6	0.9	0.6	0.6	0.1	0.1	0.1
Subtotal	83.5	85.1	84.8	81.7	81.4	81.5	-1.8	-3.6	-3.4
All other	16.5	14.9	15.2	18.3	18.6	18.5	1.8	3.6	3.4

Source: Official Census statistics.

**TABLE C.6** Nonmanufacturer merchandise exports, by country and firm size, 2002 and 2007

	2002			2007			2002-07		
	SME	Large	Total	SME	Large	Total	SME	Large	Total
	Value (Millions of \$)						Change (%)		
Canada	15,592	16,862	32,454	25,899	28,897	54,796	66.1	71.4	68.8
Mexico	14,161	12,277	26,438	22,297	13,978	36,275	57.5	13.9	37.2
Japan	10,683	10,282	20,965	12,554	11,842	24,396	17.5	15.2	16.4
China	4,455	3,043	7,498	15,307	6,537	21,844	243.6	114.8	191.3
United Kingdom	4,637	4,674	9,311	10,015	6,731	16,746	116.0	44.0	79.9
Korea	4,683	4,052	8,735	8,447	4,246	12,693	80.4	4.8	45.3
Germany	3,184	2,761	5,945	6,590	6,096	12,686	107.0	120.8	113.4
Netherlands	1,984	4,500	6,484	5,075	5,782	10,858	155.8	28.5	67.5
Hong Kong	3,425	2,202	5,627	6,125	3,533	9,658	78.8	60.5	71.6
Taiwan	2,817	3,152	5,969	4,385	4,671	9,056	55.6	48.2	51.7
Switzerland	1,702	2,018	3,720	3,822	4,358	8,180	124.5	115.9	119.9
Brazil	1,939	1,995	3,934	4,486	3,572	8,059	131.3	79.1	104.8
France	1,615	2,298	3,913	2,751	3,898	6,649	70.3	69.6	69.9
Singapore	1,266	2,868	4,134	2,325	4,228	6,553	83.6	47.4	58.5
Israel	2,018	1,114	3,132	2,942	2,943	5,885	45.8	164.3	87.9
Belgium	1,546	1,865	3,411	2,952	2,894	5,845	91.0	55.1	71.4
India	1,113	712	1,825	3,688	1,851	5,538	231.3	160.0	203.5
Australia	1,263	1,459	2,722	2,467	2,377	4,845	95.4	62.9	78.0
Italy	1,662	1,276	2,938	2,405	1,306	3,711	44.7	2.3	26.3
Malaysia	763	3,066	3,829	1,298	1,595	2,894	70.1	(48.0)	(24.4)
Subtotal	80,509	82,476	162,984	145,831	121,337	267,168	81.1	47.1	63.9
All other	21,244	14,522	35,765	54,709	29,311	84,020	157.5	101.8	134.9
Total	101,752	96,997	198,750	200,540	150,648	351,188	97.1	55.3	76.7
	Share (%)						Change in share (%)		
Canada	15.3	17.4	16.3	12.9	19.2	15.6	-2.4	1.8	-0.7
Mexico	13.9	12.7	13.3	11.1	9.3	10.3	-2.8	-3.4	-3.0
Japan	10.5	10.6	10.5	6.3	7.9	6.9	-4.2	-2.7	-3.6
China	4.4	3.1	3.8	7.6	4.3	6.2	3.3	1.2	2.4
United Kingdom	4.6	4.8	4.7	5.0	4.5	4.8	0.4	-0.4	0.1
Korea	4.6	4.2	4.4	4.2	2.8	3.6	-0.4	-1.4	-0.8
Germany	3.1	2.8	3.0	3.3	4.0	3.6	0.2	1.2	0.6
Netherlands	1.9	4.6	3.3	2.5	3.8	3.1	0.6	-0.8	-0.2
Hong Kong	3.4	2.3	2.8	3.1	2.3	2.8	-0.3	0.1	-0.1
Taiwan	2.8	3.2	3.0	2.2	3.1	2.6	-0.6	-0.1	-0.4
Switzerland	1.7	2.1	1.9	1.9	2.9	2.3	0.2	0.8	0.5
Brazil	1.9	2.1	2.0	2.2	2.4	2.3	0.3	0.3	0.3
France	1.6	2.4	2.0	1.4	2.6	1.9	-0.2	0.2	-0.1
Singapore	1.2	3.0	2.1	1.2	2.8	1.9	-0.1	-0.2	-0.2
Israel	2.0	1.1	1.6	1.5	2.0	1.7	-0.5	0.8	0.1
Belgium	1.5	1.9	1.7	1.5	1.9	1.7	0.0	0.0	-0.1
India	1.1	0.7	0.9	1.8	1.2	1.6	0.7	0.5	0.7
Australia	1.2	1.5	1.4	1.2	1.6	1.4	0.0	0.1	0.0
Italy	1.6	1.3	1.5	1.2	0.9	1.1	-0.4	-0.4	-0.4
Malaysia	0.7	3.2	1.9	0.6	1.1	0.8	-0.1	-2.1	-1.1
Subtotal	79.1	85.0	82.0	72.7	80.5	76.1	-6.4	-4.5	-5.9
All other	20.9	15.0	18.0	27.3	19.5	23.9	6.4	4.5	5.9

Source: Official Census statistics.

**TABLE C.7** Merchandise exports, by product and firm size, 2002 and 2007

	2002			2007			2002-07		
	SME	Large	Total	SME	Large	Total	SME	Large	Total
	Value (Millions of \$)						Change (%)		
Transportation equipment	17,460	101,257	118,716	29,117	162,002	191,119	66.8	60.0	61.0
Computer and electronic products	29,461	103,922	133,384	47,099	123,314	170,412	59.9	18.7	27.8
Chemicals	14,422	59,762	74,184	35,168	106,644	141,812	143.8	78.4	91.2
Machinery, except electrical	18,595	46,934	65,529	36,337	82,221	118,558	95.4	75.2	80.9
Miscellaneous manufactured commodities	10,024	12,469	22,493	20,723	26,025	46,748	106.7	108.7	107.8
Primary metal manufacturing	4,359	9,966	14,324	13,481	27,939	41,420	209.3	180.3	189.2
Food and kindred products	9,340	13,537	22,877	16,364	19,713	36,077	75.2	45.6	57.7
Electrical equipment, appliances, and components	4,733	14,750	19,483	8,681	24,182	32,862	83.4	63.9	68.7
Petroleum and coal products	1,602	5,340	6,943	9,425	20,332	29,757	488.2	280.7	328.6
Fabricated metal products, nesoi	4,789	11,033	15,822	10,031	16,613	26,645	109.5	50.6	68.4
Paper	3,422	8,970	12,391	4,916	13,432	18,347	43.7	49.7	48.1
Plastic and rubber products	3,644	10,102	13,746	5,869	11,744	17,613	61.0	16.3	28.1
Nonmetallic mineral products	1,388	3,979	5,366	2,327	5,594	7,921	67.7	40.6	47.6
Textiles and fabrics	2,583	4,213	6,796	2,816	5,005	7,820	9.0	18.8	15.1
Printed matter and related products, nesoi	1,829	1,905	3,733	2,049	3,573	5,622	12.0	87.6	50.6
Wood products	1,929	1,276	3,205	2,743	1,635	4,378	42.2	28.2	36.6
Beverages and tobacco products	439	2,955	3,394	1,196	2,896	4,092	172.5	(2.0)	20.5
Apparel and accessories	2,106	3,125	5,231	1,896	1,480	3,376	(10.0)	(52.6)	(35.5)
Leather and allied products	730	1,514	2,244	1,179	1,744	2,923	61.5	15.2	30.3
Furniture and fixtures	689	951	1,641	1,172	1,722	2,895	70.1	81.0	76.5
Textile mill products	500	979	1,480	842	1,349	2,192	68.3	37.8	48.1
All nonmanufactured products	24,447	22,409	46,857	58,253	60,163	118,416	138.3	168.5	152.7
Total	158,492	441,347	599,839	311,684	719,322	1,031,007	96.7	63.0	71.9
	Share (%)						Change in share (%)		
Transportation equipment	11.0	22.9	19.8	9.3	22.5	18.5	-1.7	-0.4	-1.3
Computer and electronic products	18.6	23.5	22.2	15.1	17.1	16.5	-3.5	-6.4	-5.7
Chemicals	9.1	13.5	12.4	11.3	14.8	13.8	2.2	1.3	1.4
Machinery, except electrical	11.7	10.6	10.9	11.7	11.4	11.5	-0.1	0.8	0.6
Miscellaneous manufactured commodities	6.3	2.8	3.7	6.6	3.6	4.5	0.3	0.8	0.8
Primary metal manufacturing	2.7	2.3	2.4	4.3	3.9	4.0	1.6	1.6	1.6
Food and kindred products	5.9	3.1	3.8	5.3	2.7	3.5	-0.6	-0.3	-0.3
Electrical equipment, appliances, and components	3.0	3.3	3.2	2.8	3.4	3.2	-0.2	0.0	-0.1
Petroleum and coal products	1.0	1.2	1.2	3.0	2.8	2.9	2.0	1.6	1.7
Fabricated metal products, nesoi	3.0	2.5	2.6	3.2	2.3	2.6	0.2	-0.2	-0.1
Paper	2.2	2.0	2.1	1.6	1.9	1.8	-0.6	-0.2	-0.3
Plastic and rubber products	2.3	2.3	2.3	1.9	1.6	1.7	-0.4	-0.7	-0.6
Nonmetallic mineral products	0.9	0.9	0.9	0.7	0.8	0.8	-0.1	-0.1	-0.1
Textiles and fabrics	1.6	1.0	1.1	0.9	0.7	0.8	-0.7	-0.3	-0.4
Printed matter and related products, nesoi	1.2	0.4	0.6	0.7	0.5	0.5	-0.5	0.1	-0.1
Wood products	1.2	0.3	0.5	0.9	0.2	0.4	-0.3	-0.1	-0.1
Beverages and tobacco products	0.3	0.7	0.6	0.4	0.4	0.4	0.1	-0.3	-0.2
Apparel and accessories	1.3	0.7	0.9	0.6	0.2	0.3	-0.7	-0.5	-0.5
Leather and allied products	0.5	0.3	0.4	0.4	0.2	0.3	-0.1	-0.1	-0.1
Furniture and fixtures	0.4	0.2	0.3	0.4	0.2	0.3	-0.1	0.0	0.0
Textile mill products	0.3	0.2	0.2	0.3	0.2	0.2	0.0	0.0	0.0
All nonmanufactured products	15.4	5.1	7.8	18.7	8.4	11.5	3.3	3.3	3.7

Source: Official Census statistics.

**TABLE C.8** Manufacturer merchandise exports, by product and firm size, 2002 and 2007

	2002			2007			2002-07		
	SME	Large	Total	SME	Large	Total	SME	Large	Total
	Value (Millions of \$)						Change (%)		
Transportation equipment	3,481	95,641	99,122	7,150	151,059	158,209	105.4	57.9	59.6
Computer and electronic products	11,678	54,058	65,736	18,724	82,958	101,682	60.3	53.5	54.7
Chemicals	6,436	49,385	55,820	17,345	84,124	101,469	169.5	70.3	81.8
Machinery, except electrical	8,312	39,961	48,273	17,519	66,922	84,442	110.8	67.5	74.9
Primary metal manufacturing	1,661	7,568	9,229	4,859	22,116	26,976	192.5	192.2	192.3
Electrical equipment, appliances, and components	2,149	13,408	15,557	4,390	21,260	25,650	104.3	58.6	64.9
Miscellaneous manufactured commodities	3,148	9,373	12,521	6,256	15,794	22,051	98.7	68.5	76.1
Food and kindred products	2,224	11,848	14,072	4,495	16,730	21,224	102.1	41.2	50.8
Fabricated metal products, nesoi	2,480	9,771	12,251	5,636	14,541	20,177	127.3	48.8	64.7
Petroleum and coal products	552	4,052	4,604	1,386	13,804	15,190	151.0	240.7	229.9
Paper	1,003	8,047	9,050	1,997	12,566	14,563	99.0	56.2	60.9
Plastics and rubber products	1,900	9,340	11,239	3,113	10,509	13,622	63.8	12.5	21.2
Nonmetallic mineral products	847	3,500	4,347	1,355	5,107	6,462	60.0	45.9	48.7
Textiles and fabrics	1,343	3,243	4,585	1,681	3,981	5,663	25.2	22.8	23.5
Beverages and tobacco products	160	2,762	2,923	406	2,779	3,186	153.2	0.6	9.0
Wood products	836	1,107	1,943	1,255	1,447	2,701	50.1	30.7	39.0
Furniture and fixtures	252	815	1,067	505	1,461	1,967	100.6	79.3	84.3
Leather and allied products	251	1,211	1,463	486	1,240	1,726	93.4	2.4	18.0
Apparel and accessories	1,155	2,434	3,589	792	833	1,625	(31.4)	(65.8)	(54.7)
Printed matter and related products, nesoi	272	527	799	379	1,073	1,451	39.1	103.5	81.6
Textile mill products	189	758	947	373	958	1,331	97.2	26.5	40.6
All nonmanufactured products	2,095	13,400	15,495	5,956	37,279	43,235	184.3	178.2	179.0
Total	52,422	342,209	394,632	106,059	568,545	674,603	102.3	66.1	70.9
	Share (%)						Change in share (%)		
Transportation equipment	6.6	27.9	25.1	6.7	26.6	23.5	0.1	-1.4	-1.7
Computer and electronic products	22.3	15.8	16.7	17.7	14.6	15.1	-4.6	-1.2	-1.6
Chemicals	12.3	14.4	14.1	16.4	14.8	15.0	4.1	0.4	0.9
Machinery, except electrical	15.9	11.7	12.2	16.5	11.8	12.5	0.7	0.1	0.3
Primary metal manufacturing	3.2	2.2	2.3	4.6	3.9	4.0	1.4	1.7	1.7
Electrical equipment, appliances, and components	4.1	3.9	3.9	4.1	3.7	3.8	0.0	-0.2	-0.1
Miscellaneous manufactured commodities	6.0	2.7	3.2	5.9	2.8	3.3	-0.1	0.0	0.1
Food and kindred products	4.2	3.5	3.6	4.2	2.9	3.1	0.0	-0.5	-0.4
Fabricated metal products, nesoi	4.7	2.9	3.1	5.3	2.6	3.0	0.6	-0.3	-0.1
Petroleum and coal products	1.1	1.2	1.2	1.3	2.4	2.3	0.3	1.2	1.1
Paper	1.9	2.4	2.3	1.9	2.2	2.2	0.0	-0.1	-0.1
Plastics and rubber products	3.6	2.7	2.8	2.9	1.8	2.0	-0.7	-0.9	-0.8
Nonmetallic mineral products	1.6	1.0	1.1	1.3	0.9	1.0	-0.3	-0.1	-0.1
Textiles and fabrics	2.6	0.9	1.2	1.6	0.7	0.8	-1.0	-0.2	-0.3
Beverages and tobacco products	0.3	0.8	0.7	0.4	0.5	0.5	0.1	-0.3	-0.3
Wood products	1.6	0.3	0.5	1.2	0.3	0.4	-0.4	-0.1	-0.1
Furniture and fixtures	0.5	0.2	0.3	0.5	0.3	0.3	0.0	0.0	0.0
Leather and allied products	0.5	0.4	0.4	0.5	0.2	0.3	0.0	-0.1	-0.1
Apparel and accessories	2.2	0.7	0.9	0.7	0.1	0.2	-1.5	-0.6	-0.7
Printed matter and related products, nesoi	0.5	0.2	0.2	0.4	0.2	0.2	-0.2	0.0	0.0
Textile mill products	0.4	0.2	0.2	0.4	0.2	0.2	0.0	-0.1	0.0
All nonmanufactured products	4.0	3.9	3.9	5.6	6.6	6.4	1.6	2.6	2.5

Source: Official Census statistics.

**TABLE C.9** Nonmanufacturer merchandise exports, by product and firm size, 2002 and 2007

	2002			2007			2002-07		
	SME	Large	Total	SME	Large	Total	SME	Large	Total
	Value (Millions of \$)						Change (%)		
Computer and electronic products	16,927	49,450	66,376	27,392	40,355	67,747	61.8	(18.4)	2.1
Chemicals	7,481	10,102	17,582	17,503	22,520	40,024	134.0	122.9	127.6
Machinery, except electrical	9,766	6,706	16,471	18,431	15,297	33,728	88.7	128.1	104.8
Transportation equipment	13,481	5,470	18,951	21,442	10,942	32,385	59.1	100.0	70.9
Miscellaneous manufactured commodities	6,701	3,021	9,722	13,401	10,230	23,631	100.0	238.7	143.1
Food and kindred products	6,843	1,665	8,508	11,770	2,982	14,752	72.0	79.1	73.4
Petroleum and coal products	1,025	1,225	2,250	8,010	6,528	14,537	681.6	432.9	546.2
Primary metal manufacturing	2,597	2,280	4,877	8,159	5,822	13,982	214.2	155.3	186.7
Electrical equipment, appliances, and component	2,471	1,284	3,754	4,138	2,921	7,059	67.5	127.6	88.0
Fabricated metal products, nesoi	2,164	1,203	3,367	4,282	2,072	6,354	97.8	72.2	88.7
Printed matter and related products, nesoi	1,516	1,362	2,878	1,610	2,500	4,110	6.2	83.6	42.8
Plastics and rubber products	1,547	720	2,267	2,681	1,235	3,916	73.3	71.6	72.8
Paper	2,226	500	2,726	2,791	865	3,657	25.4	73.1	34.1
Textiles and fabrics	1,173	934	2,107	1,119	1,023	2,143	(4.6)	9.6	1.7
Apparel and accessories	889	677	1,566	1,084	647	1,731	21.9	(4.4)	10.5
Wood products	1,068	162	1,230	1,459	188	1,647	36.7	16.0	34.0
Nonmetallic mineral products	517	476	993	949	487	1,436	83.6	2.3	44.7
Leather and allied products	475	299	774	676	504	1,180	42.4	68.5	52.5
Furniture and fixtures	425	136	561	652	261	912	53.3	92.1	62.7
Beverages and tobacco products	271	184	455	783	116	900	189.3	(36.8)	97.8
Textile mill products	302	219	521	444	391	835	46.7	78.7	60.2
All nonmanufactured products	21,889	8,925	30,814	51,763	22,762	74,525	136.5	155.0	141.9
Total	101,752	96,997	198,750	200,540	150,648	351,188	97.1	55.3	76.7
	Share (%)						Change in share (%)		
Computer and electronic products	16.6	51.0	33.4	13.7	26.8	19.3	-3.0	-24.2	-14.1
Chemicals	7.4	10.4	8.8	8.7	14.9	11.4	1.4	4.5	2.6
Machinery, except electrical	9.6	6.9	8.3	9.2	10.2	9.6	-0.4	3.2	1.3
Transportation equipment	13.2	5.6	9.5	10.7	7.3	9.2	-2.6	1.6	-0.3
Miscellaneous manufactured commodities	6.6	3.1	4.9	6.7	6.8	6.7	0.1	3.7	1.8
Food and kindred products	6.7	1.7	4.3	5.9	2.0	4.2	-0.9	0.3	-0.1
Petroleum and coal products	1.0	1.3	1.1	4.0	4.3	4.1	3.0	3.1	3.0
Primary metal manufacturing	2.6	2.4	2.5	4.1	3.9	4.0	1.5	1.5	1.5
Electrical equipment, appliances, and component	2.4	1.3	1.9	2.1	1.9	2.0	-0.4	0.6	0.1
Fabricated metal products, nesoi	2.1	1.2	1.7	2.1	1.4	1.8	0.0	0.1	0.1
Printed matter and related products, nesoi	1.5	1.4	1.4	0.8	1.7	1.2	-0.7	0.3	-0.3
Plastics and rubber products	1.5	0.7	1.1	1.3	0.8	1.1	-0.2	0.1	0.0
Paper	2.2	0.5	1.4	1.4	0.6	1.0	-0.8	0.1	-0.3
Textiles and fabrics	1.2	1.0	1.1	0.6	0.7	0.6	-0.6	-0.3	-0.5
Apparel and accessories	0.9	0.7	0.8	0.5	0.4	0.5	-0.3	-0.3	-0.3
Wood products	1.0	0.2	0.6	0.7	0.1	0.5	-0.3	0.0	-0.1
Nonmetallic mineral products	0.5	0.5	0.5	0.5	0.3	0.4	0.0	-0.2	-0.1
Leather and allied products	0.5	0.3	0.4	0.3	0.3	0.3	-0.1	0.0	-0.1
Furniture and fixtures	0.4	0.1	0.3	0.3	0.2	0.3	-0.1	0.0	0.0
Beverages and tobacco products	0.3	0.2	0.2	0.4	0.1	0.3	0.1	-0.1	0.0
Textile mill products	0.3	0.2	0.3	0.2	0.3	0.2	-0.1	0.0	0.0
All nonmanufactured products	21.5	9.2	15.5	25.8	15.1	21.2	4.3	5.9	5.7

Source: Official Census statistics.





## **APPENDIX D**

### **Additional Information on SME Services Exports**

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**TABLE D.1** Percentage share of total number of services firms in Census data captured in ORBIS database, by sector and employment category, 2006

Sector	0–19	20–99	100–299	300–499	<500	500+	Total
Wholesale trade	18.8	29.7	29.2	29.1	20.3	20.3	20
Finance and insurance	16.9	62.0	66.7	57.0	20.5	20.5	21
Professional services <sup>a</sup>	16.1	27.7	37.4	38.6	16.9	16.9	17
Total	17.0	35.2	40.6	38.6	18.7	27.1	19

Source: U.S. Census Bureau, *County Business Patterns Survey*, 2006, and Bureau Van Dijk, ORBIS database (accessed November 24, 2009).

<sup>a</sup> Professional services include advertising, public relations, and related services; architectural, engineering, and related services; computer systems design and related services; legal services; and management, scientific, and technical consulting services.

**TABLE D.2** Comparison of total number of firms in Census and ORBIS databases by employment category, 2006

		0–19	20–99	100–499	<500	500+	Total
All Firms	Census	5,377,631	535,865	90,560	6,004,056	18,071	6,022,127
	ORBIS	866,099	104,583	30,512	1,001,194	10,865	1,012,059
		Percent					
All Firms	Census	89.3	8.9	1.5	0.3		
	ORBIS	85.6	10.3	3.0	1.1		

Source: U.S. Census Bureau, *County Business Patterns Survey*, 2006, and Bureau Van Dijk, ORBIS database (accessed November 24, 2009).

**TABLE D.3** Comparison of total number of firms in Census and ORBIS databases by sector, 2006

Sector		0–19	20–99	100–299	300–499	<500	500+
		Percent					
Wholesale trade	Census	85.5	11.1	2.0	0.4	99.1	0.9
	ORBIS	79.4	16.3	2.9	0.6	99.2	0.8
Finance and insurance	Census	91.7	6.1	1.3	0.3	99.4	0.6
	ORBIS	75.2	18.2	4.3	0.8	98.4	1.6
Professional services <sup>a</sup>	Census	93.4	5.2	0.8	0.2	99.6	0.4
	ORBIS	88.8	8.5	1.7	0.4	99.4	0.6

Source: U.S. Census Bureau, *County Business Patterns Survey*, 2006, and Bureau Van Dijk, ORBIS database (accessed November 24, 2009).

<sup>a</sup> Professional services include advertising, public relations, and related services; architectural, engineering, and related services; computer systems design and related services; legal services; and management, scientific, and technical consulting services.