

United States International Trade Commission



Small and Medium-Sized Enterprises: Characteristics and Performance

Investigation No. 332-510

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U.S. International Trade Commission

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ABSTRACT

This report is the third in a series by the U.S. International Trade Commission (USITC) that examines the domestic and global operations of U.S. small and medium-sized enterprises (SMEs). The Commission found that U.S. exporting SMEs outperform their nonexporting SME counterparts by several measures. Whether they deal in services or manufacturing, exporting SMEs show higher total revenues, faster total revenue growth, and higher labor productivity than their nonexporting SME counterparts. The Commission also found several noteworthy contrasts between exporting large firms and exporting SMEs. Across all sectors, large firms primarily sell to foreign clients via foreign affiliates rather than through direct exports, while SMEs serve foreign clients primarily through direct exports. Exporting services SMEs, which represent a very small share of all U.S. services SMEs, are more export-intensive than large services exporters. U.S. services SME multinational companies, which are even less common, are nearly three times more export-intensive than large U.S. multinationals. On the other hand, trade barriers, including both tariffs and nontariff measures, disproportionately affect SMEs relative to large firms, as do many business impediments, such as high transportation costs. In addition to their role as direct exporters, U.S. goods and services SMEs also participate in the export economy by exporting indirectly through wholesalers and other intermediaries or selling intermediate goods or services domestically to large and small firms that use these intermediate inputs to produce exported goods or services. The Commission estimates that SMEs contribute a substantially higher share of the value-added content embedded in exports than suggested by traditional trade statistics.

CONTENTS

	<i>Page</i>
Abstract	i
List of Frequently Used Terms and Acronyms	ix
Executive Summary	xi
Chapter 1: Introduction	1-1
Purpose and scope	1-1
Approach	1-2
Data sources	1-2
Statistics on SME trade and foreign affiliate sales	1-3
Commission survey of U.S. firms.....	1-3
Other sources of data	1-5
Organization of the report.....	1-5
Previous reports in this series	1-6
Chapter 2: Exports and SME Performance	2-1
Key findings	2-1
Size and performance	2-1
Exporting and performance of manufacturing SMEs.....	2-2
Exporting and performance of SMEs in the services sector.....	2-4
Chapter 3: Examination of Services SME Exporters	3-1
Key findings	3-1
Tradable services.....	3-2
Cross-border trade	3-3
Top five services subsectors	3-3
Services SME share of exports and employment.....	3-6
SME exporters' growth.....	3-7
Sectoral analysis	3-7
Services supplied through U.S. MNCs.....	3-13
SME MNCs' share of U.S. parent sales.....	3-13
Services SME MNC's foreign sales growth	3-16
Foreign affiliate sales.....	3-17
Foreign affiliate sales concentrated in foreign markets	3-21
Data gaps on SME exports of services	3-21
Bureau of Economic Analysis	3-21
U.S. Census Bureau	3-23
Approaches for overcoming data deficiencies	3-23
Potential improvements.....	3-23
Comparison to other countries' best practices.....	3-24

CONTENTS—Continued

	<i>Page</i>
Chapter 4: SMEs Multinational Firms	4-1
Key findings	4-1
U.S. SMEs as MNCs	4-2
SME MNCs: Profile.....	4-4
Foreign affiliates of U.S. SME MNCs	4-4
Foreign sales by U.S. SME MNCs	4-6
Goods exports by U.S. SME MNCs	4-6
SME MNC labor productivity	4-7
SME MNCs by sector.....	4-9
Firm size and methods of serving foreign customers	4-9
Related-party exports of SMEs	4-13
Small and medium-sized U.S. affiliates of foreign enterprises	4-15
Chapter 5: Indirect exports of U.S. SMEs	5-1
Key findings	5-1
Indirect value-added exports by U.S. SMEs.....	5-2
Conventional export measures and an alternate perspective.....	5-2
Indirect SME value-added exports	5-4
SME indirect exports via wholesalers and other intermediaries	5-7
The role of wholesalers and other intermediaries	5-8
Indirect SME exporters by sector	5-14
Indirect SME agricultural exports	5-14
Indirect SME manufacturing exports	5-18
Indirect SME services exports.....	5-19
Chapter 6: Trade Barriers that Disproportionately Affect SME Export Performance	6-1
Key findings	6-1
Disproportionate impediments to SME exports	6-1
Most frequently encountered impediments.....	6-2
Highest ranked impediments.....	6-8
Impediments disproportionately affecting SMEs	6-10
Experience and the severity of barriers.....	6-13
Tariffs faced by U.S. exporters.....	6-15
Tariffs faced by different U.S. industries.....	6-15
Firms' perceptions of foreign tariff barriers	6-17
Nontariff measures	6-18
Examination of specific NTMs.....	6-20
NTMs facing SME manufacturers.....	6-21
Barriers to foreign markets in services industries	6-23

CONTENTS—Continued

	<i>Page</i>
Bibliography	Biblio-1

Appendices

A. Request letter	A-1
B. <i>Federal Register</i> notices	B-1
C. List of industries covered in datasets	C-1
D. Additional chapters 3 and 4 tables	D-1
E. Business Firm Questionnaire	E-1
F. Description of USITC questionnaire methodology	F-1
G. Discussion of firm characteristics based on questionnaire results	G-1
H. The indirect contribution of SMEs to U.S. exports: Conceptual model and estimation ... method	H-1

Boxes

3.1 Marketing methods to foreign clients	3-4
4.1 “Born global” firms.....	4-3
4.2 U.S. SMEs acquired by foreign MNCs	4-17
6.1 Variable and fixed costs of exporting	6-2
6.2 Impediments to exporting experienced by minority-owned businesses	6-10
6.3 Foreign barriers to SME agricultural exports	6-22
6.4 Export-import bank trade finance products for SME services companies.....	6-24

Figures

ES.1 Services: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on scale of 1–5)	xv
ES.2 Manufacturing: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on scale of 1–5)	xvi
2.1 Manufacturing SMEs that export have higher average revenue per firm than manufacturing SMEs that do not export.....	2-4
3.1 Portfolio management firms are the largest SME exporters: SME and large services firms’ export revenue, top five subsectors, 2007	3-5
3.2 No one SME size class dominates export revenue: SMEs’ and large services firms’ shares of export revenue, with SME’s share broken down by number of employees, 2007.....	3-8
3.3 Services SME exporters account for a small share of service sector employees: All services establishments, share of total services employees, 2007.....	3-9
3.4 Services SMEs exporters outperform large services exporting firms: SMEs’ and large services firms’ growth rates, 2002–07	3-11
3.5 SME services MNCs are more export-oriented than large services MNCs: Ratio of foreign sales to total sales by U.S. MNCs, 2007	3-16
3.6 SME parents in “Other service industries” have highest foreign affiliates sales: Distribution of foreign affiliate sales in service sectors, 2007	3-18
3.7 Foreign affiliates of services MNCs rarely service clients in the United States: Foreign affiliate sales in service industries by destination, 2007.....	3-22
5.1 Value of products by exporting firm obscures the involvement of upstream firms	5-4
5.2 Agricultural supply chain: Farm to market.....	5-17
6.1 Services: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on a scale of 1-5)	6-11

CONTENTS—*Continued*

	<i>Page</i>
Figures	
6.2	6-12
6.3	6-16
H.1	H-5
Tables	
ES.1	xii
ES.2	xiii
1.1	1-4
2.2	2-7
3.1	3-10
3.2	3-12
3.3	3-14
3.4	3-19
4.1	4-5
4.2	4-7
4.3	4-8
4.4	4-10
4.5	4-11
4.6	4-14
4.7	4-16
5.1	5-6
5.2	5-6
5.3	5-6
5.4	5-6
5.5	5-7
5.6	5-8
5.7	5-10
5.8	5-11
5.9	5-12
5.10	5-13
5.11	5-13
6.1	6-3
6.2	6-8

CONTENTS—*Continued*

Page

Tables—*Continued*

6.3	Share of respondents to USITC questionnaire ranking a given impediment as the most important.....	6-9
6.4	SMEs with less experience report greater impediments	6-14
6.5	Tariff rates applied to U.S. exports, 2004	6-16
6.6	Percentage of exporting firms and firms considering exporting that identified high tariffs as a barrier.....	6-18
6.7	Percentage of firms experiencing burdensome NTMs, by size.....	6-19
6.8	Percentage of firms experiencing burdensome NTMs, by sector and size	6-20
C.1	Services industries included in Census cross-border datasets.....	C-3
C.2	Industries included in USITC questionnaire	C-5
C.3	Industries included in BEA foreign affiliate dataset	C-9
C.4	Industries included in Census datasets on goods exports by firm size and related-party exports, 2007.....	C-10
D.1	Shares of revenue and exported services, subset of services industries, 2007	D-3
D.2	Shares of revenue and exported services, subset of services industries, 2002.....	D-4
D.3	Revenue from exported services, subset of services industries, 2002.....	D-5
D.4	Growth of number of establishments and employees, subset of service industries, 2002 and 2007	D-6
D.5	Growth of revenue and exported services, subset of service industries, 2002 and 2007 ..	D-7
D.6	Information services: Revenue from exported services, 2007	D-8
D.7	Information services: Share of revenue and exported services, 2007	D-9
D.8	Professional, scientific and technical services: Revenue from exported services, 2007..	D-10
D.9	Professional, scientific and technical services: Shares of revenue and exported services, 2007	D-11
D.10	Derivation of percentages reported in table 4.5	D-12
F.1	Number of firms by strata contained in Orbis database and number of firms sampled by USITC	F-4
F.2	Number of respondents to USITC questionnaire	F-5
G.1	Primary characteristics of questionnaire respondents, 2009	G-3
G.2	Exporting profile of questionnaire respondents, 2009	G-5
G.3	Primary foreign markets for questionnaire respondents: Market share by country or region, 2009	G-6
G.4	Foreign client revenue share by method of delivery, 2009	G-7
G.5	Results of difference of proportion tests between SME and large manufacturers rating impediments as a 4 or 5.....	G-9
G.6	Results of difference of proportion test between SME and large services firms rating impediments as a 4 or 5.....	G-9
G.7	Test of whether SMEs rated impediments to trade higher than large firms.....	G-10
H.1	Data from Economic Census used to split BEA annual Input-Output tables.....	H-9
H.2	Data from SBA: GDP by business size used to split the BEA annual input-output tables	H-13
H.3	Decomposition of U.S. gross exports by sources of value-added based on data from the Economic Census	H-15
H.4	Decomposition of SMEs' value-added exports based on data from the Economic Census	H-16
H.5	Decomposition of U.S. gross exports by sources of value-added based on data from the SBA.....	H-17

CONTENTS—*Continued*

Page

Tables—*Continued*

H.6	Decomposition of SMEs' value-added exports based on data from the SBA.....	H-18
H.7	Sensitivity analysis of IO table	H-19
H.8	Sensitivity analysis on import assumption, 2007	H-19

List of Frequently Used Terms and Acronyms

BEA	The U.S. Department of Commerce's Bureau of Economic Analysis
Census	The U.S. Department of Commerce's Census Bureau
Commerce	U.S. Department of Commerce
Commercial presence (GATS Mode 3)	A mode of exporting services in which a firm from one country establishes an affiliate in a second country, with the income generated from the affiliate's transactions appearing as direct investment income in the first country's balance of payments
Commission or USITC	The U.S. International Trade Commission
Consumption abroad (GATS Mode 2)	A mode of exporting services in which a resident in one country consumes services while visiting or temporarily residing in another country
Cross-border supply (GATS Mode 1)	A mode of exporting services in which suppliers in one country sell services to consumers in another country, with people, information, or money crossing national boundaries
Employer firms	Firms subject to federal income tax that employ at least one worker or having payroll expenses during the year
Establishment	A single physical location where business is conducted or where services are performed
Firm	A business organization or entity consisting of one or more domestic establishments under common ownership or control
Foreign affiliate	A branch or subsidiary of a parent company, established outside of the parent company's home country
Foreign sales, U.S. Foreign sales	Sales by U.S. firms to foreign affiliates and to other foreign firms or persons. data do not exactly correspond to export data
GATS	General Agreement on Trade in Services (under the WTO)
Gross exports	Exports reported using the conventional approach of crediting the total value of exports to the final producer
Indirect value-added	Goods and services produced by nonexporting firms which are embedded in products that are exported via large firms and SMEs
IP	Intellectual property
Large firms	Firms with 500 or more U.S.-based employees

MNCs	Multinational companies; any firm that has at least one foreign affiliate
NAICS	North American Industry Classification System
Nonemployer firms	Firms that are subject to federal income tax and that have no paid employees
Nonmanufacturers	All firms except those engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products
NTM	Nontariff measure
ORBIS	A commercial database that consolidates micro-level statistical information
Presence of natural persons (GATS Mode 4)	A mode of exporting services in which an individual travels to another country on a short-term basis to supply services
Primary commodities	Products that are produced on farms and that are minimally processed, such as soybeans, corn, wheat, cotton, fruits, and nuts
Pure foreign sales	Sales by U.S.-owned firms to customers that are both located in a foreign country <i>and</i> (if a firm) foreign-owned
Related-party exports	Exports for which both the exporter and importer are part of the same multinational company
SBA	U.S. Small Business Administration
Semiprocessed agricultural products	Primary commodities that have been transformed into intermediate goods, such as soybean meal and wheat flour
SMEs	Small and medium-sized enterprises. For this report, the Commission has defined SMEs as firms with less than 500 U.S.-based employees
Trade barriers	Tariffs and nontariff measures imposed by governments
Trade impediment	Challenges faced by exporters, including both business impediments, such as transport costs and limited access to finance, and trade barriers
USTR	U.S. Trade Representative
Value added	The value created by a firm when it combines factor inputs, such as land, labor, and capital, with intermediate inputs to produce new products
Value-added exports	The added value embodied in exports
WTO	World Trade Organization

Executive Summary

The U.S. International Trade Commission (Commission or USITC) found that despite facing trade barriers and other impediments, small and medium-sized enterprises (SMEs) in the United States that export goods and services are more productive than their nonexporting counterparts. SMEs (defined in this report as firms with less than 500 U.S.-based employees), through their role as suppliers to exporting firms, make a larger contribution to U.S. exports than standard trade statistics suggest, and SMEs in the services sector are more export-intensive (i.e., reliant on exports) than large exporters of services.

The report is the last in a series of three Commission reports requested by the United States Trade Representative (USTR). The reports investigate the performance of SMEs in U.S. exports of goods and services. The first report, released in January 2010, described the characteristics of U.S. SMEs and the role they play in U.S. exports.¹ The second report, published in July 2010, provided views of U.S. industry on impediments to trade and compared U.S. SMEs with those from the European Union and other major trading partners.² This third report analyzes the contribution of U.S. services SMEs to U.S. trade and focuses on the role of SMEs as indirect exporters, thereby highlighting their contribution to the foreign trade sector of the U.S. economy.

This analysis was made possible by the availability of new data from the Bureau of Economic Analysis (BEA) and the U.S. Census Bureau (Census) on affiliate sales and cross-border exports of U.S. services SMEs. These data are used to describe the linkages between exporting and SME performance, characteristics of U.S. services SME exporters, and U.S. SME multinational companies (MNCs). The Commission also issued a questionnaire that generated several thousand responses from SMEs and large firms in both the manufacturing and services sectors. The questionnaire data are used throughout the report, but are particularly useful in identifying trade barriers and other impediments that disproportionately affect SME export performance.

U.S. SMEs That Export Generally Outperform SMEs That Do Not Export

U.S. exporting SMEs outperform their nonexporting SME counterparts according to several measures. According to data from the Commission questionnaire, exporting SME manufacturers in 2009 had more than twice the total revenue of their nonexporting counterparts (table ES.1). These exporters had revenue growth of 37 percent between 2005 and 2009, while total revenue declined by 7 percent for nonexporting SME manufacturers over the same period. Also, labor productivity, as measured by revenue per employee, was over 70 percent greater for manufacturing SME exporters than for nonexporters. Similarly, Census data show that services SME exporters had nearly four times as much total revenue per firm as services SME nonexporters and that total revenue per firm earned by these exporters grew faster than the total revenue per firm earned by nonexporters between 2002 and 2007. Labor productivity in 2007 was more than twice as high for services SME exporters as for their nonexporting counterparts.

¹ USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, January 2010.

² USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms*, July 2010.

TABLE ES.1 U.S. SMEs: Comparison of the performance of exporters with nonexporters

Indicator	Exporters	Non-exporters	Key finding
Average revenue per firm (million \$, 2009)	3.9	1.5	• SME manufacturers that export earned more revenue than nonexporting SME manufacturers
Manufacturer revenue growth (% change, 2005–09)	36.8	-6.8	• Exporting SME manufacturers' revenue grew faster than that of nonexporting SMEs
Average revenue per employee (thousand \$, 2009)	281	163	• SME manufacturers that export are associated with higher labor productivity than nonexporting SME manufacturers
Average revenue per firm (million \$, 2007)	3.8	1.0	• Services SMEs that export earn more total revenue than nonexporting services SMEs
Services revenue growth (% change, 2002–07)	32.3	23.6	• Exporting services SMEs' revenue grew faster than that of nonexporting services SMEs
Labor productivity growth (% change, 2002–07)	43.5	26.8	• Services SMEs that export realized higher growth in labor productivity than nonexporting services SMEs

Source: Data for manufacturing SMEs are from the Commission's questionnaire; data on services SMEs are from Census.

Services SME Exporters Are More Export-Intensive than Large Exporting Services Firms

Services SMEs that export account for a very small share of total services providers, but they were more export-intensive between 2002 and 2007 than large services exporters.³ Services SME exporters derived, on average, 22 percent of their total revenue from exports, versus only 15 percent for large services exporters (table ES.2). Of the exporting services firms, the smallest firms (0–19 employees) were the most export-intensive, with 29 percent of their total revenue originating from exports. Revenue and employment growth of services exporting SMEs also outpaced that of large services exporters.

U.S.-based multinational (MNC) services SMEs that own and operate at least one foreign affiliate accounted for a small share of foreign sales by all U.S. MNCs; the SME share generally ranged between 1 and 4 percent for most industries. The one exception was wholesale trade, where U.S. MNC SMEs accounted for just over 15 percent of foreign sales by U.S. MNC wholesalers. U.S.-based services SME MNCs were more export-intensive than large U.S. services MNCs; foreign sales accounted for 15 percent of total sales of services SME MNCs and only 6 percent of those for comparable large firms (table ES.2). Although total sales of foreign affiliates of U.S. SME MNCs were small compared to those of foreign affiliates of larger firms, sales by foreign affiliates of U.S. services SMEs experienced faster revenue growth. Sales back to the United States by foreign affiliates of both SME and large U.S. services MNCs accounted for less than 10 percent of the affiliates' total sales.

³ Export intensity refers to the ratio of revenue from export sales to total revenue.

TABLE ES.2 Services firms: Comparison of SMEs with large firms, (figures are for 2007 except as indicated)

Indicator	SMEs	Large firms	Key finding
Total value of exports (billion \$)	47	78	• The value of SME exports was less than that of large firms
Exports as a share of total firm revenue (%)	22	15	• SMEs were more export-intensive than large firms
Export revenue growth (% change, 2002–07)	90	88	• Exports by SMEs and large firms grew at similar rates
Total revenue growth (% change, 2002–07)	64	25	• Exporting SMEs' total revenue grew faster than that of large exporting firms
Employment growth (% change, 2002–07)	12	-1	• Employment in exporting SMEs increased at a higher rate than in large exporting firms
Value of MNCs' foreign sales (billion \$)	17	270	• The value of foreign sales of SME MNCs was substantially less than that of large MNCs
MNCs' foreign sales as a share of their total sales (%)	15	6	• SME MNCs were more export-intensive than large MNCs
Growth in foreign sales revenue of MNCs (% change, 2004–07)	27	23	• Foreign sales by SME MNCs grew more rapidly than those of large MNCs
Revenue of foreign affiliates (billion \$)	90	1,258	• Total foreign affiliate sales of U.S. SMEs were much less than those of foreign affiliates of larger firms
Foreign affiliates' sales growth (% change, 2004–07)	20	14	• Foreign affiliates of U.S. SMEs grew faster than affiliates of large firms
Foreign affiliates' sales to the United States as share of total sales (%)	9	8	• Most sales by foreign affiliates of U.S. firms are in foreign markets, rather than to the United States

Source: Staff calculations from BEA and Census data.

Large Multinational Firms Sell Primarily to Foreign Customers through Foreign Affiliates, while SMEs Tend to Export Directly

SMEs typically serve foreign customers in a significantly different way than large firms. According to Commission estimates, SMEs tend to serve their foreign customers primarily through direct exports, rather than selling through foreign affiliates. An estimated 73 percent of foreign sales by SMEs were conducted through direct exports, with the remainder (27 percent) by foreign affiliates of U.S.-based SMEs. On the other hand, large firms primarily sell to foreign customers via foreign affiliates rather than through direct exports. In 2007, an estimated 85 percent of foreign sales by large firms were conducted through foreign affiliates of U.S. firms, versus approximately 16 percent of foreign sales conducted via direct exports.



The Commission also found that there are a small but significant number of SMEs in the United States that are owned by foreign MNCs. These foreign-owned SMEs are more numerous and employ more people in the United States than U.S.-owned SME MNCs. There are approximately 9,400 of these foreign-owned U.S.-based SMEs, and they employed an estimated 440,000 U.S. workers in 2007, including 187,000 in manufacturing and 84,000 in wholesale trade.

Indirect Exports of U.S. SMEs Increase Their Total Contribution to U.S. Exports

In addition to their role as direct exporters, U.S. SMEs participate indirectly in the export economy. SMEs export indirectly through wholesalers and other intermediaries and by selling intermediate goods and services to large and small firms in the United States that produce exports with these intermediate inputs. SMEs' contribution to U.S. exports through these indirect channels was substantial. In 2007, direct exports of goods and services by U.S. SMEs totaled \$382 billion, or approximately 28 percent of total U.S. exports. According to Commission calculations, if the value of intermediate inputs that SMEs supplied to exporting firms is taken into account, SMEs' total contribution to exports in 2007 would increase to \$480 billion, or 41 percent of the total value of U.S. exports of goods and services. These values imply that SMEs that exported goods and services directly supported an estimated 1.9 million U.S. jobs in 2007. In addition, when employment by SMEs that supply intermediate inputs to exporters is considered, the Commission estimates that SME indirect exporters accounted for an additional 2.1 million U.S. jobs in 2007. Therefore, these results suggest that direct and indirect exports of SMEs supported about 4 million jobs—with about half the jobs sustained by direct exports and the other half by indirect exports. The Department of Commerce estimates that U.S. exports of goods and services support about 10 million jobs. Taken together with the results from this study, this work suggests that SME exports account for approximately 40 percent of all export-supported jobs in the United States.

Trade Barriers and Other Impediments Disproportionately Affect SME Export Performance

The Commission's July 2010 report on SMEs provided views of U.S. SMEs concerning impediments to exporting including access to financing and U.S. government regulations. The Commission survey data indicate that SMEs regard many impediments as more burdensome than large firms do. Responding firms rated the severity of 19 impediments on a 1-to-5 scale, with 1 indicating no burden and 5 indicating a severe burden. The proportion of SMEs that regarded the impediments as burdensome (a 4 or 5 response) tended to be higher than the proportion of large firms that did so, for both services and manufacturing firms (figures ES.1 and ES.2). For services firms, SME scores exceeded those of large firms by the largest amount for "insufficient intellectual property (IP) protection," "foreign taxation," and "obtaining financing." For manufacturing firms, SME scores exceeded those of large firms by the largest amounts for the following impediments: "inability to find foreign partners," "difficulty receiving or processing payments," and "high tariffs."

FIGURE ES.1 Services: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on a scale of 1–5)

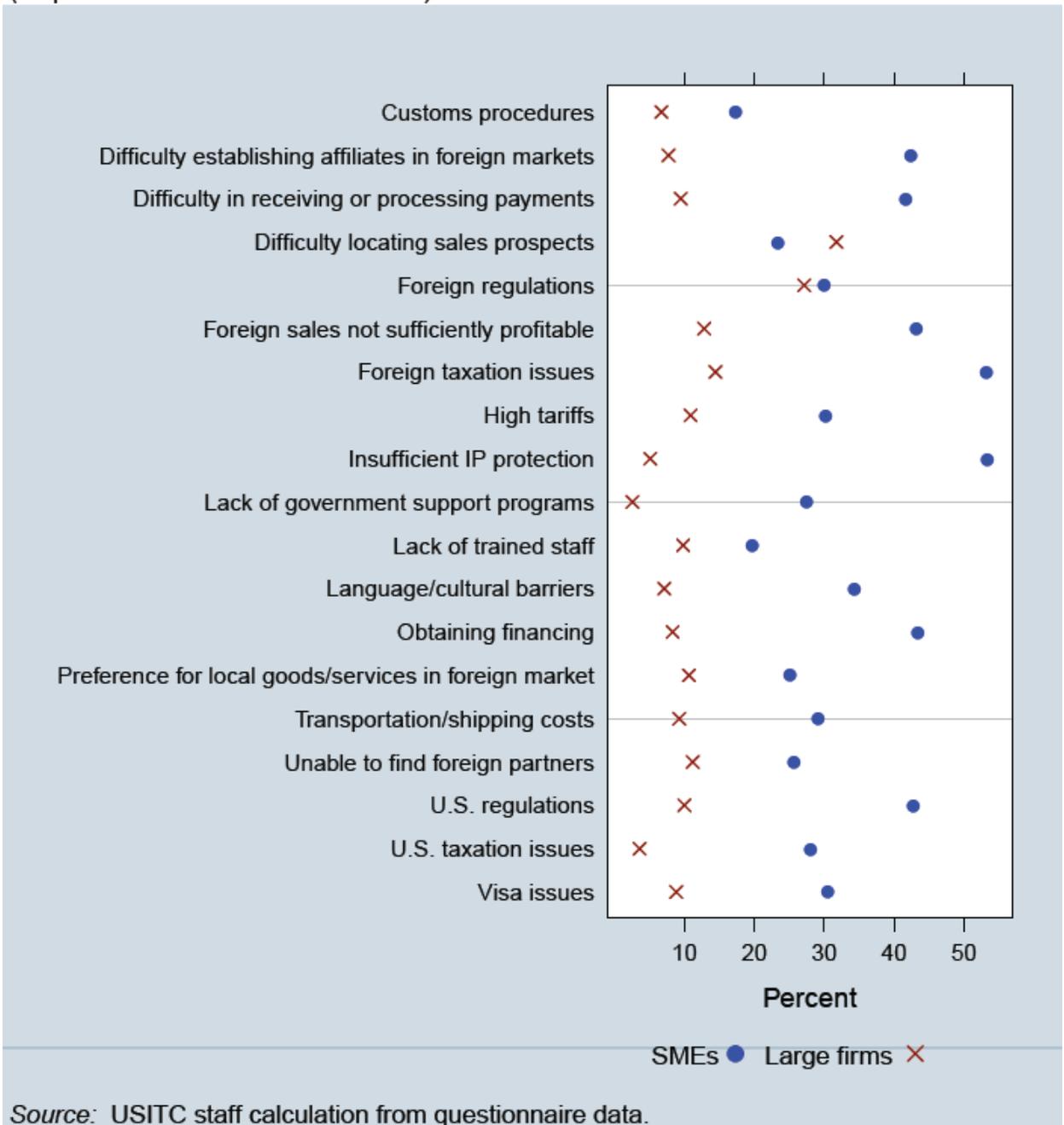
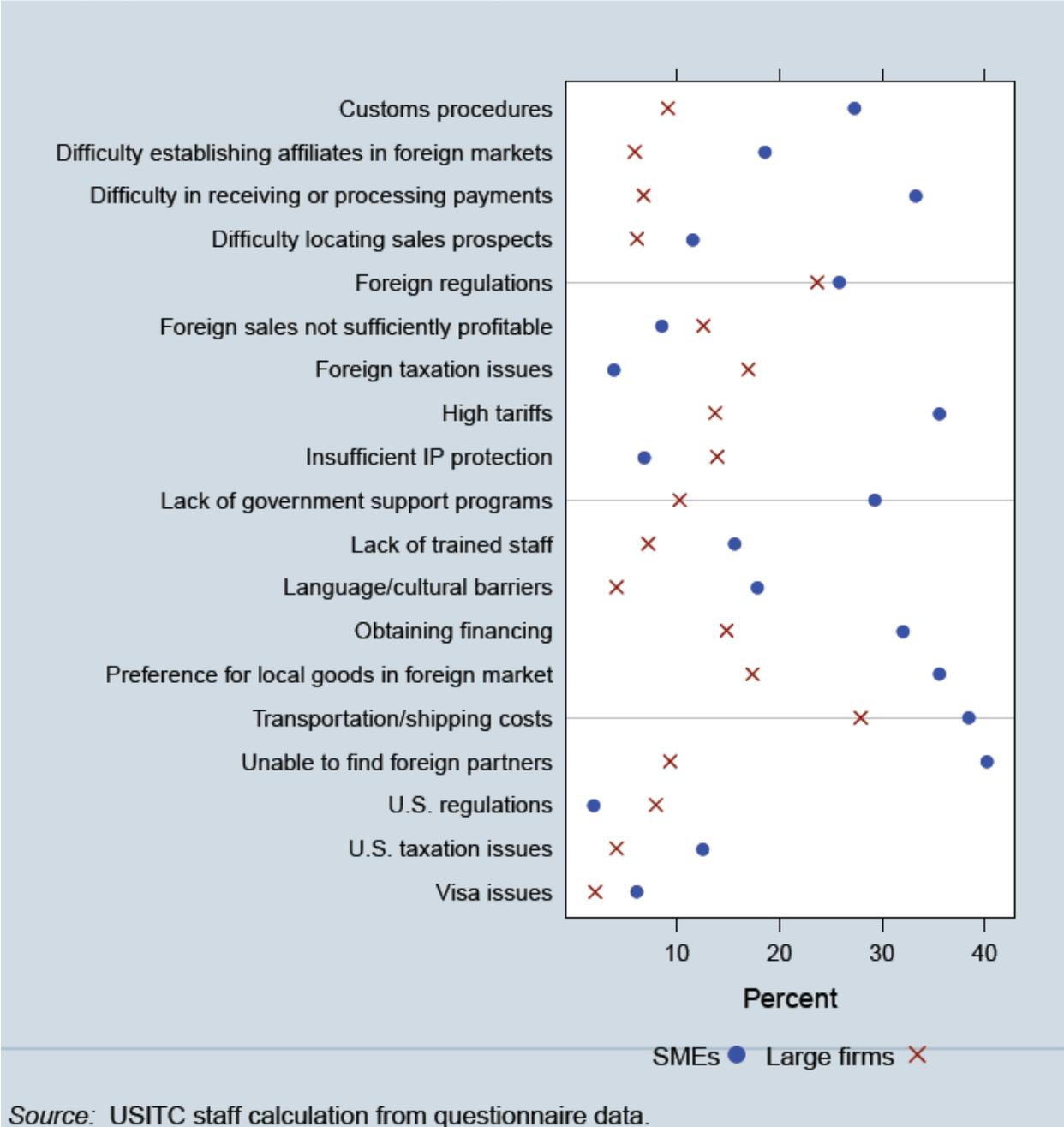


FIGURE ES.2 Manufacturing: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on a scale of 1–5)



Indications from the survey are that as SMEs export more, their perception of the severity of impediments typically declines. However, the pattern varies somewhat depending on whether SMEs are in services or manufacturing. Newer services SMEs tend to report impediments as more burdensome, export to fewer regions, and export less intensively than more established services firms. Manufacturing SMEs tend to report impediments as more burdensome when they export to only one or two regions; on the other hand, newness to exporting and lack of export intensity have a less pronounced effect on burdens reported by manufacturers.

Tariffs in foreign markets on certain manufactured goods and processed agricultural products, in which SMEs are major suppliers, are substantial. For example, SMEs are major exporters of knit apparel and meat and meat products, sectors in which U.S. exporters faced average applied tariffs in excess of 20 percent. However, tariffs on most products were quite low, and the average tariff faced by SMEs (3.4 percent) was only 1 percent higher than that faced by large exporters.

Certain specific NTMs, such as nationality or licensing requirements, which must be met to practice certain professions, make it difficult for SMEs to enter many foreign markets. In some countries, laws prohibit the establishment of a commercial presence by foreign firms. For example, a foreign retail firm must have a net worth of at least \$200 million to establish itself in the Philippines. Licensing, residency, and commercial presence requirements frequently constrain services SMEs from entering foreign markets. Foreign standards and certification requirements often impede exports by manufacturing SMEs.

CHAPTER 1

Introduction

Purpose and Scope

This report is the third in a series of three interrelated reports on the role of U.S. small and medium-sized enterprises (SMEs) in U.S. exports that the U.S. International Trade Commission (Commission or USITC) has prepared in response to a request by the United States Trade Representative (USTR).¹ As requested, it provides (1) an examination of the linkages between exporting and SME performance for both goods and services firms; (2) a profile of U.S. services SME exporters, including the characteristics of firms that produce tradable services, the growth of services exports by SMEs, and the differences between SME and large services exporters; (3) an analysis of the operations of U.S. SME multinational companies (MNCs) and of U.S. SMEs that are affiliates of foreign MNCs; (4) an examination of the role of SMEs as indirect exporters, either through sales to exporting wholesalers or other intermediaries, or through sales of intermediate goods or services to exporting firms; and (5) an analysis of trade impediments that disproportionately affect SME export performance for both goods and services exporters. This report, like the previous reports in this series, defines SMEs as firms with less than 500 U.S.-based employees.²

A major focus of this report is an analysis of the operation of U.S. services SME exporters. As noted in the first report, SMEs accounted for 99.9 percent of the 27 million employer and nonemployer³ nonfarm businesses in 2006. Eighty-eight percent of these SMEs were services firms.⁴ Before the publication of the current report, no official trade data were publicly available on the export activities of SME services firms, even though they accounted for the vast majority of all U.S. businesses. This report seeks to fill an important gap by reporting data on the international operations of U.S. services SMEs. In addition to services, however, this report also provides information on SMEs in the agriculture and

¹ See appendix A and B for the request letter from the USTR, and *Federal Register* notices associated with this investigation. The first report in this series—USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*—was published in January 2010. The second report in this series, USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms*—was published in July 2010.

² Earlier reports in this series applied an additional revenue threshold for services firms (less than or equal to \$7 million for most services firms). This report does not apply revenue thresholds for services firms because they do not correspond to those used by the major data sources on services—that is the U.S. Census Bureau and the U.S. Dept. of Commerce (USDOC), Bureau of Economic Analysis (BEA)—used in this report. However, an analysis of this revenue threshold, applied to the services firms in the USITC questionnaire described below, indicates that 78 percent of services firms with less than 20 employees, 39 percent of firms with between 20 and 99 employees, and only 3 percent of firms with between 100 and 499 employees have annual revenues of less than \$7 million.

³ Nonemployer firms refer to businesses without paid employees that are subject to federal income tax. Most nonemployers are self-employed individuals operating very small unincorporated businesses, which may or may not be the owner's principal source of income.

⁴ Census, Statistics of U.S. Businesses; Census, Nonemployer Statistics.

manufacturing sectors, particularly in chapters analyzing SME MNCs, SME indirect exporters, and impediments to SME exporters.⁵

Approach

Most of the analysis in this report is based on comparisons between SMEs and large firms (firms with 500 or more U.S.-based employees) or between SME exporters and SME non-exporters. In many cases, this involves direct comparisons of business statistics, such as total exports by SMEs versus those of large firms, or employment by SME exporters versus that of SME nonexporters. In the analysis of trade impediments, however, the Commission has relied on questionnaire responses to determine which of the impediments have a disproportionate (greater) effect on SMEs relative to large firms. To examine the role of SMEs in indirect exports (goods or services that are inputs into goods or services produced and exported by other firms), the Commission used input-output analysis.

Data Sources

The current report builds on the two previous Commission reports by drawing on a number of new data sources to provide additional details on the exports, international operations, and challenges faced by U.S. SMEs.⁶ For instance, the first report, published in January 2010, analyzed foreign affiliates of U.S. services SMEs using a firm-level commercial database, but noted that no official data existed on services exports disaggregated by firm size. The current report uses specially tabulated data from the Bureau of Economic Analysis (BEA) and the U.S. Census Bureau (Census) to report additional details regarding affiliate sales and cross-border exports of U.S. services SMEs.⁷ Also, the first report disaggregated SMEs by broad types of firms—manufacturers, wholesalers, and other firms—but did not include direct information on the types of goods exported by those firms. The current report takes this analysis one step further by presenting new information on the types of goods exported by SMEs, cross-referenced by firm type (e.g., chemicals exported by manufacturers versus chemicals exported by wholesalers or other firms), which allows a more in-depth analysis of the role of intermediaries in SME trade.

Similarly, the Commission's second report on SMEs, published in July 2010, summarized the views of SMEs regarding export impediments that were gathered in a series of public hearings and interviews with SMEs throughout the United States. However, the report did not rank the reported trade impediments faced by SMEs, nor did it assess which barriers disproportionately affected SMEs relative to large firms. The current report employed a questionnaire in which both SMEs and large firms rated the severity of many of the impediments identified by the

⁵ Throughout this report, industries are classified by the North American Industry Classification System (NAICS); under the NAICS, agricultural processing is classified as a manufacturing activity.

⁶ A list of industries covered in each of these datasets is presented in appendix C.

⁷ Analysis of this data is primarily found in chapter 3, with additional detail presented in appendix D.

Commission's July 2010 report on SMEs.⁸ This approach allowed for a quantitative analysis to determine which impediments pose the greatest challenges to SME exporters. Information regarding the industry coverage, time frame, and contribution of new information from each of these data series is summarized in table 1.1. Additional information on the data sources used in this report is provided below.

Statistics on SME Trade and Foreign Affiliate Sales

At the request of the Commission, Census compiled a special tabulation using data from the 2002 and 2007 Economic Censuses to produce statistics on cross-border exports for certain services sectors by firm size. Additionally, at the request of the Commission, BEA produced a special tabulation on financial and operating data for U.S. MNCs and their foreign affiliates, by employment size of U.S. parents in all sectors.⁹ Census provided additional data on related-party exports of SMEs, i.e. exports for which both the exporter and importer are part of the same MNC. Finally, at the request of the Commission, Census compiled a data series that provides product-level detail on the exports of goods by non-manufacturers (wholesalers and other companies). These special data tabulations allowed a much more detailed analysis of the international operations of services SMEs than was previously possible.

Commission Survey of U.S. Firms

To assess the degree to which impediments to exporting disproportionately affect U.S. SME exporters compared to large firms, the Commission sent questionnaires to firms in the manufacturing and tradable services sectors.¹⁰ For comparison purposes, the questionnaire sampled both SMEs and large firms, as well as SME exporters and SME nonexporters.¹¹ The questionnaire employed a stratified random sample to survey over 8,400 U.S. firms, and weighted results on the basis of firms' proportion in the overall population and the response rates of various categories of firms to ensure that reported results more accurately represented the entire population of SMEs.¹² Besides asking about impediments to exporting, the questionnaire also included questions on employment, total revenue, revenue from foreign clients (export revenue or revenue from foreign affiliates), and method of marketing to foreign clients.¹³

⁸ A copy of this questionnaire is presented in appendix E.

⁹ These data are also available on BEA's Web site at <http://www.bea.gov/international/xls/SelectUSMNCCEMP.xls>.

¹⁰ Technical details regarding this questionnaire can be found in appendix F.

¹¹ Because the vast majority of large firms are exporters, large firms are not classified as exporters or non-exporters for this analysis.

¹² The questionnaire was originally sent to 9,000 firms, however, a number of questionnaires were undeliverable due to incorrect addresses.

¹³ Results and analysis of this data are presented in appendix G.

TABLE 1.1 Comparison of major datasets employed in this study

Dataset:	Analysis found in chapter:	Industries covered ^a :	Years covered:	What is new about this dataset:
Census cross-border services trade by firm size (derived from the 2002 and 2007 Economic Censuses)	Chapter 2 Chapter 3	Services: Information; finance (except insurance); professional services; administrative and support services; and several other services industries	2002, 2007	Categorizes services trade data by five firm size categories: Total SMEs (less than 500 employees) SMEs with 0-19 employees SMEs with 20-99 employees SMEs with 100-499 employees Large firms (500 or more employees)
Commission questionnaire	Chapter 2 Chapter 6 Appendix E	Manufacturing; services (services data not disaggregated, but includes construction, wholesaling, transportation, information, finance, professional services, higher education services and a number of other service industries)	2005–2009	Quantitative data on the severity of trade impediments for SMEs and large firms in the manufacturing and services sectors
Bureau of Economic Analysis (BEA) multinational companies (MNCs) operating data by firm size of parent	Chapter 3 Chapter 4	Mining and agriculture, forestry, fishing, and hunting; manufacturing; wholesale trade; information; finance and insurance; other services industries	2004–2007	Data on the operations, including foreign and domestic sales, exports, and number of employees, of U.S. MNC parents and their affiliates by SMEs and large firms
Census data on related-party exports	Chapter 4	Agricultural goods; Mined goods; and Manufactured goods	2007	Data on related-party exports of SMEs, i.e. exports within MNCs
Census goods exports by firm size	Chapter 5	Agricultural goods; Mined goods; and Manufactured goods	2007	Product level data on exports by manufacturers, wholesalers and other firms by five firm size categories described above

^aFor complete list of industries covered in each dataset, please see appendix C.

Other Sources of Data

The Commission also used a number of other sources in analyzing the operations of U.S. SMEs. The Commission used information obtained from hearings held in Washington, DC, Portland, OR, and St. Louis, MO, in March 2010, and information from interviews with SME personnel conducted by Commission staff throughout the United States. This information was used to explore trade impediments that disproportionately affect SME export performance and to describe how SMEs participate in indirect exports, by producing inputs that are sold to exporting firms.¹⁴ The Commission also received new data on U.S. government trade financing that is provided to services SMEs.¹⁵ Finally, the Commission drew extensive information from the economic literature, U.S. and foreign government reports, and other published sources.

Organization of the Report

This report contains six chapters. In addition to describing the purpose, scope, and approach of this report, chapter 1 offers a brief summary of the major findings of the previous two reports in this series.

Chapter 2 briefly reviews the previous research related to the performance of SME exporters and nonexporters globally, and provides new supporting evidence for U.S. SMEs on linkages between exporting and performance indicators, such as revenue growth and labor productivity, for both goods and services firms.

Chapter 3 examines U.S. SMEs engaged in providing services, including the characteristics of firms that produce tradable services, the growth in these services exports, and the difference between SME and large services exporters. The chapter also describes services SME MNCs, including the operations of the U.S.-based SME parents of foreign affiliates, as well as the activities of the foreign affiliates themselves. Finally, the chapter identifies how data gaps might be overcome to further enhance understanding of SME services exporters.

Chapter 4 provides insights on the degree to which SMEs operate as MNCs and as affiliates of foreign MNCs. The chapter also analyzes the extent to which SMEs and large firms service their clients through foreign affiliate sales versus direct exports, and the extent to which SME exports of goods are to related parties.

Chapter 5 examines the role of SMEs as indirect exporters.¹⁶ This includes two kinds of transactions: sales of intermediate inputs to exporters, and sales to wholesalers or other intermediaries who export essentially untransformed goods and services produced by SMEs. The chapter also provides an estimate of the number of U.S. jobs supported by SME indirect exporters.

¹⁴ The views of all witnesses who testified at the Commission's public hearings or expressed their views in written testimony are summarized in chapter 6 of the Commission's July 2010 report on SMEs.

¹⁵ Ex-Im Bank, e-mail spreadsheet attachment to Commission staff, July 28, 2010.

¹⁶ Technical details regarding this analysis are presented in appendix H.

Chapter 6 identifies and ranks trade impediments that may affect SME exporters more than large exporters, based on questionnaire responses. The chapter also describes how firms' responses vary relative to export experience. The chapter primarily focuses on tariff and nontariff measures (NTMs) that disproportionately affect SMEs, but in order to provide context on the importance of trade barriers relative to other measures, it also analyzes the impact of business impediments and domestic policy impediments identified by the Commission's second report on SMEs.

Previous Reports in this Series

In its first report in this series, the Commission gave an overview of the current state of SMEs' participation in U.S. exports, based on available data.¹⁷ It found that SMEs accounted for about 30 percent of known U.S. merchandise exports between 1997 and 2007. Canada and Mexico were the largest markets for these exports. Electrical products, machinery, and chemicals were the primary merchandise export categories for SMEs. The Commission also found that 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. The Commission also found that Canada and the United Kingdom appeared to be the largest destination markets for U.S. SMEs' services exports, based on a comparison between data on affiliate transactions by SMEs from ORBIS, a proprietary firm-level database, with official cross-border exports statistics—not differentiated by firm size—in three services sectors.¹⁸

In its second report, the Commission compared exporting activities of SMEs in the United States and the European Union (EU). The Commission found that SMEs in the EU accounted for 40 percent of total manufacturing sales and 31 percent of manufacturing exports, while U.S. SMEs accounted for just 19 percent of total manufacturing sales and 13 percent of manufacturing exports.¹⁹ The Commission found that this difference is consistent with the larger share of EU economic activity accounted for by SMEs. The report also included a summary of the views of SMEs on trade impediments and the strategies they have used to increase exports, including views expressed at Commission public hearings and in interviews with Commission staff.²⁰

The Commission found that SMEs commonly identified access to finance, certain U.S. government regulations,²¹ transportation costs, and the small scale of SME production as major domestic impediments to increased exports. SMEs identified foreign government regulations, lack of knowledge of foreign markets, and language and cultural barriers as the major foreign impediments to increasing

¹⁷ USITC, *Small and Medium-Sized Enterprises: Overview*, January 2010.

¹⁸ Bureau van Dijk, Orbis Companies Database.

¹⁹ USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010.

²⁰ A summary of the major findings from the Commission's July 2010 report on SMEs regarding trade impediments, which is used as a basis for the quantitative analysis of trade impediments in this report, can be found in chapter 6.

²¹ Primarily U.S. visa and export control regulations.

exports. U.S. SMEs also reported that they use three primary strategies to overcome these barriers: (1) combining forces with other firms in the same industry; (2) working with larger companies; and (3) taking advantage of U.S. government support programs. Finally, U.S. SMEs identified several improved export opportunities associated with FTAs and other trading arrangements, such as greater competitiveness in foreign markets, increased market access, improved regulatory environments, and better intellectual property rights protections.

Chapter 2

Exports and SME Performance

Key Findings

U.S. SME exporters of manufactured goods were larger and grew more rapidly than their counterparts that only sold in the domestic market during 2005–09, according to Commission questionnaire data. These data also show that labor productivity of SME manufacturers that exported was almost twice as high as that of SMEs that only sold in the domestic market. By contrast, questionnaire data on exporting SMEs in the services sector were inconclusive with respect to whether they earned more revenue or had higher labor productivity than similar nonexporting firms. However, Census data on firms in selected services industries did show that exporting firms were larger and had higher rates of labor productivity than nonexporters.

This chapter examines the relationship between exporting and firm performance of SMEs. Previous work shows that large firms were more likely to export than small firms, although most of the literature was not specific to SMEs. Exporting manufacturing firms generally scored higher than nonexporting manufacturers on a number of performance indicators. Based on some indicators, it appeared that after manufacturing firms began to export, exporting itself contributed to improved performance. In other cases, however, firms after beginning to export did not outperform nonexporting firms. Only a few studies on performance and SMEs in the services sector were available, and the final part of this chapter provides one of the first presentations of data on revenue and labor productivity for SMEs that export services.

Size and Performance

Empirical research suggests that large firms usually pay higher wages, produce more output per given level of inputs, are more likely to survive, obtain more patents, and export more than small firms.¹ Leung et al. found that large Canadian firms, both manufacturers and non-manufacturers, were more productive than small firms.² Van Ark and Monnikhof found similar results for firms in France, Germany, Japan, the United Kingdom, and the United States.³ Kim et al. found that the number of patents per inventor increases with firm size in the U.S. pharmaceutical and semiconductor industries even after controlling for education, experience, other inventors in the firm, and other firm characteristics.⁴

¹ Gibson and Stillman investigated the link between wages, skill level, and firm size in nine countries. They found that large firms pay higher wages even after controlling for education and workplace literacy and that workers in English-speaking countries with better literacy skills are more likely to work for bigger firms. Gibson and Stillman, “Why Do Big Firms Pay Higher Wages?” 2009. Large firms also usually obtained more patents than small firms. See Kim et al., “Relation of Firm Size to R&D Productivity,” 2009, which examined some complexities related to patents.

² Leung et al., “Firm Size and Productivity,” 2008, 1–3.

³ Van Ark and Monnikhof, “Size Distribution of Output and Employment,” 1996.

⁴ Kim et al., “Inventor Productivity and Firm Size Evidence from Panel Data on Inventors,” 2009, 516.

Firm size also affects survival, and a body of empirical evidence shows that small firms are less likely to survive than large firms, that growth is positively related to size, and that smaller firms beginning operations are less likely to survive than firms that are larger at entry.⁵ The particular group of firms that are active at any one time is in constant flux. In 2006, approximately 600,000 firms went out of business in the United States, of which 96 percent had less than 20 employees and over 99 percent had less than 500 employees.⁶ That same year, there were 670,058 new firms, which had a similar distribution of sizes.

Large firms are more likely to perform well and are more likely to export than small firms because firms with greater sales and higher revenue from exporting are better able to cover the fixed costs of entering foreign markets. Using revenue as an indicator of size, Armenter and Koren found that exporters were 4.2 times larger, on average, than nonexporters based on 2002 firm-level Census data for manufacturers.⁷ Bernard and Jensen examined plant-level data from the U.S. Census and found that exporting plants with less than 250 employees had 1.9 times more revenue than nonexporting plants.⁸

Using revenue as an indicator of size as in previous studies, data from the Commission's questionnaire show that SMEs that export manufactured goods were, on average, from 1.8 to 2.6 times larger than nonexporting SME manufacturers during 2005–09.⁹ These estimates suggest that relationships between exporting and size among manufacturing SMEs are similar to those that have been noted between exporters and nonexporters in the overall economy.

Exporting and Performance of Manufacturing SMEs

This section summarizes some previous studies on exporting and performance in the manufacturing sector. It also uses data from the Commission's survey to compare revenue and labor productivity of SMEs that export with those that do not export.

Just as large firms often outperform small firms, exporters score better on a variety of performance measures than nonexporters. For example, one study of firms in the United States found that exporters are more productive and grow faster than nonexporters.¹⁰ Exporters, regardless of the size of the firm, have been shown to be more skill- and capital-intensive, to be more productive, and to pay higher wages than nonexporting firms.¹¹ Bernard and Jensen found that labor productivity was 12 to 24 percent higher for exporters than for nonexporters. Studies on firm performance in other countries have

⁵ Agarwal and Audretsch, "Does Size Matter?" 2003, 23.

⁶ Small Business Administration (SBA), Office of Advocacy. Data originated from Census's longitudinal database. The Commission is not aware of any public data on firm births and deaths by export status.

⁷ Armenter and Koren, "Economies of Scale and the Size of Exporters," August 2009.

⁸ Bernard and Jensen, "Exceptional Exporter Performance: Cause, Effect, or Both?" 1999, 5.

⁹ A revenue export premium is the ratio of mean revenue per exporting firm to that of nonexporters. A premium greater than 1 indicates that exporters' revenue was higher than that of nonexporters. The export revenue premium was statistically greater than 1 for manufacturing SMEs for four out of five years during 2005–09. Mean revenue for SMEs that export services was actually less than that of SMEs that only sell services domestically; however, the revenue data on services were highly variable, and one cannot determine at conventional levels of statistical significance from the questionnaire data whether exporters of services earned more or less revenue than nonexporters. It is thus possible that the revenue export premium is greater than 1 for the population of services firms.

¹⁰ Bernard and Jensen, "Exporting and Productivity in the USA," 2004, 344.

¹¹ Bernard et al., "Firms in International Trade," 2007, 105.

roughly similar results. A study of European SMEs found that internationally active firms had higher revenue growth relative to all SMEs from 2007 to 2008.¹²

Commission questionnaire data indicate that U.S. SME exporters of manufactured goods performed better with respect to revenue and labor productivity than manufacturing SMEs that only sold in the domestic market. The average revenue of exporting SME manufacturers grew by 36.8 percent between 2005 and 2009, a period during which the nominal gross domestic product increased by 12.8 percent (figure 2.1). Nonexporting SME manufacturers experienced a slight decline (6.8 percent) in revenue for this period. As previously stated, SME manufacturing exporters earned more per firm than nonexporters. Also, labor productivity as measured by revenue per employee was over 70 percent greater for manufacturing SMEs that exported than for nonexporting manufacturing SMEs.

Exporters typically have superior performance characteristics before they enter a foreign market. Bernard and Jensen examined plant-level data of U.S. manufacturing firms before they began exporting and while they were exporting. They found that the firms, including small plants, that later became exporters were initially larger, had greater labor productivity, and paid higher wages.¹³ Moreover, for the manufacturing sector, a firm's productivity level is a better predictor of whether it will export than the industry to which it belongs.¹⁴ Another study found that higher-performing Taiwanese firms are more likely to choose to become exporters than lower-performing firms.¹⁵ In this study, firms' initial high performance permits them to incur a nonrecoverable sunk cost related to obtaining information about the foreign market and meeting any initial requirements and regulations.

Exporting in itself potentially improves performance, because the need to serve additional markets may require a firm to expand production and allow it to operate on a more efficient scale. The higher level of production could permit the firm and its workers to improve the production process, so that there may be a "learning-by-doing" effect. Selling in several markets could also allow a firm to diversify risks if the markets perform differently.

Bernard and Jensen examined the performance of manufacturing plants once they became exporters and found mixed results.¹⁶ They found that exporters have significantly lower failure rates than nonexporters with similar characteristics. However, performance measures at exporters' plants did not improve more rapidly than at other plants, and productivity improved at a slower rate. They attributed this to volatile foreign markets. During entry into foreign markets, a plant is typically growing and improving

¹² Van Elk, Hessels, and van der Horst, *Internationalisation of European SMEs: Final Report*, 2009. The EU has a broad definition of "internationally active," which includes exporting, importing, or engaging in foreign direct investment.

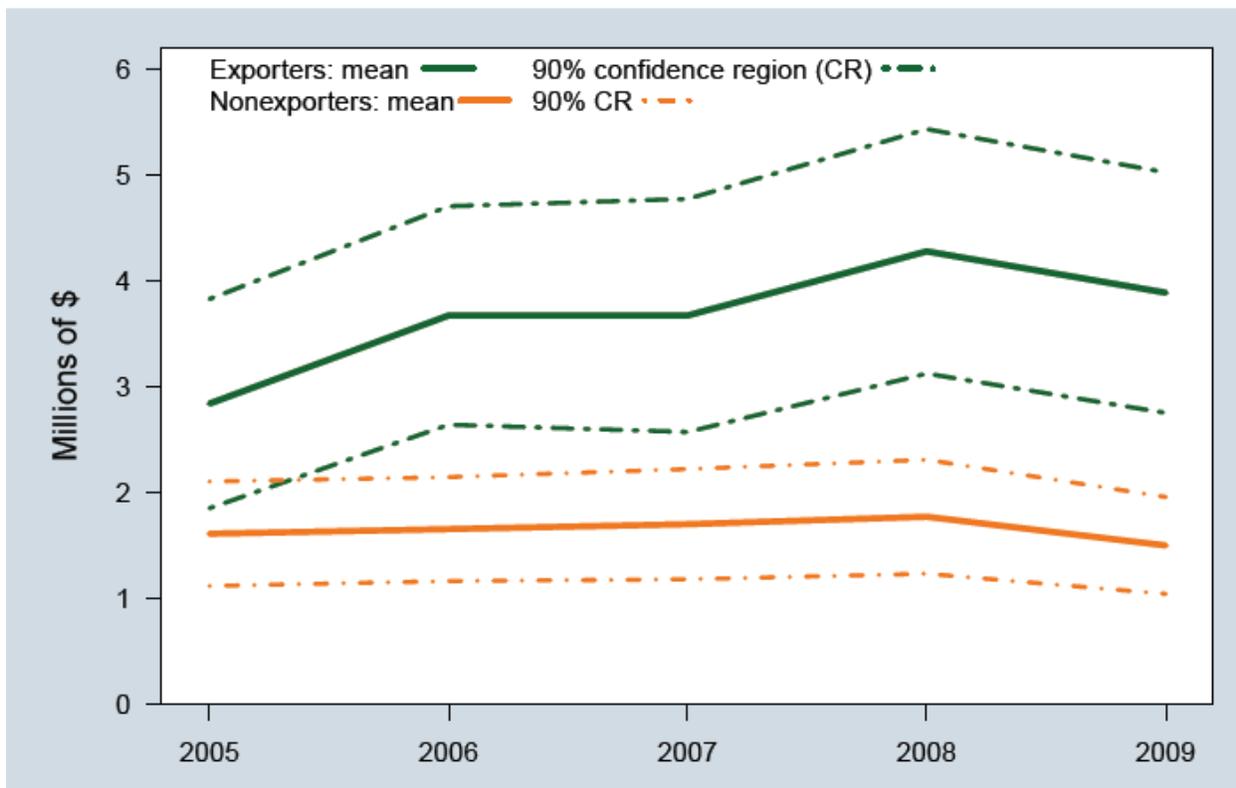
¹³ Bernard and Jensen, "Exceptional Exporter Performance: Cause, Effect, or Both?" 1999, 11.

¹⁴ Bernard et al. "Plants and Productivity in International Trade," 2003, 1287.

¹⁵ Aw et al., "R&D Investment, Exporting, and Productivity Dynamics," forthcoming.

¹⁶ Bernard and Jensen, "Exceptional Exporter Performance: Cause, Effect, or Both?" 23.

FIGURE 2.1 Manufacturing SMEs that export have higher average revenue per firm than manufacturing SMEs that do not export



Source: USITC staff calculation from questionnaire data.

Note: 90% CR indicates that the true population mean falls in this region with a 90 percent probability.

performance, but plants that stop exporting often experience declines in performance, and more than 10 percent of manufacturing plants enter or exit foreign markets every year.¹⁷

Exporting and Performance of SMEs in the Services Sector

Data collected through the Commission’s questionnaire were generally inconclusive about whether U.S. firms that export services outperform their nonexporting U.S. counterparts. Examination of Census data shows that exporters typically have higher revenue per firm and higher labor productivity than similar nonexporters.

¹⁷ Empirical work on performance after beginning to export is mixed. Aw et al. found that firms that continued to export raised their future productivity, but generally by small amounts. Plants whose productivity was already high realized large benefits from exporting, but other plants benefited less or not at all. Aw et al., “R&D Investment, Exporting, and Productivity Dynamics,” forthcoming. Lileeva and Trefler found that some less productive Canadian plants that were induced to export because of tariff cuts became more likely to increase their labor productivity, to develop innovative products, and to adopt new manufacturing technologies than firms that did not begin to export. They concluded that exporting potentially improved the profitability of investing in technical improvements because it increased the output over which the investment to enter the export market was spread; thus, some plants found it profitable to export and invest, although either exporting or investing would be unprofitable by itself. Lileeva and Trefler, “Improved Access to Foreign Markets Raises Plant-level Productivity,” 32.

There is very little economic literature on the relation between performance and exporting for the services industries. One study found that exporters in retail and wholesale trade increased their employment more rapidly than other firms between 1993 and 2000.¹⁸ Another study found that a smaller proportion of services firms than manufacturing firms are engaged in international trade in the United Kingdom (UK).¹⁹ This study also found that, although trade was rare, services exports occur in a variety of sectors, including manufacturing sectors that sometimes tie technical assistance and service contracts in with export sales. Using firm-level data from the UK, these researchers found that exporters employ more people, pay higher wages, earn more revenue, are more productive, and have a higher share of skilled employees than firms that do not engage in foreign trade.²⁰ Another study found that U.S. services industries with higher wages have more exports per worker.²¹

Data from the Commission's questionnaire indicated that the average annual revenue of SMEs that export services was only about 60 percent of that of providers of exclusively domestic services; however, the data were highly variable, and there was no statistically significant difference between revenue for exporters and that for nonexporters of services. From 2005 to 2009, U.S. exporters of services grew more (47.4 percent) than nonexporters (43.4) on a revenue basis.²²

Detailed unpublished data on selected services industries from the Census Bureau show that exporting SMEs earned more revenue per firm than nonexporting SMEs in the similar industry (table 2.1). The export revenue premium ranged from a low of 1.4 for performing arts, spectator sports, and related industries to a high of 8.1 for securities, commodity contracts, and other financial investment activities. Overall, SME exporters in these industries earned 3.8 times more revenue per firm than nonexporting SMEs. For about half of these services industries, revenue grew faster for exporters than for nonexporters between 2002 and 2007. Revenue grew most rapidly for securities, commodity contracts, and other financial and related activities, while exporters of waste management and remediation services experienced a decline of 36 percent. Overall, however, these exporting services industries grew by 32.3 percent, compared to 23.6 percent for nonexporters between 2002 and 2007.²³ Labor productivity (revenue per employee) was approximately equal for exporters and nonexporters of services, according to data from the Commission's questionnaire.²⁴ According to the Census data, however, an employee of an SME that exported services generated approximately twice as much revenue on average as an employee for a firm that sold only domestically (table 2.2). The largest export labor productivity premiums for 2007 occurred in other information services and in securities, commodity contracts, and other financial investment and related activities. Labor productivity for exporters grew faster than that of nonexporters for about half of these services industries between 2002 and 2007, although the growth rates were uniformly positive for the nonexporting firms.

¹⁸ Bernard, Jensen, and Schott, "Importers, Exporters and Multinationals," 2009, 514, tables 1 and 2.

¹⁹ Breinlich and Criscuolo, "International Trade in Services," 2010, 1.

²⁰ Breinlich and Criscuolo, "International Trade in Services," 2010, 2.

²¹ Jensen and Kletzer, "'Fear' and Offshoring," 2008, 10. This conclusion is based on information services (NAICS 51), professional, scientific, and technical services (NAICS 54), and administrative and support and waste management and remediation services (NAICS 56).

²² Similarly, this difference is not statistically significant.

²³ Information is unavailable to determine the statistical significance of the differences between services exporters and nonexporters in the Census data.

²⁴ Because the data on revenue and employment for services were highly variable in the Commission's questionnaire, it is impossible to determine the mean labor productivity with much precision for this group; it is thus possible that the population value of labor productivity of services exporters may exceed the similar measure for nonexporters, which would be consistent with other information.

TABLE 2.1 Selected services SMEs: Comparison of revenue for exporting versus nonexporting firms

	Mean revenue per firm in 2007, \$		Export revenue premium	Mean revenue growth rate 2002–07, %	
	Exporter	Nonexporter	2007 ^a	Exporter	Nonexporter
Securities, commodity contracts, and other financial investment and related activities	17,169,940	2,132,563	8.1	135.1	62.7
Other information services	3,632,238	713,891	5.1	26.6	25.6
Repair and maintenance	2,263,552	595,156	3.8	35.6	25.1
Motion picture and sound recording Industry	3,818,972	1,101,087	3.5	29.3	14.7
Lessors of nonfinancial intangible assets (except copyrighted works)	11,246,899	3,303,559	3.4	51.5	38.1
Broadcasting (except internet)	6,571,079	2,083,200	3.2	-8.2	28.1
Professional, scientific, and technical services	2,654,586	824,622	3.2	17.8	19.4
Internet service providers, web search portals, and data processing services	6,328,557	2,017,953	3.1	32.3	38.7
Publishing industries	5,643,472	1,928,355	2.9	39.5	18.6
Rental and leasing services	5,221,121	1,897,770	2.8	-4.5	33.7
Administrative and support services	2,174,635	773,710	2.8	16.5	23.9
Telecommunications	6,994,664	3,230,888	2.2	-19.6	22.5
Waste management and remediation services	4,051,142	1,848,066	2.2	-36.0	37.4
Credit intermediation and related activities	5,496,633	3,369,398	1.6	-20.1	19.0
Internet publishing and broadcasting	2,931,914	1,798,766	1.6	37.9	16.3
Performing arts, spectator sports, and related industries	1,781,371	1,264,038	1.4	-6.1	32.2
All selected services SMEs	3,802,055	1,001,102	3.8	32.3	23.6

Source: Commission calculations from Census data.

Note: These data are aggregated at the 3-digit NAICS.

^aThe export revenue premium is the ratio of the exporters' revenue value to the revenue value of nonexporters. A premium greater than one indicates that exporters' revenue was higher than nonexporters.

TABLE 2.2 Selected services SMEs: Comparison of labor productivity for exporting versus nonexporting firms

	2002		2007		2002-2007	
	Exporter labor productivity (revenue/employee)	Export labor productivity premium ^a	Exporter labor productivity (revenue/employee)	Export labor productivity premium ^a	Non-exporter growth rates	Exporter growth rates
	\$		\$		%	
Other information services	153,609	2.8	212,942	2.8	37.2	38.6
Securities, commodity contracts, and other financial investment and related activities	544,318	2.0	1,158,145	2.7	60.2	112.8
Administrative and support services	128,998	2.3	152,810	2.2	25.1	18.5
Performing arts, spectator sports, and related industries	185,890	1.9	264,250	1.8	49.0	42.2
Motion picture and sound recording industry	297,435	1.6	406,510	1.7	30.4	36.7
Rental and leasing services	416,344	2.3	361,939	1.7	19.9	-13.1
Publishing industries	183,554	1.5	245,396	1.6	20.8	33.7
Professional, scientific, and technical services	169,332	1.5	224,411	1.6	23.6	32.5
Repair and maintenance	139,573	1.4	186,121	1.5	24.2	33.4
Telecommunications	462,124	1.9	385,337	1.4	16.0	-16.6
Internet service providers, web search portals, and data processing services	157,334	1.3	233,673	1.4	42.1	48.5
Credit intermediation and related activities	317,942	1.6	343,540	1.4	27.6	8.1
Broadcasting (except internet)	286,266	2.7	178,294	1.2	33.3	-37.7
Lessors of nonfinancial intangible assets (except copyrighted works)	402,196	1.3	543,080	1.2	48.8	35.0
Waste management and remediation services	265,069	2.2	200,986	1.2	32.2	-24.2
Internet publishing and broadcasting	165,858	1.1	219,541	1.0	44.3	32.4
All selected services SMEs	194,050	1.8	277,984	2.1	26.8	43.3

Source: Commission calculations from Census data.

Note: These data are aggregated at the 3-digit NAICS.

^aThe export labor productivity premium is the ratio of mean labor productivity of exporters to that of nonexporters.

CHAPTER 3

Examination of Services SME Exporters

Key Findings

Relatively few services SMEs export; however, export activity among those that do, is often relatively dynamic. Among services exporting firms and among services multinational companies (MNCs), SMEs are more export-oriented than their large counterparts. Additionally, in the recent period, services SMEs' cross-border exports grew faster than that of large services firms and sales by foreign affiliates of SME MNCs outpaced that of foreign affiliates of large MNCs. As noted in chapter 1, the examination of both cross-border exports by services SMEs and services supplied through SME MNCs and their foreign affiliates is based on data that for the first time report services trade activity by firm size.

Using special tabulations prepared by the Census and the BEA for 2007 (the most recent year for which data are available), the Commission has found that while only a small fraction of services SMEs participate in exporting, services SME exporters are fast growing and relatively more export-oriented than large services exporters. Overall, services SMEs account for a small share of export revenue earned by large and small services exporters collectively. However, services SMEs that export derive a larger share of their total revenues from exporting than do large firms. Moreover, services SME exporters' exports, revenues, and employment grew faster than those of large services exporting firms between 2002 and 2007.

There were several standout subsectors among services SMEs. Information services firms accounted for the highest percentage of all exporting establishments, as well as leading in terms of employment and revenue generated by exporters among all U.S. services SME exporters included in the analysis. In addition, SME exporters of administrative, support, waste management, and remediation services ranked highest in share of exports by large firms and SMEs collectively, while SME exporters of finance and insurance services ranked highest in the ratio of export revenue to total revenue.

The Commission also found that U.S. parents of SME MNCs in services industries accounted for only a small share of MNCs' total sales and foreign sales by all U.S. parents. Nonetheless, U.S. parents of SME MNCs in services industries are more export-oriented than large services MNCs as measured by their share of foreign sales to total sales. They also recorded higher foreign sales growth than large MNCs during 2004-07.

Likewise, foreign affiliates of SME MNCs in services industries accounted for only a small share of all foreign affiliate sales. Such affiliates, however, recorded higher total sales growth than foreign affiliates of large services MNCs during 2004-07. It is worth noting that virtually all foreign affiliates' sales remain in foreign markets (host countries and third countries), rather than being exported back to the United States.¹

¹The term "third country" in this chapter is used differently than in USITC Title VII investigations. Sales by foreign affiliates in third countries refer to countries other than the United States and the host country of affiliates.

This chapter begins with a discussion of tradable services, which provides context for the analysis that follows. The analysis focuses first on cross-border exports by services SMEs and second on services SME MNCs. The chapter concludes by briefly identifying remaining data gaps that impede further examinations of services SMEs' exports.

Tradable Services

Services are “traded” or provided to foreign markets and consumers through four modes or channels of delivery—cross-border supply (mode 1), consumption abroad (mode 2), commercial presence (mode 3), and the presence of natural persons (mode 4)—which are exemplified below.²

- The cross-border supply of services occurs when an individual or firm in one country provides a service to an individual or firm in another country, with people, information, or money crossing national boundaries in the process. An example of such a transaction is an advertising firm in the United States delivering an advertising plan by e-mail to a client in the United Kingdom.
- Consumption abroad takes place when a resident in one country consumes services while visiting or temporarily residing in another country. For instance, a Chinese national that pursues graduate studies at a university in the United States is engaging in consumption abroad; the provision of educational services by the U.S. institution to the Chinese resident is considered a U.S. export.
- Services delivered via commercial presence occurs when a firm from one country establishes an affiliate in another country, with the income generated from affiliate transactions appearing as direct investment income in the balance of payments.³ Such trade would take place, for example, if a subsidiary of a U.S. management consulting firm, established in Germany, were to provide services to local clients.
- Services trade via the presence of natural persons occurs when an individual service supplier travels to another country on a short-term basis to supply services. A U.S. architect traveling to France to render design advice is an example of services supplied through this channel.⁴

Services firms in all industries could engage in international trade through the four modes of delivery mentioned above. In many services industries, however, the share of SMEs that conduct business with foreign clients is small and it is exceptionally low in others. For instance, trade in retail services is primarily achieved through commercial presence,

² These modes of services trade delivery are defined under the General Agreement on Trade in Services. For more information, see WTO, “Chapter 1: Basic Purpose and Concepts,” undated (accessed August 30, 2010).

³ By contrast, “cross-border transactions” in which providers in one country sell services to consumers in another country appear as imports and exports in the balance of payments. See chapter 4 discussion in USITC, *Small and Medium-Sized Enterprises: Overview*, 2010, 4-1.

⁴ Official data on U.S. services trade published by the BEA captures services provided through mode 1 (cross-border supply), mode 2 (consumption abroad), and some mode 4 (presence of natural persons) as cross-border imports and exports. Services provided through mode 3 (commercial presence) are captured as affiliate transactions. Data collected by the USITC questionnaire include all four modes of delivery.

and small or boutique stores often lack the financial capital to establish brick-and-mortar operations overseas.⁵ At the same time, restrictions on establishing a commercial presence in a particular foreign market may hinder trade in professional services, though professionals may be able to participate in the market by traveling there briefly to perform the service demanded and then returning home (presence of natural persons). In addition to four modes of services delivery, there are varying means by which firms attract foreign clients (see box 3.1 for a comparison between services and manufacturing SMEs' marketing methods to foreign clients).

Cross-Border Trade

This section examines services SME exporters, in part by comparing them to all services SMEs, all large services firms,⁶ and large services exporters based on a special tabulation provided by the Census Bureau, which focuses on seven broad services sectors considered highly "tradable."⁷ The discussion identifies key exporting sectors and examines growth and employment trends among the sectors. The discussion concludes by examining the relative export-orientation of services SME exporters, or the degree to which exports affect employment and sales.

Top Five Services Subsectors

The largest services exporting sectors for both SMEs and large firms, in terms of export revenue in 2007, were finance; information; and professional, scientific, and technical services. On a more disaggregated industry level, services SME exports were highest in portfolio management; architectural, engineering, and related services; computer systems design and related services; software publishing services; and management, scientific, and technical consulting services (figure 3.1). Large services firms were active exporters in two of the same categories: software publishing and scientific research and

⁵ For a discussion of trade in retailing services, see USITC, *Recent Trends in U.S. Services Trade*, 2010, chap. 6.

⁶ In this chapter, "firms" refers to a business organization or entity consisting of one or more domestic establishments under common ownership or control. "Establishments" refer to a single physical location where business is conducted or where services are performed. In many cases, firms, particularly large firms, have multiple domestic establishments. The Census data presented in this chapter were tabulated according to firm size categories: firms with 0–19 U.S. employees, 20–99 U.S. employees, 100–499 U.S. employees, and less than 500 U.S. employees are all SMEs; and firms with 500 or more U.S. employees are large firms. The data reported throughout this chapter, however, refer to the establishments of SMEs and large firms, rather than the firms themselves. For instance, figure 3.3 refers to the number of employees in exporting establishments, by large firms and by SMEs. Since firms may have multiple establishments, a single large firm may have some exporting establishments and some nonexporting establishments. Therefore, the percentage of exporting large-firm establishments should not be construed to represent the percentage of exporting large firms.

⁷ These sectors are considered "tradable" through mode 1 (cross-border supply), though it is likely that the tabulation also captures mode 2 (consumption abroad) and mode 4 (presence of natural persons) transactions. For purposes of this analysis, the seven broad services sectors are at times disaggregated into their component subsectors such that, for instance, the subsector "portfolio management" can be examined apart from the "finance and insurance" sector in which it is categorized.

BOX 3.1 Marketing methods to foreign clients

In marketing to foreign clients, both services and manufacturing SMEs rely principally on foreign customers to initiate contact for the purchase of goods and services. Earlier studies on the export behavior of SMEs suggest that this type of marketing method is a “reactive” rather than a “proactive” strategy.^a

Methods of attracting foreign clients, 2009

	Foreign client initiated contact	Existing business relationship	Trade shows	Firm's Website	Personal relationship	Other marketing methods	Assistance of private firm	Assistance of U.S. government
	— Rank (1 = highest) —							
<i>Services firms</i>								
SMEs (employees<500)	1	2	3	4	5	6	7	8
Less than 20 emp.	1	3	4	2	5	6	7	8
Between 20 and 99 emp.	1	2	3	6	4	5	7	8
Between 100 and 499 emp.	2	1	4	5	3	6	7	8
Large firm (employees>500)	2 ^a	1	6	2 ^a	4	5	7	8
<i>Manufacturers</i>								
SMEs (employees<500)	1	3	6	5	2	7	4	8
Less than 20 emp.	1	4	6	5	2	7	3	8
Between 20 and 99 emp.	2	1	4	3	5	6	7	8
Between 100 and 499 emp.	2	1	3	5	4	6	7	8
Large firm (Employees>500)	3	1	4	6	2	5	7	8

Source: Data compiled from responses to USITC questionnaire.

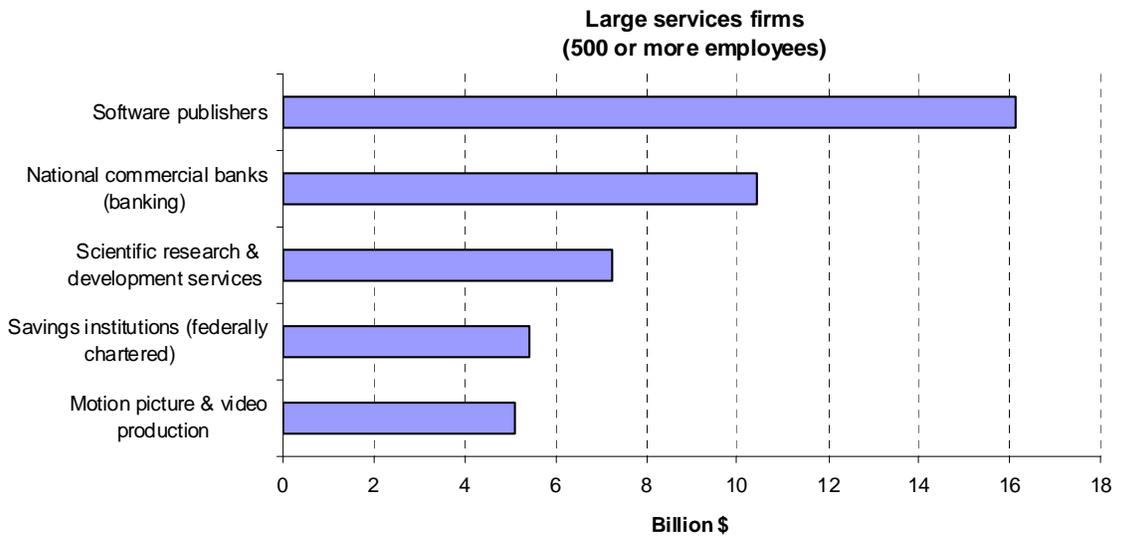
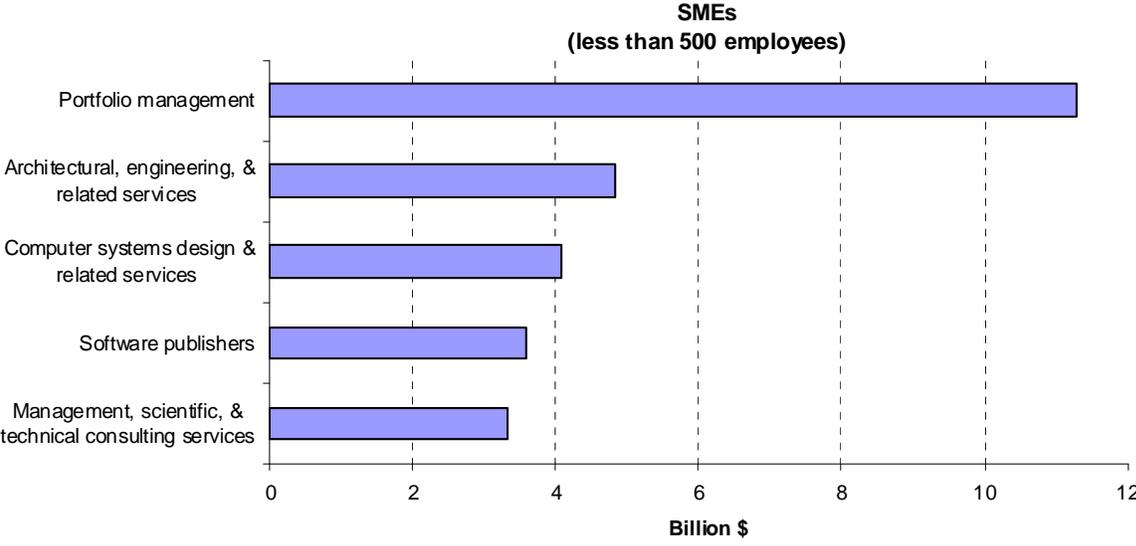
Note: Overall rank based on calculated mean scores ranging from 1 to 9.

^a Both categories have a mean score of 2.64.

For services SMEs, the second most popular method of cultivating foreign sales is through existing business relationships. For manufacturing SMEs, it is through personal relationships with overseas clients. Services SMEs also attract foreign clients through participation in trade shows and through their firms' Web sites; these two marketing methods ranked third and fourth, respectively, among services SMEs that responded to the questionnaire. By contrast, large firms in both the services and manufacturing sectors indicated that existing business relationships served as the primary means of attracting foreign clients, followed by the foreign client initiating contact (for services firms) and personal relationships with foreign clients (for manufacturing firms). Of note, firms across all employment categories ranked “assistance from the U.S. government” as the least frequently used method for attracting overseas clientele.

^a Pope, “Why Small Firms Export: Another Look,” 2002, 17–26; SBA, “Costs of Developing a Foreign Market for a Small Business,” November 2004, 5, and “The Small Business Economy,” 2008, 101.

FIGURE 3.1 Portfolio management firms are the largest SME exporters: SME and large services firms' export revenue, top five subsectors, 2007^a



Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 North American Industry Classification System (NAICS) codes. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)). Data are generally provided at the 4-digit NAICS level except where complete 4-digit industry data were not collected. In those cases data are shown at more detailed NAICS levels.

^aAll numbers in the table refer to revenue from exported services (in billions of dollars) in 2007. However, the numbers for some industries in the information sector include exports of services and goods.

development services.⁸ Large services firms also recorded large export revenues in national commercial banking, federally chartered savings institutions, and motion picture and video production.

Increasing wealth and incomes in emerging economies have provided new investment opportunities and clients to services SMEs; as noted, a large share of total services SME export revenue derives from SMEs in portfolio management. The number of SME exporting establishments in portfolio management increased from 854 in 2002 to 1,251 in 2007; by 2007, SME exporters of portfolio management derived 41.9 percent of their revenue from exports.⁹

U.S. services SME exporters and large services exporters are both active in software publishing, but for somewhat different reasons.¹⁰ For large services exporters, the main reason is the globalization of the information industry: major large companies, including Microsoft Corporation, Oracle Corporation, and International Business Machines (IBM) Corporation, have operations in foreign markets, and sales to foreign clients represent about half of total sales. Smaller firms are active exporters in this area partly because software is typically provided to clients electronically, thereby reducing the transaction costs associated with exporting. Further, small U.S. software publishers are known to be especially innovative, enabling them to provide services unavailable from other firms. Partnerships with, or acquisition by, larger software firms can also boost smaller firms' exports by allowing them to leverage the resources and experience of the larger firm.¹¹

Services SME Share of Exports and Employment

Compared with large services exporters, services SMEs account for a small share of total export revenue and employment in services sectors covered by the Census data. In 2007, cross-border exported services as reported by Census totaled approximately \$124 billion, which represents only part of services trade data as reported by the BEA.¹² SMEs generated 37.6 percent (nearly \$47 billion) of total cross-border services exports, and

⁸ Similar to SMEs overall (as shown in figure 3.1), each finer-size category of SME generated a high share of their export revenue (among the top five) in the following industries: portfolio management; architectural, engineering, and related services; and computer systems design and related services. Further, similar to both SMEs overall and large firms, SMEs with 20–99 employees and 100–499 employees recorded large export revenues in software publishing; like large services firms, the exports of SMEs with 20–99 employees and 100–499 employees were highest in scientific research and development services. Finally, like SMEs overall, SMEs with 0–19 employees generated a high share of their export revenue in management, scientific, and technical consulting services; they also recorded large export revenue in office administrative services.

⁹ USDOC, Census, Service Sector Statistics Division; USITC staff calculations. In 2002, portfolio management ranked second highest (after computer systems design and related services) in services SME export revenue.

¹⁰ Census Web site. <http://www.census.gov/epcd/ec97/def/5112.HTM> (accessed August 18, 2010). Software publishing is mostly accounted for by businesses involved in producing and distributing computer software.

¹¹ IBISWorld, "Software Publishing in the US Industry," July 2010, 18, 20–21.

¹² USDOC, BEA, U.S. International Services, (accessed August 10, 2010); BEA representative, telephone interview by USITC staff, May 11, 2010. The U.S. Census reports cross-border services exports of \$124 billion in 2007, while the BEA estimates services exports of \$478 billion. Differences in services coverage explain most of this disparity. As discussed in Chapter 1, Census data on only seven services sectors are available for this report; among those seven sectors, data were complete only for (1) professional, scientific, and technical services; and (2) administrative and support and waste management and remediation services. (see appendix C). On the other hand, BEA covers most types of services, including travel services, freight and port services, and royalties and license fees, which are not included in the Census data, and respectively accounted for 20.3 percent, 10.8 percent, and 17.5 percent of cross-border services exports as published by BEA in 2007.

large firms generated the remaining 62.4 percent (nearly \$78 billion) (figure 3.2). Among SMEs, no one size class dominated export revenue.

Services SMEs accounted for 42.7 percent of all employees in services sectors covered by the 2007 Census data, with 39.9 percent employed in services SME nonexporting establishments and 2.8 percent employed in services SME exporting establishments (figure 3.3).¹³ These ratios were very similar to those for 2002.¹⁴

While exporting is not common among services SMEs, SMEs that do export derive a larger share of their total revenue from exporting than do large services firms. Specifically, only 3.7 percent of all services SMEs exported their services in 2007, compared with 9.7 percent of large services companies (table 3.1, column 1). Just 13.3 percent of total SME revenue was generated by exporting establishments, compared with 16.3 percent by large companies (column 3).¹⁵ However, among services SMEs that export, the export revenue/total revenue ratio (22.4 percent) was significantly higher than that of large services exporters firms (15.3 percent) (column 6).¹⁶ SME exporters with the lowest number of employees had the highest export revenue/total revenue ratios.¹⁷

SME Exporters' Growth

During 2002–07, services SME exporters' export revenues, total revenues, and employment increased by more than that of large services exporting firms. SME export growth (90.4 percent) marginally outpaced large firms' export growth (88.4 percent) (figure 3.4). Disparities in revenue and employment growth were wider, with SME exporters' revenue and employment increasing by 64.1 percent and 11.9 percent, respectively, whereas revenues for large exporting firms grew by 25.4 percent and employment declined by 0.6 percent. Moreover, among services SME exporters, rates of growth in exports, revenues, and employment surpassed the SME average.¹⁸

Sectoral Analysis

SMEs in information services are the most active in export markets among all services sectors. In 2007, 11.2 percent of SMEs in information services exported their services, compared with 3.7 percent of all services SMEs, as indicated earlier (table 3.2, column 1).¹⁹ Further, 20.1 percent of SME employees in information services were employed by exporting SMEs (compared with only 6.6 percent overall) and 26.7 percent of SME revenue in information services was derived from SME exporters (compared with 13.3 percent overall) (table 3.2, columns 2 and 3). The unusually high export activity of SMEs in information services may be explained by the composition of information services, which includes industries that export goods and services.

¹³ See appendix table D.1 for more detail.

¹⁴ See appendix table D.2. For example, in 2002, SMEs generated 37.3 percent of all export revenue earned by large and small firms collectively.

¹⁵ Between 2002 and 2007, this difference narrowed, with larger firms' share decreasing and SMEs' share increasing: in 2002, only 11.1 percent of all SME revenue came from establishments with revenue from exported services, as compared with 18.5 percent for large firms. See appendix table D.3 for 2002 data.

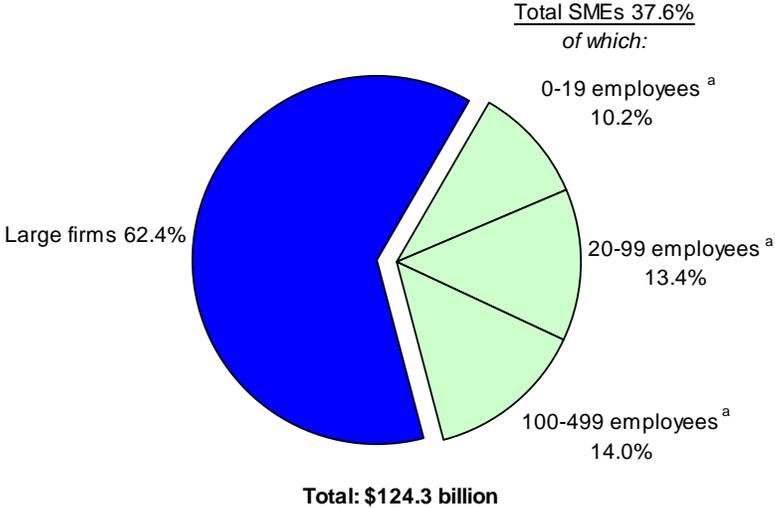
¹⁶ Both large and small firms' export revenue as a share of total revenue did not exceed 3.0 percent in either 2002 or 2007.

¹⁷ See appendix table D.3 for similar trends in 2002.

¹⁸ See appendix tables D.4 and D.5 for growth rates of finer categories of SMEs and underlying data.

¹⁹ As shown in table 3.2, 9.3 percent of SMEs in arts, entertainment, and recreation export.

FIGURE 3.2 No one SME size class dominates export revenue: SMEs' and large services firms' shares of export revenue, with SMEs' share broken down by number of employees, 2007

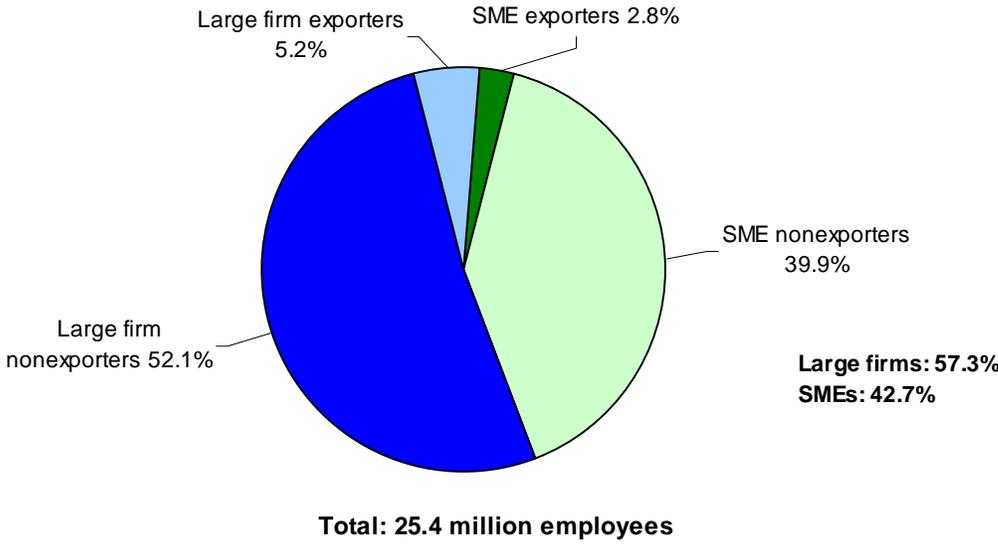


Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS codes. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

^aDue to differences in sectoral coverage, the addition of some data for size class of SMEs do not correspond to total SME contributions to export revenue.

FIGURE 3.3 SME exporters account for a very small share of service sector employees: All services establishments, share of total services employees, 2007



Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS codes. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

TABLE 3.1 Revenue from exported services, subset of services industries, 2007^a

	(1) Number of establishments	(2) Number of employees	(3) Total revenue (\$1,000)	(4) Export revenue from exported services (\$1,000)	(5) Export revenue as a share of all establishment revenue (%) (4b / 3a)	(6) Export revenue as a share of total revenue for establishments reporting exported services (%) (4b / 3b)
Less than 500 employees (SMEs)	1,391,916	10,737,066	1,567,451,560			
a. All establishments						
b. Establishments with receipts/revenue from exported services	52,035	712,765	208,526,835	46,696,428		
Share of total (%)	3.7	6.6	13.3			
Export/revenue ratio					3.0	22.4
500 or more employees (large companies)						
a. All establishments	288,577	14,400,930	3,103,898,563			
b. Establishments with receipts/revenue from exported services	28,083	1,316,738	506,479,845	77,567,473		
Share of total (%)	9.7	9.1	16.3			
Export/revenue ratio					2.5	15.3
Sum of SMEs and large companies						
a. All establishments	1,680,493	25,137,996	4,671,350,123			
b. Establishments with receipts/revenue from exported services	80,118	2,029,503	715,006,680	124,263,901		
Share of total (%)	4.8	8.1	15.3			
Export/revenue ratio					2.7	17.4
Classes of SMEs^b						
0-19 employees						
a. All establishments	1,211,861	4,041,509	590,661,292			
b. Establishments with receipts/revenue from exported services	41,662	166,669	43,310,163	12,586,731		
Share of total (%)	3.4	4.1	7.3			
Export/revenue ratio					2.13	29.1
20-99 employees						
a. All establishments	117,802	3,378,925	487,750,274			
b. Establishments with receipts/revenue from exported services	7,222	256,318	67,378,939	16,565,029		
Share of total (%)	6.1	7.6	13.8			
Export/revenue ratio					3.4	24.6
100-499 employees						
a. All establishments	62,253	3,316,355	488,951,394			
b. Establishments with receipts/revenue from exported services	3,151	288,183	97,247,167	17,268,093		
Share of total (%)	5.1	8.7	19.9			
Export/revenue ratio					3.5	17.8

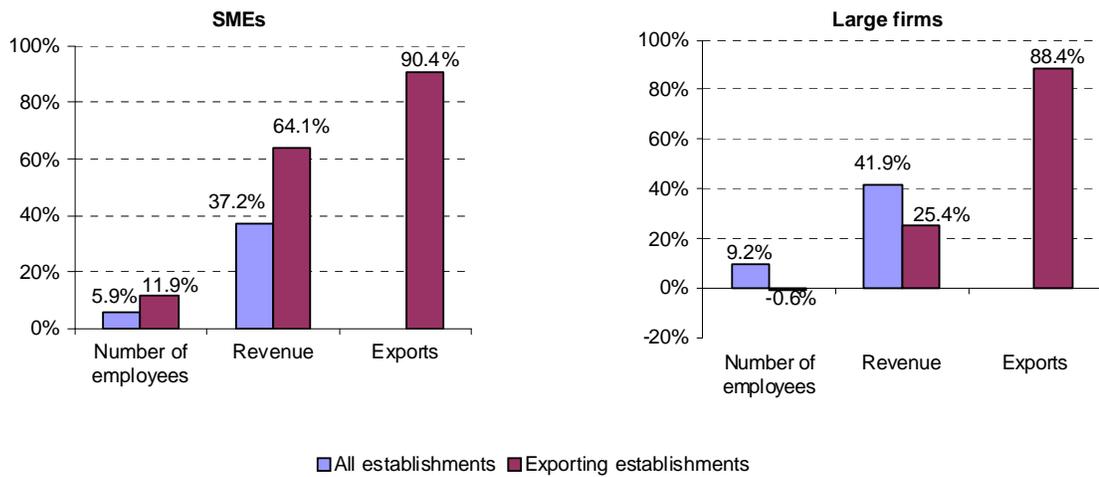
Sources: USDOC, U.S. Census Bureau, Service Sector Statistics Division; USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS codes. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

^aAn exported service is a product (e.g., service performed, license agreement) that is performed for, or sold or transferred to, a customer or client (individual, government, business establishment, etc.) located outside the United States (i.e., outside the 50 states, District of Columbia, U.S. commonwealth territories, or U.S. possessions). Included are products provided to unaffiliated and affiliated foreign firms (e.g., foreign parent firms, subsidiaries, branches). Excluded are products provided to domestic subsidiaries of foreign firms. Some industries in the information sector include exports of services and goods.

^bData for "Classes of SMEs" may not add to totals listed under "Less than 500 employees" due to suppression of sectoral/industry data for some disaggregated classes of SMEs.

FIGURE 3.4 Services SMEs exporters outperform large services exporting firms: SMEs' and large services firms' growth rates, 2002–07



Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

TABLE 3.2 SME involvement in exporting across services sectors, 2007 (%)

Service sector	Percent of SMEs in exporting establishments	Percent of SME employees in exporting establishments	Percent of SME total revenue from exporting establishments	SME share of total exports ^a	SME exporters' export revenue/ total revenue
Information ^b	11.2	20.1	26.7	21.6	18.2
Finance and insurance ^c	2.9	5.4	17.6	38.3	28.3
Real estate & rental leasing	4.0	7.5	12.1	47.2	20.0
Professional, scientific, & technical services	4.2	8.3	12.4	49.5	21.0
Administrative & support and waste management & remediation services	1.3	1.6	3.4	63.4	26.0
Arts, entertainment, & recreation ^d	9.3	7.5	12.7	–	22.4
Other services (except public administration) ^e	2.7	6.5	9.7	61.6	11.2
All sectors	3.7	6.6	13.3	37.6	22.4

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Notes: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)). Most sectors have varying industry coverage. Professional, scientific, and technical services has complete industry coverage; information services is missing only motion picture and video exhibition, NAICS 51213. For sectors with only a few industries, undisclosed export data are appropriately noted.

^aAdding large firm shares to SME shares would equal 100 percent.

^bSome industries in the information sector include exports of both services and goods.

^cFigures for the exports of large and small firms for one industry in this sector were not available in 2007.

^dFigures for the exports of large firms in this sector were not available in 2007.

^eFigures for the exports of large firms for one industry in this sector were not available in 2007.

Information services firms include software publishers (NAICS 5112), where 43.4 percent of SMEs in 2007 were engaged in exporting. The sector also includes other export-intensive industries such as motion picture and video distribution (NAICS 51212) and wireless telecommunications carriers (NAICS 5172), where the ratios of export revenue to total revenue were 38.2 and 46.9 percent, respectively, in 2007.²⁰

However, SMEs in certain other sectors were also notable exporters by other measures. They accounted for a higher share of combined large-firm and SME exports and were more export-oriented as measured by the ratio of export revenue to total revenue. For example, SMEs in professional, scientific, and technical services accounted for a higher share of large firms' and SMEs' combined exports than SMEs in information services (49.5 percent compared with 21.6 percent) (table 3.2, column 4).²¹ Similarly, SMEs in administrative, support, waste management, and remediation services accounted for a high share of all exports by large and small firms (63.4 percent). Within the sector, industry-level exports by SMEs in office administrative services (NAICS 5611) accounted for 41.1 percent of SME exports and 26.1 percent of combined SME and large-

²⁰ For more detail on information services, see appendix tables D.6 and D.7.

²¹ For more detail on professional, scientific, and technical services, see appendix tables D.8 and D.9.

firm exports.²² Further, as measured by SME exporters' ratio of export revenue to total revenue, SMEs in finance and insurance (28.3 percent) and administrative, support, waste management, and remediation services (26.0 percent) were more export oriented than SMEs in information services (18.2 percent) or in overall services (22.4 percent) (table 3.2, column 5).

Services Supplied through U.S. MNCs

This section compares the services supplied by U.S. SME and large MNCs and their foreign affiliates based on data from the BEA.²³ U.S. MNCs can service their foreign clients in two ways: (1) they can export across borders, an activity captured in this report as MNC parents' sales to foreign persons and their foreign affiliates, and (2) they can sell their services through their foreign affiliates.²⁴ The first two sections of this discussion focus on the services supplied through U.S. parents of U.S. MNCs, and the third and fourth sections concentrate on the services supplied through foreign affiliates.

SME MNCs' Share of U.S. Parent Sales

Both SME and large MNCs in services industries record most of their sales in the wholesale trade, finance and insurance, and "other" services sectors, but the distribution is not the same.²⁵ In 2007, services SME MNCs derived a majority of their total sales in wholesale trade, which accounted for 48.8 percent of sales; "other" services industries, 27.1 percent; and finance and insurance, which accounted for 15.8 percent (table 3.3, derived from column 1). While large services MNCs made most of their total sales in the same sectors, the sales were in different rank order: "other" services industries accounted for 37.8 percent; finance and insurance, 21.7 percent; and wholesale trade, 20.0 percent.

²² SMEs also accounted for a high share of sector exports in real estate and rental leasing (47.2 percent), and in other services (61.6 percent) compared with overall services (table 3.2, column 4). Within other services, however, export revenue for one subsector (of three total industries) was not available for large firms, which may partly explain the high SME share. Census representative, e-mail communication with USITC staff, July 19, 2010 and September 23, 2010. As discussed in chapter 1, there are various levels of sectoral coverage. Sectors 54 and 56 are complete. In Sector 51, data on exported services were not collected from part of 5121 (NAICS 51213: motion picture and video exhibition, which is the only industry missing from Sector 51). See Appendix C for a complete list of subsectors included in the data.

²³ While this section focuses on the sales of U.S. parents and their foreign affiliates in services industries, chapter 4 uses the same data to further analyze operations of SME and large MNCs in select services as well as mining and manufacturing industries, including their exports and imports of goods and their relative labor productivity.

²⁴ Foreign sales by U.S. parents of U.S. MNCs are mode 1 transactions (cross-border supply), and services supplied by foreign affiliates in their host country or third countries are mode 3 (commercial presence).

²⁵ "Other services industries" consists of the following NAICS sectors: utilities; construction; retail trade; transportation and warehousing; real estate, rental, and leasing; management of companies and enterprises; administration, support, and waste management; health care and social assistance; accommodation and food services; and miscellaneous services.

TABLE 3.3 U.S. multinationals: Sales and foreign sales of U.S. parents by industry and employment size of U.S. parent

	(1) Total sales 2007	(2) Share of total industry sales, 2007	(3) Average growth rate, 2004–07 ^a	(4) Foreign sales, 2007 ^b	(5) Share of total industry foreign sales, 2007	(6) Average growth rate, 2004–07 ^a	(7) Foreign sale share of all sales for size class in industry, 2007
	Million \$	%		Million \$		%	
All industries^c							
0-499 employees	154,891	1.8	4.5	25,170	2.4	5.2	16.6
500 employees or more	<u>8,459,842</u>	98.2	6.9	<u>1,029,432</u>	97.6	11.9	12.2
All U.S. parents	8,614,733		6.9	1,055,142		11.6	12.2
Total services							
0-499 employees	114,186	2.5	3.5	16,902	5.9	26.6	14.8
500 employees or more	<u>4,476,627</u>	97.5	6.5	<u>269,599</u>	94.1	22.6	6.0
All U.S. parents	4,590,812		6.4	286,499		22.8	6.2
Wholesale trade							
0-499 employees	55,699	5.9	2.4	12,441	15.3	4.0	22.0
500 employees or more	<u>896,138</u>	94.1	9.4	<u>68,716</u>	84.7	10.7	7.7
All U.S. parents	951,837		8.9	81,156		9.1	8.5
Information							
0-499 employees	3,861	0.6	-3.8	359	0.8	8.9	9.3
500 employees or more	<u>665,006</u>	99.4	6.6	42,407	99.2	7.4	6.4
All U.S. parents	668,868		6.5	42,766		7.4	6.4
Finance (except depository institutions) and insurance							
0-499 employees	18,056	1.8	23.7	752	1.1	-18.2	4.2
500 employees or more	<u>969,827</u>	98.2	11.0	68,251	98.9	-7.0	7.0
All U.S. parents	987,882		11.1	69,003		-7.1	7.0
Professional, scientific, and technical services							
0-499 employees	5,630	2.2	0.1	795	4.4	23.0	14.1
500 employees or more	<u>253,395</u>	97.8	5.3	<u>17,478</u>	95.6	-7.2	6.9
All U.S. parents	259,024		5.1	18,273		-6.5	7.1
Other service industries^d							
0-499 employees	30,940	1.8	10.3	2,555	3.4	30.0	8.3
500 employees or more	<u>1,692,261</u>	98.2	3.2	72,747	96.6	41.0	4.3
All U.S. parents	1,723,201		3.3	75,301		41.0	4.4

Sources: USDOC, BEA, International Investment Division; and USITC staff calculations.

^aGrowth rate of sales for other industries and total services is between 2006–07.

^bThis category is calculated by adding sales to U.S. parents' foreign affiliates and sales to other foreign persons.

^cIncludes wholesale trade; information, finance (except depository institutions) and insurance; professional, scientific, and technical services; other service industries; mining and agriculture, forestry, fishing, and hunting; and manufacturing.

^d"Other service industries" consists of the following NAICS sectors: utilities; construction; retail trade; transportation and warehousing; real estate and rental and leasing; management of companies and enterprises; administration, support, and waste management; health care and social assistance; accommodation and food services; and miscellaneous services.

SME MNCs in services industries account for a very small share of total MNC sales and foreign sales by U.S. parents, with one exception.²⁶ Within services industries as a whole, SME MNCs accounted for 2.5 percent and 5.9 percent of total U.S. parent sales and foreign sales in 2007, respectively (table 3.3, column 2 and column 5). Within services industries other than wholesale trade, the SME share of foreign sales by U.S. parents ranged from approximately 1 percent to just over 4 percent. SMEs in wholesale trade, however, had a disproportionately high share of foreign sales by U.S. parents, at 15.3 percent.²⁷ One reason for the relatively robust showing of SME MNCs in wholesale trade could be that they distribute intermediate goods which are used in the final production of other goods and services.²⁸ For example, Weeks Martin Implement Co., Inc., an SME with a foreign affiliate in Mexico, distributes equipment for use in farm and garden activities.²⁹

Although U.S. parents of services SME MNCs account for a small share of total U.S. sales and foreign sales of services MNCs, SME MNCs are more export-oriented than large MNCs as measured by the ratio of foreign sales to total sales. Across all sectors, SME MNC parents' foreign sales accounted for 16.6 percent of total sales in 2007, compared to a share of 12.2 percent among parents of large MNCs (table 3.3, column 7). Within the services sector, there was a wider gap between the ratio of foreign sales to total sales by U.S. parents (14.8 percent for SME MNCs versus 6.0 percent for large MNCs), signifying that SME MNCs in services industries are particularly export-oriented (figure 3.5). Within wholesale services, the SME MNC foreign sales to total sales ratio of U.S. parents (22.0 percent) was almost triple that of the parents of large MNCs (7.7 percent). Similarly, within most other industries—information; professional, scientific, and technical services; and “other” services—the SME MNC ratio of foreign sales to total sales by U.S. parents was significantly higher than that of large MNCs. This result—similar to the SME export revenue/total revenue ratio reported in the previous section—indicates that relative to large multinationals, SME multinationals are more export-oriented and possibly more reliant on sales in foreign markets. The exception to this pattern was in financial services, where SME MNCs are less export-oriented than large MNCs. This exception may be because affiliate transactions comprise a vast share of trade in this sector, particularly in insurance services: most countries prohibit cross-border trade in personal lines of insurance in the interest of consumer protection.³⁰

²⁶ Foreign sales are calculated by adding U.S. MNC sales to their foreign affiliates and their sales to other foreign persons. BEA representative, e-mail communication with USITC staff, March 15, 2010. Although sales to U.S. parents' foreign affiliates and sales to other foreign persons may be considered exports, sales data do not exactly correspond to export data. For example, there are cases where there is an export but a sale is not recorded (i.e., if a parent ships a good to its foreign affiliate and there is no change in ownership, then a sale may not get charged) and cases where there is a sale but an export is not recorded (i.e., an affiliate may attribute a sale to the U.S. parent even if the product was never produced in and never left the United States). According to a USITC staff calculation, the ratio of exports of goods to sales of goods is 71.7 percent.

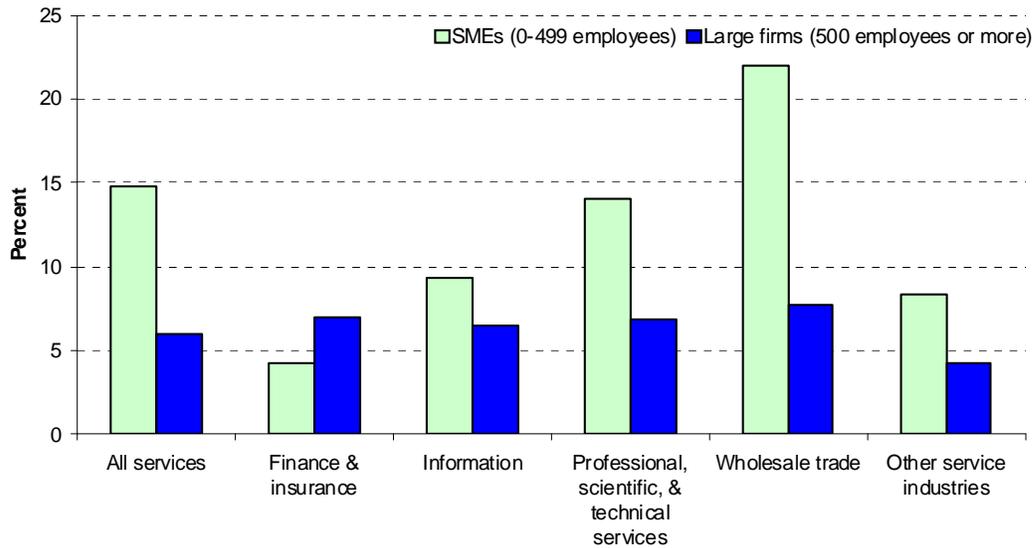
²⁷ USDOC, BEA, *Survey of Current Business* 87, 2007, 110. It is important to note that within the BEA sales data, the distributive services that wholesalers provide (which are likely a significant portion of wholesale services) are included in the sales of goods, and the data reported in table 3.3 mostly reflect the sales of goods. BEA's measures of distributive services raised the 2005 estimate of “services provided to U.S. residents through U.S. affiliates” by \$171.0 billion, or 44 percent.

²⁸ Additionally, SME wholesalers could distribute products of large firms as well as small ones. See USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, 2010, 3-3.

²⁹ Bureau van Dijk, ORBIS database (accessed August 26, 2010).

³⁰ USITC, *Recent Trends*, 2008, 4-1.

FIGURE 3.5 SME services MNCs are more export-oriented than large services MNCs: Ratio of foreign sales to total sales by U.S. MNCs, 2007^a



Sources: USDOC, BEA, International Investment Division; and USITC staff calculations.

Note: Foreign sales are calculated by adding sales to U.S. parents' foreign affiliates and sales to other foreign persons.

^aFinance excludes depository institutions. "Other service industries" consists of the following NAICS sectors: utilities; construction; retail trade; transportation and warehousing; real estate and rental and leasing; management of companies and enterprises; administration, support, and waste management; health care and social assistance; accommodation and food services; and miscellaneous services.

Services SME MNCs' Foreign Sales Growth

Between 2004 and 2007, SME MNCs in services industries experienced lower growth of total sales, but higher growth of foreign sales compared with large MNCs; again, however, this pattern was not uniform across all sectors. SME MNC total sales in services industries grew more slowly (3.5 percent) than those of large MNCs (6.5 percent) during 2004–07 (table 3.3, column 3). However, SME MNCs' foreign sales in services industries grew faster (26.6 percent) than those of large MNCs (22.6 percent) (column 6). The gap was far wider in professional, scientific, and technical services, where foreign sales by SME MNCs grew on average by 23 percent, while foreign sales by large MNCs declined by 7.2 percent. The high growth of foreign sales by professional services SMEs may be because SME multinationals in this sector rely more heavily on parents than their affiliates to serve foreign markets, which is reinforced by the professional services SME export orientation discussed above.³¹ On the other hand, foreign sales declined on average for both SME MNCs and large MNCs in financial services. This decline may be explained in part by the regulations discussed above, which require certain financial services providers to supply their services to foreign clients through foreign affiliates.³²

³¹ During 2004–07, total sales by foreign affiliates of SME parents in professional, scientific, and technical services declined by 9.3 percent (table 3.4, column 3).

³² During 2004–07, total sales by foreign affiliates of SME parents in finance and insurance services increased by 54.3 percent (table 3.4, column 3).

Foreign Affiliate Sales

U.S. SME parents in “other” services industries had the highest foreign affiliate sales in 2007 (42.8 percent), followed by wholesale trade (24.7 percent), and finance and insurance (21.8 percent) (figure 3.6).³³ Similarly, the highest shares of foreign affiliate sales of large services parents were from “other” services industries (28.6 percent), wholesale trade (22.4 percent), and finance and insurance (22.1 percent). Foreign affiliates of services SME parents had a lower share of their sales from professional, scientific, and technical services (4.0 percent) than foreign affiliates of large parents (13.1 percent), which is consistent with the earlier finding that SME multinationals in this sector rely heavily on their parents to serve foreign markets.

Foreign affiliates of SME MNCs in services industries account for a low share of all foreign affiliate sales. Foreign affiliates of SME parents accounted for 6.7 percent of all services sector sales by foreign affiliates (table 3.4, column 2).³⁴ The SME share of foreign affiliate sales in services, broken out by destination of sales, are as follows: the SME share of local sales (or sales to persons in the country where the affiliate is located) was 5.6 percent; the SME share of sales to the United States was 7.2 percent; and the share of SME sales to third countries (or sales to persons in foreign countries other than the country where the affiliate is located or the United States) was 9.1 percent.³⁵

Foreign sales by affiliates of U.S. SME parents grew faster than those of large parents; in fact, affiliates of SME parents in services industries had higher growth in total sales, local sales, and sales to third countries (every category except sales to the United States). Between 2004 and 2007, the average growth of total sales in services industries grew by 20.4 percent for affiliates of SME parents compared with 13.7 percent for those of large parents; between 2005 and 2006, local sales grew by 43.7 percent for affiliates of SME parents compared with 11.5 percent for those of large parents, and third-country sales grew by 31.1 percent compared to 27.9 percent for those of large parents (table 3.4 column 3, column 6, and column 12).³⁶ The growth of sales by affiliates of SME parents in financial services, in particular, outperformed the growth of sales by affiliates of large parents.³⁷ The BEA reports that for the beginning of the period (2004–05), the highest (and largest relative) increase of foreign affiliate sales in finance and insurance was mostly attributed to greater activity in foreign securities markets, higher value in commodity markets, and rising demand for both life and non-life insurance in Asia and the Pacific and in Latin America and other Western Hemisphere countries.³⁸

³³ Foreign affiliates are categorized under the sector and employment of their U.S. parents.

³⁴ The SME share of foreign affiliate sales in the services sector (6.7 percent) was higher than the SME share of foreign sales in all industries (2.5 percent) (table 3.4, column 2).

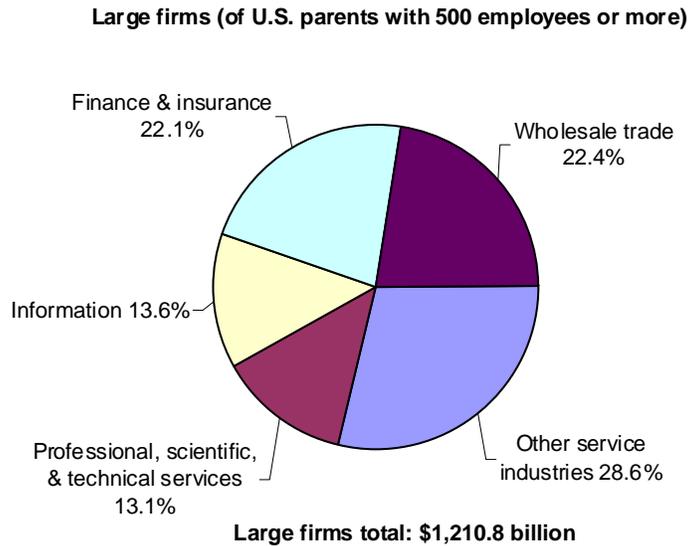
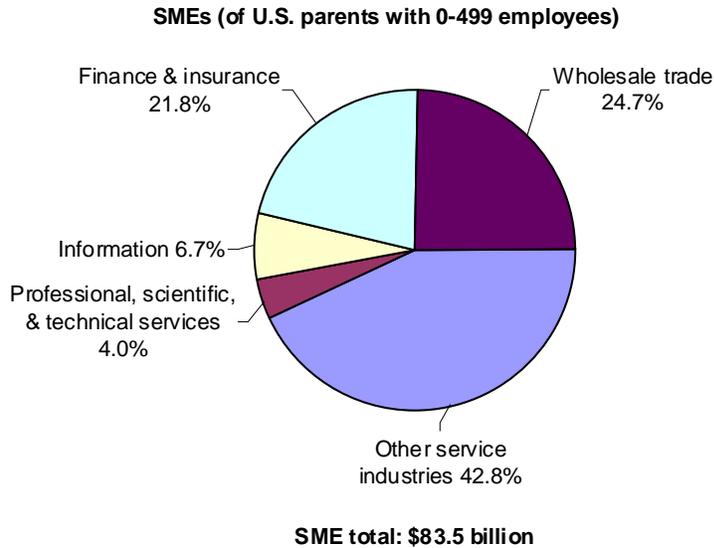
³⁵ BEA representative, e-mail message to USITC staff, March 15, 2010. The portion of foreign affiliate sales to the United States and to third countries can be considered foreign affiliate exports. However, as discussed earlier, sales and export data do not perfectly match.

³⁶ While it was possible to calculate total sales growth for services industries (as a whole) between 2004 and 2007, growth of local sales, sales to third countries, and sales to the United States for services industries could only be calculated between 2005 and 2006.

³⁷ As noted in the table, the growth rate of certain sales for finance and other industries are based on varying years between 2004 and 2007.

³⁸ USDOC, BEA, *Survey of Current Business* 87, 2007, 108–9.

FIGURE 3.6 SME parents in "other service industries" have highest foreign affiliate sales:
Distribution of foreign affiliate sales in service sectors, 2007



Sources: USDOC, BEA, International Investment Division; and USITC staff calculations.

Notes: Total sales include local sales (sales charged by an affiliate to persons in the country where the affiliate is located), sales to the United States, and sales to third countries (sales charged by an affiliate to persons in foreign countries other than the country where the affiliate is located). Data for "other service industries" are for 2006 and consist of the following NAICS sectors: Utilities; construction; retail trade; transportation and warehousing; real estate and rental and leasing; management of companies and enterprises; administration, support, and waste management; health care and social assistance; accommodation and food services; and miscellaneous services.

TABLE 3.4 U.S. multinationals: Sales and growth of sales by majority-owned foreign affiliates, by industry and employment size of U.S. parent

	Total sales, 2007 ^a	Share of total sales, 2007	Average growth of total sales, 2004-07	Local sales, 2007	Share of local sales, 2007	Average growth of local sales, 2004-07 ^b	Sales to the United States, 2007	Share of U.S. sales, 2007	Average growth of sales to the United States, 2004-07 ^c	Sales to third countries, 2007	Share of sales to third countries, 2007	Average growth of sales to third countries, 2004-07 ^d
	Million \$	%		Million \$	%		Million \$	%		Million \$	%	
All industries ^e												
Of U.S. parents with 0-499 employees	119,810	2.5	17	70,690	2.5	15.1	9,889	2.0	11.9	39,231	2.7	23.7
Of U.S. parents with 500 employees or more	<u>4,616,199</u>	97.5	12.6	<u>2,717,916</u>	97.5	10.7	<u>489,651</u>	98.0	12.1	<u>1,408,632</u>	97.3	16.8
All majority-owned nonbank affiliates	4,736,009		12.7	2,788,606		10.8	499,540		12.1	1,447,863		17
Total services ^f												
Of U.S. parents with 0-499 employees	90,128	6.7	20.4	52,342	5.6	43.7	7,796	7.2	12.7	23,341	9.1	31.1
Of U.S. parents with 500 employees or more	<u>1,258,220</u>	93.3	13.7	<u>876,937</u>	94.4	11.5	<u>100,369</u>	92.8	13.1	<u>233,524</u>	90.9	27.9
All majority-owned nonbank affiliates	1,348,348		14.1	929,279		13.1	108,165		13.1	256,865		28.2
Wholesale trade												
Of U.S. parents with 0-499 employees	20,634	7.1	10.3	9,090	4.6	11.0	1,929	7.3	1.7	9,615	14.2	14.3
Of U.S. parents with 500 employees or more	<u>271,775</u>	92.9	14	<u>189,087</u>	95.4	9.9	<u>24,640</u>	92.7	19.4	<u>58,048</u>	85.8	32.3
All majority-owned nonbank affiliates	292,409		13.6	198,177		9.8	26,569		17.6	67,663		28.0
Information												
Of U.S. parents with 0-499 employees	5,568	3.3	12.8	4,880	5.0	17.2	96	0.8	12.7	592	1.0	-8.3
Of U.S. parents with 500 employees or more	<u>165,81</u>	96.7	14.2	<u>93,559</u>	95.0	10.4	<u>12,360</u>	99.2	29.3	<u>59,262</u>	99.0	20.4
All majority-owned nonbank affiliates	170,749		14.2	98,439		10.7	12,456		29.1	59,854		19.8
Finance (except depository institutions) and insurance												
Of U.S. parents with 0-499 employees	18,159	6.3	54.3	12,123	6.4	53.6	1,974	6.0	91.9	4,062	6.3	85.4
Of U.S. parents with 500 employees or more	<u>268,197</u>	93.7	17.6	<u>177,270</u>	93.6	15.9	<u>30,964</u>	94.0	16.0	<u>59,963</u>	93.7	23.3
All majority-owned nonbank affiliates	286,356		19.0	189,393		17.2	32,938		24.8	64,024		22.0

See footnotes at end of table.

TABLE 3.4 U.S. multinationals: Sales and growth of sales of majority-owned foreign affiliates, by industry and employment size of U.S. parent—*Continued*

	Total sales, 2007 ^a	Share of total sales, 2007	Average growth of total sales, 2004–07	Local sales, 2007	Share of local sales, 2007	Average growth of local sales, 2004–07 ^b	Sales to the United States, 2007	Share of U.S. sales, 2007	Average growth of sales to the United States, 2004–07 ^c	Sales to third countries, 2007	Share of sales to third countries, 2007	Average growth of sales to third countries, 2004–07 ^d
	Million \$	%		Million \$	%		Million \$	%		Million \$	%	
Professional, scientific, and technical services												
Of U.S. parents with 0-499 employees	3,361	2.1	-9.3	2,345	1.9	-14.1	556	4.8	24.8	460	1.6	19.5
Of U.S. parents with 500 employees or more	<u>158,913</u>	<u>97.9</u>	<u>5.8</u>	<u>118,796</u>	<u>98.1</u>	<u>2.9</u>	<u>10,935</u>	<u>95.2</u>	<u>4.5</u>	<u>29,182</u>	<u>98.4</u>	<u>24.6</u>
All majority-owned nonbank affiliates	162,274		5.2	121,141		2.2	11,491		5.1	29,643		24.4
Other services industries ⁹												
Of U.S. parents with 0-499 employees	42,406	9.7	25.1	23,904	7.4	23.2	3,241	13.1	-5.7	8,612	24.1	108.5
Of U.S. parents with 500 employees or more	394,154	90.3	14.9	298,225	92.6	15.6	21,470	86.9	3.4	27,069	75.9	1.6
All majority-owned nonbank affiliates	<u>436,559</u>		<u>15.6</u>	<u>322,129</u>		<u>16.0</u>	<u>24,711</u>		<u>16.7</u>	<u>35,681</u>		<u>18.1</u>

Source: USDOC, BEA, International Investment Division; USITC staff calculations

^aTotal sales include local sales (sales charged by an affiliate to persons in the country where the affiliate is located), sales to the United States, and sales to third countries (sales charged by an affiliate to persons in foreign countries other than the country where the affiliate is located).

^bGrowth of local sales for foreign affiliates of U.S. parents with 0-499 employees, 500 employees or more, and all majority-owned nonbank affiliates in other services industries is based on 2004–06 data.

Growth of local sales for foreign affiliates of U.S. parents with 0-499 employees, 500 employees or more, and all majority-owned nonbank affiliates for total services is based on 2005–06 data.

^cGrowth of sales to the United States for foreign affiliates of U.S. parents with 0-499 employees and 500 employees or more in finance and insurance industries is based on 2005–07 data and in other services industries on 2005–06 data. Growth of sales to the United States for foreign affiliates of U.S. parents with 0-499 employees, 500 employees or more, and all majority-owned nonbank affiliates for total services is based on 2005–06 data.

^dGrowth of sales to third countries for foreign affiliates of U.S. parents with 0-499 employees and 500 employees or more in finance and insurance industries is based on 2005–07 and in other service industries on 2005–06 data. Growth for all majority-owned nonbank affiliates in other services industries is based on 2004–06. Growth of sales to third countries for foreign affiliates of U.S. parents with 0-499 employees, 500 employees or more, and all majority-owned nonbank affiliates for total services is based on 2005–06 data.

^eIncludes wholesale trade; information, finance (except depository institutions) and insurance; professional, scientific, and technical, services; other services industries; mining and agriculture, forestry, fishing, and hunting; and manufacturing.

^fLocal sales, sales to the United States, and sales to third countries for total services are calculated using 2006 figures for other services industries.

⁹“Other services industries” consists of the following NAICS sectors: utilities; construction; retail trade; transportation and warehousing; real estate and rental and leasing; management of companies and enterprises; administration, support, and waste management; health care and social assistance; accommodation and food services; and miscellaneous services. Local sales, sales to the United States, and sales to third countries for other services industries reported in this table refer to 2006.

Foreign Affiliate Sales Concentrated in Foreign Markets

All foreign affiliates predominantly serve their host country market or export to third countries. Foreign affiliates of SME parents and large parents in services industries supplied most of their services locally, with 62.7 percent and 72.4 percent, respectively, of all sales in 2007 remaining in affiliates' host countries (figure 3.7). The second-highest category was sales to third countries; foreign affiliates of SME and large parents sold 28.0 percent and 19.3 percent, respectively, of their services in third countries. The fact that foreign affiliates of SMEs have a lower share of local sales than that of large parents and a higher share of third country sales than that of large parents suggests that they have different strategies for servicing foreign markets. The data suggest that SMEs likely have one base from which they service both the host market and export to third markets, whereas large firms more likely set up affiliates in each market they want to service.

Sales to the United States were smallest of any category. Within services industries, affiliates of SME parents supplied 9.3 percent of their sales to the United States, and affiliates of large parents supplied 8.3 percent.³⁹ This result suggests that foreign affiliates are set up chiefly to sell their services abroad and not to service clients in the United States.

Data Gaps on SME Exports of Services

This section identifies gaps in SME services trade data and focuses on data published by the BEA and the Census, the two main bureaus that report official services trade statistics. Though BEA and Census provided SME services trade statistics that were used for analysis in this report, the way they routinely collect and publish services trade data prohibits analyses of SME trade activity. While the first two sections focus on BEA and Census data gaps, respectively, the third section identifies approaches for overcoming data deficiencies and compares U.S. services trade statistics with select European countries.

Bureau of Economic Analysis (BEA)

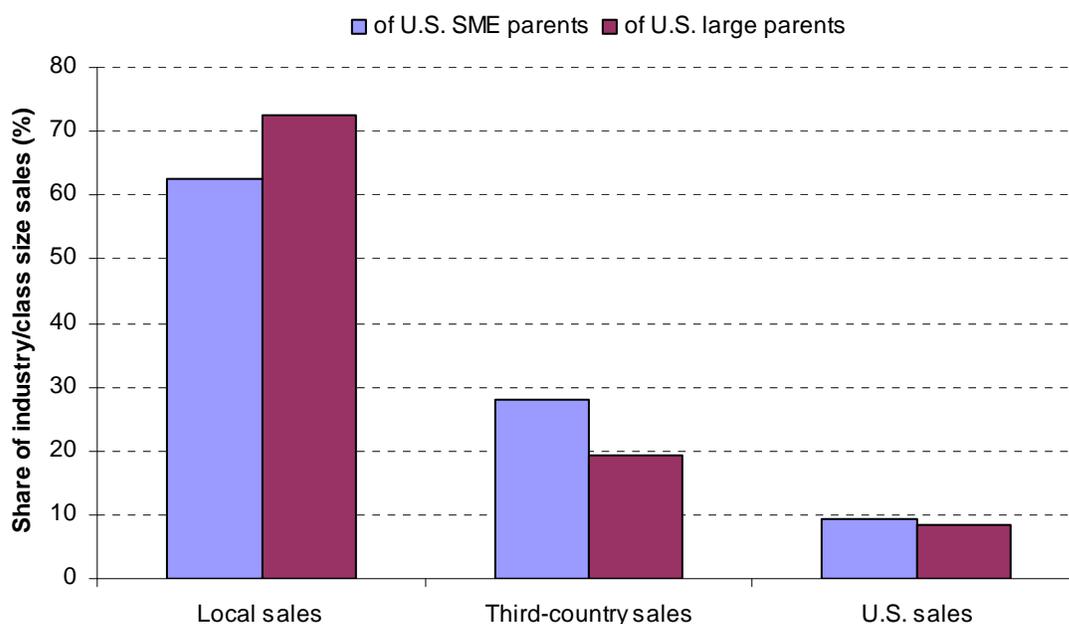
BEA publishes data on trade in services for two channels of delivery: cross-border trade and services supplied through affiliates.⁴⁰ Within BEA's annual cross-border trade statistics, there are two issues related to SMEs. First, data may exclude the detailed activity of SMEs which fall below quarterly exemption thresholds.⁴¹ However, below-

³⁹The share for SME affiliates in information services was well below the aggregate services share, with only 1.7 percent of sales supplied to the United States.

⁴⁰USDOC, BEA, *Survey of Current Business* 86, 2006, 38–40. Cross-border transactions, which are transactions between residents of two different countries, are recorded in the international transactions accounts of both countries in accordance with the residency principle of balance of payments accounting. On the other hand, sales through foreign affiliates of multinational companies are not captured in international transaction accounts, since the sale is officially between residents of the same country. The GATS modes of supply do not perfectly correspond to cross-border trade and affiliate transactions published by the BEA. In broad terms, GATS modes of supply 1 (cross-border supply), 2 (consumption abroad), and part of 4 (presence of natural persons) are captured in BEA's cross-border trade data; mode 3 (commercial presence) is captured as direct investment data.

⁴¹USDOC, BEA, form BE-125 (1-2010), "Quarterly Survey of Transactions in Selected Services," 2010, 5, 6, 8, 12. Specifically, this survey is required from each U.S. person that has exports over \$6,000,000 or imports that exceed \$4,000,000. If neither sales nor purchases meet the relevant thresholds, the report is requested but not mandatory.

FIGURE 3.7 Foreign affiliates of U.S. services MNCs rarely service clients in the United States: Foreign affiliate sales in service industries by destination, 2007^a



Sources: USDOC, BEA, International Investment Division; and USITC staff calculations.

Note: Local sales are those charged by an affiliate to persons in the country where the affiliate is located, and sales to third countries are those sales charged by an affiliate to persons in foreign countries other than the country where the affiliate is located.

^aTotal sales, local sales, sales to the United States, and sales to third countries for total services are calculated with 2006 figures for other service industries.

threshold firms are required to submit estimates of total exports and imports. Further, benchmark surveys conducted every five years have lower thresholds, and estimates for reporting firms that fall below the quarterly threshold are carried forward in between benchmarks.⁴² Second and most importantly, cross-border statistics on services exports are not specific to firm size, since the surveys do not collect any information on the operation of firms, including the number of employees they have. The only way to report information on the size of exporters sampled in the cross-border trade surveys is to link them with surveys which collect information on employment size.⁴³

⁴² BEA representative, telephone interview by USITC staff, May 13, 2010; BEA representative, e-mail message to USITC staff, February 25, 2010; USDOC, BEA, form BE-120 (12-2006), "Benchmark Survey of Transactions in Selected Services and Intangible Assets with Foreign Persons," 3, 5. For the same set of services, the benchmark threshold for exports is \$2 million. Firms that fall below the benchmark survey thresholds account for a small share of reported data. Further, as in the quarterly survey, reporters on the benchmark survey are requested to fill in detailed information on a voluntary basis; and in both the quarterly and benchmark surveys, below-threshold firms are required to report an estimate of sales they do not voluntarily report.

⁴³ BEA representative, e-mail message to USITC staff, February 25, 2010.

Unlike the surveys of cross-border trade, BEA surveys on MNCs and their foreign affiliates⁴⁴ include questions on operations, including employment, which permit the services supplied through MNCs and their foreign affiliates to be reported by firm size.⁴⁵ However, operating data for direct investment abroad are typically not published by firm size due to three issues—confidentiality, data quality, and data quantity—which determine the level of detail that BEA reports.⁴⁶ Since smaller firms are less likely to establish foreign affiliates, they represent a small share of the sample.⁴⁷

U.S. Census Bureau

The Census produces services trade statistics through the Economic Census and the Service Annual Survey (SAS).⁴⁸ While the SAS contains useful information on export revenue, it supplies no trade data specific to firm size, since the survey does not ask firm size questions. However, although Economic Census trade statistics specific to SMEs are not publicly available, SME trade statistics can be produced by merging different data segments collected through the Economic Census.⁴⁹ It is possible to merge export data (from “Miscellaneous Subjects” reports) with data on firm size (from “Establishment and Firm Size” reports), as was done through a special request to Census for this study, to obtain export data specific to SMEs. However, the reports are distinct, have different patterns of response, and are not published together.⁵⁰

Approaches for Overcoming Data Deficiencies

Potential Improvements

An important SME data gap would be overcome if BEA cross-border surveys and Census SAS forms asked companies to report their employment levels. BEA identified this and other related changes as potential improvements to its data collection methods for cross-

⁴⁴ USDOC, BEA, *Survey of Current Business* 86, 2006, 24. BEA publishes data on direct investment abroad for every 2-digit NAICS services sector, as well as subcategories for certain sectors through benchmark and annual surveys of U.S. parent firms and their foreign affiliates.

⁴⁵ BEA representative, telephone interview by USITC staff, May 13, 2010. USDOC, BEA, form BE-10D (REV. 1/2010), “2009 Benchmark Survey of U.S. Direct Investment Abroad,” 2010. As in the cross-border trade surveys, there are exemption thresholds for annual direct investment abroad surveys. Total assets, sales or gross operating revenues excluding sales taxes, and net income (loss) after provision for foreign income taxes must be greater than \$10 million for each nonbank foreign affiliate acquired or established during the fiscal year, and greater than \$60 million for existing affiliates. However, the five-year benchmark surveys require U.S. parent firms to report information for each of their affiliates. For example, each U.S. parent is required to report information for those affiliates falling below the lowest benchmark threshold on Form BE-10D. Between benchmark years, information on direct investment abroad is carried forward.

⁴⁶ BEA representative, telephone interview by USITC staff, May 13, 2010.

⁴⁷ BEA representative, e-mail message to USITC staff, February 25, 2010.

⁴⁸ Moody and Wallace, “Service Statistics Improvements by the U.S. Census Bureau,” March 26, 2010, 3; Census SAS Web site. http://www.census.gov/services/sas/get_forms.html (accessed May 5, 2010). Available export data from both sources only cover cross-border trade and a subset of services sectors.

⁴⁹ 2002 Economic Census Web site. http://www.census.gov/econ/census02/pub_text/sector00/cmdesc.htm (accessed May 17, 2010); 2007 Economic Census Web site.

http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=series&id=Industry+Series&&survey=2007+Economic+Census§or=Information&series=Industry+Series&_lang=en#ec51mdesc (accessed June 23, 2010); Census representative, telephone message by USITC staff, May 11, 2010. Economic Census collects data on SME exporters, since their survey is sent to large employers above a designated payroll and a sample of small employer firms (where employers are firms with at least one paid employee). Non-employers are not likely to export their services.

⁵⁰ Census representative, telephone interview by USITC staff, May 11, 2010.

border trade in a 2010 report to Congress. The potential improvements identified include changing surveys to (1) expand the types of services for which data are collected (including greater detail for exports); (2) reduce revenue reporting thresholds, which currently exempt some firms from reporting; and (3) collect operating data such as employment, which would result in more information on characteristics of firms.⁵¹ The report to Congress also noted that synchronizing BEA data with Economic Census data, as was done in 2002, would help BEA to identify and sample firms which export services.⁵²

Comparison to Other Countries' Best Practices

No other country in the world publishes official statistics on international trade in services by SMEs like those presented in this report. Outside of the United States, European countries generally have the most well-developed services trade statistics. An examination of services trade statistics in select European countries—including Belgium, France, Hungary, Italy, and the United Kingdom—reveals that, as in the United States, services trade statistics are not publicly reported by firm size.⁵³ However, such data can be produced by linking services trade data with another data source containing variables on firm-level characteristics. Typically, linked data are made available for specific research requests and upon approval. For example, French trade data from the Banque de France and business survey data from the National Institute of Statistics and Economic Studies (INSEE)⁵⁴—which are not publicly available and include firm-level data on

⁵¹ Borga, “U.S. Statistics on Trade in Services,” March 26, 2010, 16; BEA representative, telephone interview by USITC staff, May 13, 2010.

⁵² Borga, “U.S. Statistics on Trade in Services,” March 26, 2010, 14; BEA representative, telephone interview by USITC staff, May 13, 2010. For more information on data synchronization, see <http://www.bea.gov/international/ai1.htm#BEACENS>.

⁵³ Belgian government representative, e-mail communication with USITC staff, May 30, 2010, and June 6, 2010; French academic representative, interview with USITC staff, April 12, 2010; UK academic representative, e-mail communication with USITC staff, June 9, 2010; National Bank of Belgium (accessed May 26, 2010); Banque de France (accessed June 7, 2010); Hungarian Central Statistical Office (accessed June 2, 2010); Italian National Institute of Statistics (accessed June 8, 2010); and UK Office for National Statistics (accessed June 10, 2010).

⁵⁴ French academic representative, interview with USITC staff, April 12, 2010; email message to USITC staff, June 10, 2010. To receive data from INSEE, one must receive a special certificate after submitting a proposal through a French institution to a particular committee specifying exactly what one plans to do with the data.

variables such as employment and turnover—can be merged to obtain trade in services by size of firm.⁵⁵

At the European level, Eurostat, the statistical office of the EU, does not routinely report services trade data by employment size of firms as part of national accounts statistics.⁵⁶ However, Eurostat has published services trade statistics by firm size twice. A pilot exercise, “External Trade Statistics by Enterprise Characteristics,” which was first launched in 2002, links limited extra-EU services trade data collected by EU member states with business registers that contain firm-level information, including employment levels.⁵⁷ In addition, a voluntary survey, “Structural Business Statistics (SBS): Business Services Development Project,” reported exports of business services by employment size for selected EU member states and Norway.⁵⁸ However, there are no plans to carry out similar surveys in the future.⁵⁹

⁵⁵ Italian academic representative, e-mail message to USITC staff, June 4, 2010; UK government representative, e-mail message to USITC staff, June 16, 2010; Belgian government representative, e-mail message to USITC staff, May 30, 2010 and June 6, 2010; and Hungarian government representative, e-mail message to USITC staff, June 8, 2010. Similarly, Italian data on services trade from the Italian Statistical Office may be linked to another data source which contains firm characteristics. However, these datasets are not publicly available. Similarly, the National Bank of Belgium’s data on services trade (balance of payments statistics) and firm characteristics (Companies Balance Sheet Reports) could be merged to come up with trade in services by firm size. It is likewise possible for the Hungarian Central Statistical Office to match data from representative surveys of firms that export services with size. Finally, the survey used to collect UK trade data on services (International Trade in Services, or ITIS) does not include questions on employment size; however, it is possible to link the trade data to business registers which would yield trade by employment categories. Literature describing country-specific patterns of international trade at the firm level, based on trade data linked with firm level data which contain employment and other characteristics, has been carried out for a number of countries, including the United States, Belgium, Hungary, Italy, and France, but is mostly limited to manufacturing or merchandise trade more broadly. See Bernard et al., “Importers, Exporters and Multinationals,” 2005; Muuls and Pisu, “Import and Exports at the Level of the Firm,” 2007; Bekes et al., “Firms and Products in International Trade,” 2009; Castellani et al., “Firms in International Trade,” 2008; Eaton et al., “An Anatomy of International Trade,” 2009. However, in a recent publication, UK researchers reported patterns of services trade at the firm level using data from the Annual Respondents Database (ARD)—a data source which is not publicly available and contains variables such as employment at the firm level—with services trade data from ITIS. Breinlich and Criscuolo, “Service Traders in the UK,” 2008.

⁵⁶ Eurostat representative, e-mail message to USITC staff, June 11, 2010; European Commission, Eurostat, National Accounts (accessed June 11, 2010).

⁵⁷ European Commission and Eurostat, “External Trade by Enterprise Characteristics,” 2007, 15–17; European Commission and Eurostat, “External Trade by Enterprise Characteristics,” 2002; European Commission, Eurostat, External Trade Statistics by Enterprise Characteristics (accessed June 11, 2010).

⁵⁸ Alajaasko, “Exports of Business Services,” 2007. See table 2: “Business Service Exports as Share of Turnover, Average of Available Countries, by Size Class, 2004 (%)”

⁵⁹ Eurostat representative, email message to USITC staff, June 10, 2010; French academic representative, interview with USITC staff, April 12, 2010. There is, however, a current EU initiative to build an EU-wide database at a micro level.

CHAPTER 4

SME Multinational Firms

Key Findings

Both large firms and SMEs in the United States participate in the global economy, but—as mentioned in the previous chapter—their trade patterns are different. A major contrast is that the SMEs that are involved in international trade are much more likely to export rather than sell goods or services through foreign affiliates; in fact, over 60 percent of U.S. exports of goods to unaffiliated parties are exports by SMEs. Large U.S. firms are more likely to serve foreign customers through their foreign affiliates.

However, a relatively small number of SMEs in the United States are U.S.-owned MNCs, that sell through affiliates in foreign countries in addition to exporting;¹ another small but significant group consists of SMEs located in the United States that are affiliates of foreign-owned MNCs. This chapter presents data on SMEs located in the United States that are either U.S.-owned MNCs or affiliates of foreign-owned MNCs.

SME MNCs are rare: they represent only about 1 in 10,000 U.S. SMEs. Nonetheless, SME MNCs comprise an important part of the foreign presence of U.S. SMEs as a whole; by one measure, they account for approximately one quarter of all sales to foreign customers by U.S. SMEs. Also, labor productivity in SME MNCs is substantially higher than in other SMEs, for both manufacturers and wholesalers.

SME MNCs have smaller networks of affiliates than large-firm MNCs, and are more likely than large-firm MNCs to export to unaffiliated customers rather than to their own affiliates. On the other hand, across sectors, SMEs account for the highest share of U.S. MNC activity in wholesaling.

U.S. SMEs that are affiliates of foreign-owned MNCs are both more numerous and employ more people than do U.S.-owned SME MNCs. In addition, they generated most of the \$43 billion in related-party exports made by SMEs in 2007, in the form of exports to their foreign parents. Many such U.S. SMEs become part of a foreign firm through acquisition; the chapter briefly discusses five recent examples of such transactions.

This chapter begins with an explanation of how some SMEs become MNCs, and then describes some key characteristics of SME MNCs, including their exports, foreign affiliate sales, and labor productivity. The chapter concludes with a brief examination of U.S. SMEs which are affiliates of foreign MNCs.

¹ For a more thorough examination of the role of SME MNCs in the services sector, please see chapter 3 of this report.

U.S. SMEs as MNCs

MNCs are defined as enterprises that engage in foreign direct investment (FDI) and own or control business activities in more than one country.² While not all enterprises follow the same path of development, one typical path for an MNC is that a firm originally begins exporting to a foreign marketing or distribution agent, then acquires its own marketing and distribution affiliate abroad, begins exporting to a final assembly affiliate, develops more elaborate manufacturing operations overseas, and finally transfers part of its core functions, such as research and development (R&D), to foreign affiliates.³ MNCs are generally thought of as large firms, since it would usually require the capabilities of a large firm to engage in most of the types of activities just described. However, some SMEs do become MNCs. Such firms have a deeper and more elaborate form of global engagement than SMEs that simply export.

There is relatively little literature on SME MNCs per se. However, the category of SME MNCs overlaps two other categories of rare firms that have been the object of research: “born global” firms, which enter international markets soon after their founding, and venture capital start-ups. That is, some SME MNCs are either “born global” firms, or venture capital start-ups, or both.

The term “born global” generally refers to new firms that begin exporting immediately or soon after their founding, although it also includes new firms that engage in FDI. While small firms are not always new, new firms are usually small.⁴ Hence the conditions under which new businesses enter international markets are, in at least some cases, the same as those that give rise to SME MNCs (box 4.1).

Like SME MNCs and born-global firms, venture capital start-ups are rare. While the total number of new business started in the United States varies from between half a million to two million a year, only several hundred new ventures a year receive start-up financing from venture capital firms.⁵ Since venture capitalists expect the management teams of firms they finance to produce high rates of growth, venture capital start-ups are usually innovative and often involve foreign activities; that is, they plan to be “born global” and are sometimes organized as SME MNCs. In a recent study of 106 venture capital-backed businesses, 34 reported having facilities or offices outside the United States. Most of these operated in four or fewer locations.

² Dunning and Lundan, *Multinational Enterprises and the Global Economy*, 2008, 3.

³ Dunning and Lundan, *Multinational Enterprises and the Global Economy*, 2008, chap.7.

⁴ Bhidé, *The Origin and Evolution of New Businesses*, 2000. Examples of small, but not new, enterprises include European restaurants which have been in operation for centuries.

⁵ Bhidé, *The Venturesome Economy*, 2008, 41–42.

BOX 4.1 “Born Global” Firms

In the business literature, the term “born global” refers to firms that sell in international markets as soon as they are founded, or very soon thereafter.^a The presence of “born global” firms is not readily explained by traditional theories of internationalization, which predict that firms enter the international arena only gradually, either as exporters or as MNCs. One such theory explains this as a result of the time and costs needed to gain enough knowledge about foreign markets to reduce uncertainty and overcome the firm’s risk aversion. Another sees internationalization as resulting from a series of managerial innovations in the firm or as a development of networked relationships by the firm.^b According to any of these theories, new firms should be unlikely to engage in exporting, much less in FDI. Yet the presence of new firms that engage in either or both of these activities suggests that there are certain conditions under which some small or new enterprises may bypass some of the typical stages of firm development to engage in more rapid internationalization.

Entrepreneurs who found “born global” firms often have an above-average degree of international orientation. This may come from having lived or studied in a number of different countries, from having left an MNC to start one’s own firm, or from selling to an MNC customer in the domestic market and having an opportunity to sell to the same customer in other countries.^c One survey of U.S. and Danish “born global” firms found evidence that such firms have a high customer focus, which drives product quality, marketing competence, and product differentiation. For U.S. “born globals,” product quality and (to a lesser extent) marketing competence and product differentiation were found to be key drivers of international performance, while for Danish firms the primary driver of international performance was marketing competence.^d Innovation is also a frequently observed characteristic of “born global” firms, as is specialization in niche markets.

Some examples of “born global” firms have profiles corresponding to those of SME MNCs, at least in their start-up phases. For example, Logitech, a producer of mouse and other desktop aids for PCs, was founded by a Swiss citizen and an Italian citizen who met while studying at Stanford University in the United States. They were joined by a third person who had worked at Olivetti, an Italian multinational, and IBM, a U.S. multinational. While Logitech is Swiss-based, it was manufacturing and engineering its products in the United States, the Far East and Europe, and engaging in R&D in Silicon Valley, all within 10 years after its establishment in 1984.^e

^a The term “born global” appears to have been coined by Rennie, “Born Global,” 1993. Other terms appearing in the literature include “global start-ups,” “high technology start-ups,” and “international new ventures”; Madsen and Servais, “The Internationalization of Born Globals,” 1997, 562.

^b This literature is reviewed by Andersen et al., “Generic Routes to Subcontractors’ Internationalization,” 1993. That paper refers to the first theory as the “Uppsala Internationalization Model” and to the second as the “Innovation-Related Internationalization Model.” See also Madsen and Servais, “The Internationalization of Born Globals: An Evolutionary Process?” 1997; Liesch and Knight, “Information Internalization and Hurdle Rates in Small and Medium Enterprise Internationalization,” 1999.

^c Madsen and Servais, “The Internationalization of Born Globals, 1997; Knight and Cavusgil, “Innovation, Organizational Capabilities, and the Born Global Firm,” 2004.

^d Knight and Servais, “An Inquiry Into Born-Global Firms in Europe and the USA,” 2004.

^e Examples cited in Madsen and Servais, “The Internationalization of Born Globals,” 1997.

While over 60 percent of venture capital-backed businesses derived at least some revenue from foreign clients, U.S. revenue was usually more important than foreign revenue. These characteristics are broadly consistent with the profile of SME MNCs presented below, although the typical SME MNC appears to be more outward-oriented than the typical U.S. venture-capital start-up. Also, 57 of the 106 venture capital-backed businesses studied had at least one immigrant founder, a characteristic similar to the profile of born-global firms.⁶

⁶ Bhidé, *The Venturesome Economy*, 2008, 37–38.

SME MNCs: Profile

This section presents a profile of U.S. SME MNCs, which are defined as U.S.-based firms with fewer than 500 U.S. employees that own or control one or more foreign affiliates. It includes MNCs in all sectors of the economy: manufacturers, services MNCs (also discussed in chapter 3), and firms in other sectors.⁷ This profile is drawn from data provided by BEA on the operations of MNCs, broken down by firm size of parent, and data provided by Census on related-party goods trade of SMEs. BEA's data include information both on U.S. parents of MNCs, reflecting the operations of these firms located in the United States, and on their foreign affiliates. The Census data pertaining to related-party trade reflect either trade between parents and affiliates, or (in the case of U.S. affiliates of foreign-owned MNCs) exports of those affiliates to the foreign parent group. Using these data, it is possible to compare the general performance of U.S. SME MNCs with large-firm MNCs (MNCs for which the U.S. parent company employs 500 or more workers in the United States), U.S. trade in goods associated with U.S. SME MNCs, labor productivity of U.S. SME MNCs relative to all SMEs, and sectoral differences in the performance of U.S. SMEs.

SME MNCs represent a very small fraction of the approximately 6 million SMEs with employment in the United States—approximately 1 in 10,000, a fraction that appears to be shrinking. Table 4.1 shows that there were at least 645 U.S. SME MNCs in 2004; the number declines to at least 555 SME MNCs in 2007.⁸ These figures imply a rate of decline of 14.0 percent over the period, as compared to a 2.3 percent decline in the number of large U.S. MNCs in the same period. Consistent with these trends, total sales and exports of SME MNCs grew more slowly than those of large MNCs over 2004–07 (table 4.1). The absolute decline in the number of SME MNCs may reflect merger and acquisition activity among U.S. MNCs, with SME MNCs being more likely to be acquired than large firms.

Foreign Affiliates of U.S. SME MNCs

SME MNCs tend to have smaller networks of foreign affiliates than large MNCs, as would be expected. The number of affiliates of SME MNCs declined by 3.0 percent during 2004–07,⁹ while those of large U.S. MNCs increased by 8.7 percent. Based on data from table 4.1, SME MNCs had approximately 2.9 affiliates per parent in 2007, compared to 14.4 affiliates per parent for large MNCs. However, also based on data from table 4.1, the number of affiliates per SME multinational increased from 2.5 in 2004 to 2.9 in 2007.

⁷ These sectors include, mining and agriculture, forestry, fishing, and hunting.

⁸ Each year, BEA sends one survey form to U.S. parents of MNCs, and another to each parent's foreign affiliates that had total assets, sales, or net income (or losses) greater than \$10 million. Smaller affiliates are exempt from completing an affiliate survey, as are parents that had only exempt affiliates, but summary information about the smaller affiliates is gathered in the survey of parents. The phrase "at least" in the text above reflects the number of parents completing affiliate surveys, and does not include parents reporting only exempt affiliates. The data pertaining to SME MNCs provided by BEA includes estimates for parents and affiliates not subject to reporting in the values of some items.

⁹ The BEA data include information for each of the four years from 2004 to 2007. Comparison of the beginning and final years is broadly reflective of overall trends.

TABLE 4.1 U.S. MNCs: Parents and affiliates by class of parents, 2004–07

	2004				2007				2004–07		
	Total	SMEs ^a	Large firms	SMEs' share of total %	Total	SMEs ^a	Large firms	SMEs' share of total %	Total	SMEs ^a	Large firms
Number of parents ^b	2,400	645	1,755	26.9	2,270	555	1,715	24.4	-5.4	-14.0	-2.3
Number of affiliates ^b	24,405	1,637	22,768	6.7	26,342	1,588	24,754	6.0	7.9	-3.0	8.7
Sales by parents (million \$)	7,058,957	135,876	6,923,082	1.9	8,614,733	154,891	8,459,842	1.8	22.0	14.0	22.2
Sales by affiliates (million \$)	3,312,531	75,230	3,237,301	2.3	4,736,009	119,810	4,616,199	2.5	43.0	59.3	42.6
U.S. exports of goods associated with U.S. multinationals (million \$) ^c	438,193	15,699	422,494	3.6	558,622	13,675	544,947	2.4	27.5	-12.9	29.0
U.S. imports of goods associated with U.S. multinationals (million \$) ^c	540,904	13,372	527,532	2.5	728,413	13,606	714,806	1.9	34.7	1.7	35.5
Employment by U.S. parents (thousands)	21,177	233	20,944	1.1	22,003	218	21,785	1.0	3.9	-6.2	4.0

Sources: US DOC, BEA, International Investment Division; USITC calculations.

^aSME multinationals are defined as firms for which the U.S. parent company has less than 500 employees. Large multinationals are defined as firms for which the U.S. parent company has 500 or more employees.

^bThe number given for parents and affiliates in this table excludes affiliates that were exempt from completing a survey form in the benchmark survey, and parents that had only exempt affiliates, even though estimates for such affiliates and parents are included in the values for other items.

^cU.S. exports and imports of goods associated with U.S. MNCs cover all U.S. exports and imports of goods that involved U.S. parents and their foreign affiliates. It includes all U.S. trade in goods by nonbank U.S. parents, with both affiliated and unaffiliated foreign residents, and all U.S. trade in goods with the nonbank foreign affiliates of U.S. parent companies, with both affiliated and unaffiliated U.S. residents.

Foreign Sales by U.S. SME MNCs

One of the consequences of SME MNCs having relatively smaller networks of affiliates is that, compared to large MNCs, the foreign sales¹⁰ of SME MNCs are more likely to be “arms’ length” sales to unaffiliated partners than sales to foreign affiliates.¹¹ In 2004, 21.3 percent of the foreign sales of SME MNCs were to their overseas affiliates, while 57.1 percent of the foreign sales of large MNCs were to their overseas affiliates. The difference between SME and large MNCs was narrower by 2007, when 39.8 percent of the foreign sales of SME MNCs were to their overseas affiliates, compared to 46.3 percent for large MNCs.

Goods Exports by U.S. SME MNCs

The role of SMEs in multinational activity is relatively small compared to their role in exports. SMEs account for approximately 30 percent of U.S. merchandise exports.¹² By contrast, in 2007, the U.S. parents of SME MNCs accounted for only 1.8 percent of all sales made by parents of U.S. MNCs, 2.5 percent by all sales of affiliates, 2.4 percent of all exports of goods associated with U.S. MNCs, and 1.9 percent of all imports of goods associated with U.S. MNCs;¹³ they also represented only 1.0 percent of all parents of U.S. MNCs.

For SME MNCs, the value of their “arms’ length” exports of goods to unaffiliated parties tends to be larger than that of their exports to affiliates, while for large MNCs, exports of goods to affiliates predominate (table 4.2). This is consistent with SME MNCs having smaller networks of affiliates than large MNCs. It may also reflect a greater development of vertical linkages (exports of parents to affiliates for further processing) by large MNCs. U.S. exports to

¹⁰ The concept of “foreign sales” in BEA data on the operations of U.S. MNCs is different from the concept of exports. A sale is a “foreign sale” if it is charged to a person outside the United States, while it is an export if it is shipped outside the United States. For example, if a foreign person pays for goods or services which are shipped from one location in the United States to another, or from one foreign location to a different foreign location, the transaction is a foreign sale but not an export. Similarly, if a U.S. parent firm ships goods or services without charging for them, the transaction is recorded as an export but not a sale. In BEA’s data, the value of foreign sales of goods tends to be larger than of exports. In 2004, the most recent year for which a direct comparison can be made, total foreign sales by U.S. parents of MNCs, including both affiliates and other foreign persons, amounted to \$567 billion, while U.S. exports of goods by parents, including both affiliates and unaffiliated persons, amounted to \$407 billion. (BEA data; USITC staff calculations). See also the related discussion in chapter 3.

¹¹ Data in this paragraph are based on the data provided by BEA to USITC, as described above, and from USITC calculations.

¹² USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, January 2010, ix.

¹³ Data on U.S. exports and imports of goods associated with U.S. MNCs are reported in BEA’s publications on U.S. direct investment abroad. They include all U.S. trade in goods by nonbank U.S. parents, with both affiliated and unaffiliated foreign residents, and all U.S. trade in goods with the nonbank foreign affiliates of U.S. parent companies, with both affiliated and unaffiliated U.S. residents. To illustrate the relative importance of the trade flows included in this concept, publicly reported data for all U.S. MNCs for 2007 can be used. Of U.S. exports of goods associated with U.S. MNCs and their affiliates in 2007, approximately 38 percent were exports of U.S. parents to their affiliates, 8 percent were exports by U.S. affiliates to unaffiliated foreign persons, and 54 percent were exports by U.S. parents to unaffiliated foreign persons. The proportions are very similar for U.S. imports of goods; approximately 38 percent of such imports were imports by U.S. parents from their affiliates, 8 percent were imports by unaffiliated persons from U.S. affiliates of MNCs, and 54 percent were imports by U.S. parents from unaffiliated foreign persons (BEA data; USITC estimates).

TABLE 4.2 U.S. trade in goods associated with MNCs, by size of parent and major industry, 2007

	U.S. trade in goods associated with U.S. MNCs ^a		U.S. trade in goods associated with foreign affiliates ^b	
	Million \$	%	Million \$	%
Exports of goods				
All industries	558,622	100.0	247,642	100.0
SME ^c	13,675	2.4	3,501	1.4
Large	544,947	97.6	244,141	98.6
Manufacturers	481,102	100.0	222,495	100.0
SME ^c	6,516	1.4	1,454	0.7
Large	474,585	98.6	221,041	99.3
Wholesalers	51,874	100.0	9,554	100.0
SME ^c	5,749	11.1	1,175	12.3
Large	46,124	88.9	8,379	87.7

Sources: USDOC, BEA, International Investment Division; Commission calculations.

^aU.S. exports of goods associated with U.S. MNCs cover all U.S. exports and imports of goods that involved U.S. parents and their foreign affiliates. It includes all U.S. trade in goods by nonbank U.S. parents with both affiliated and unaffiliated foreign residents, and all U.S. trade in goods with the nonbank foreign affiliates of U.S. parent companies, with both affiliated and unaffiliated U.S. residents.

^bU.S. exports of goods to foreign affiliates, and U.S. imports of goods from foreign affiliates.

^cSME MNCs are defined as firms for which the U.S. parent company has less than 500 employees. Large MNCs are defined as firms for which the U.S. parent company has 500 or more employees.

affiliates of SME MNCs¹⁴ amounted to approximately \$3.5 billion in 2007, compared to \$13.7 billion of U.S. exports associated with SME MNCs in the same year. Thus, in 2007, about 26 percent of the exports associated with U.S. SME MNCs were exports to the affiliates of U.S. SME MNCs, with the other 74 percent consisting of exports of the parents of U.S. SME MNCs to unaffiliated parties, i.e., arms'-length exports, of the parents. In that same year, approximately 45 percent of exports associated with large U.S. MNCs were exports to affiliates, a much larger percentage than for SME MNCs.

SME MNC Labor Productivity

SME MNCs exhibit higher labor productivity than other SMEs. Simple comparisons of labor productivity (sales per worker) are shown in table 4.3. For manufacturers, large firms are more productive than SMEs, and the parents of MNCs are more productive than manufacturing firms as a whole. For the parents of SME manufacturing MNCs, output per worker was 37 percent higher in 2006 (the most recent year with available data) than for manufacturing SMEs as a whole. This suggests that the parents of SME MNCs may be more capital-intensive or technologically advanced than SMEs as a whole. In 2006, the labor productivity of parents of large manufacturing MNCs was only 2 percent higher than that of large manufacturing firms as a whole. This may be because the sales

¹⁴ Including both U.S. exports of parents and U.S. exports of unaffiliated parties to the affiliates of U.S. MNCs.

TABLE 4.3 Relative labor productivity of U.S. MNCs, by size of firm and major industry, 2006

	Sales per worker		Productivity of U.S. MNCs relative to all U.S. firms Ratio
	All U.S. firms	U.S. MNCs	
	\$		
Manufacturers			
Total	370,222	507,733	1.37
SME ^a	206,247	282,488	1.37
Large	501,312	511,429	1.02
Wholesalers			
Total	954,370	833,575	0.87
SME ^a	643,842	1,754,811	2.73
Large	1,442,438	804,820	0.56

Sources: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division, U.S. Small Business Administration, *Statistics of U.S. Businesses*, and USITC staff calculations. 2002 sales data for all firms have been adjusted to 2006 using Commerce department data on shipments.

^aSME MNCs are defined as firms for which the U.S. parent company has fewer than 500 employees. Large MNCs are defined as firms for which the U.S. parent company has 500 or more employees.

of large manufacturing firms tend to be dominated by MNCs, so the two figures are similar.¹⁵

There is a very large difference in labor productivity between U.S. SME multinational wholesalers¹⁶ and U.S. SME wholesalers as a whole. In 2006, sales per worker for U.S. SME multinational wholesalers were 173 percent higher than the level for U.S. SME wholesalers as a whole. This is likely due to a much stronger export orientation among SME multinational wholesalers than among U.S. SME wholesalers as a group. It may be relevant that some firms engaged in international trade are involved in both manufacturing and wholesaling activities. These “mixed” firms tend to be substantially larger than pure manufacturers, and very much larger than pure wholesalers.¹⁷ SME multinational wholesalers are thus more likely to be pure wholesalers relative to large multinational wholesalers, which are more likely to be both manufacturers and wholesalers. This difference in industrial structure could account in part for the measured difference in productivity for these two types of firms.

¹⁵ In 2006, the most recent year for which comparable data are available, there were 4,069 large manufacturing firms, of which 919 were parents of MNCs. However, the parents of large manufacturing MNCs accounted for approximately 97 percent of the employment of all manufacturing MNCs, and likely accounted for a comparable share of sales. (Data from Census and BEA, and Commission calculations.)

¹⁶ Wholesalers act as intermediaries between the producers of goods and their final consumers, whether these goods are internationally or domestically traded.

¹⁷ Bernard, Jensen, Redding, and Schott, “Wholesalers and Retailers in International Trade,” 2010.

SME MNCs by Sector

Among all U.S. MNCs, the relative importance of SME MNCs varies significantly by sector (table 4.4), when measured by sales of parents and U.S. exports of goods associated with MNCs. When using these measures, the sectors for which SMEs account for a particularly high share of MNC activity, measured by both sales of parents and exports associated with U.S. MNCs, include wholesalers and mining, agriculture, forestry, fishing, and hunting. In the wholesaling sector, SME MNCs account for 5.9 percent of sales of U.S. parents and 11.1 percent of U.S. exports of goods. Similarly, SME MNCs account for 4.3 percent of sales of U.S. parents and 3.0 percent of U.S. exports of goods associated with MNCs in the mining, agriculture, forestry, fishing, and hunting sector.

The relative importance of SME MNCs is in general greater in services industries than in goods industries. Among U.S. MNCs in services industries, SME MNCs accounted for 2.5 percent of all sales by parents, 6.5 percent of all sales by affiliates, 9.6 percent of exports of goods associated with U.S. MNCs, 7.5 percent of imports of goods associated with U.S. MNCs, and 0.64 percent of employment by parents. For firms in the information industries, U.S. SME MNCs are relatively underrepresented in parent sales (0.6 percent of the total for MNCs in the sector) but overrepresented in exports of goods associated with MNCs (8.4 percent of exports of goods for MNCs in the sector).

By contrast, among U.S. MNCs in manufacturing industries, SME MNCs accounted for 0.9 percent by all sales of parents, 0.8 percent of all sales by affiliates, 1.4 percent of exports of goods associated with U.S. MNCs, 0.8 percent of imports of goods associated with U.S. MNCs, and 1.7 percent of employment by parents.

Firm Size and Methods of Serving Foreign Customers

As indicated above, U.S. MNCs sell to foreign customers in two principal ways: by exporting directly from the United States, and by selling goods or services produced by a foreign affiliate. Purely domestic firms sell to foreign customers principally by exporting directly.¹⁸ SMEs differ from large firms in that SMEs are relatively more likely to rely on exporting than large firms, which are relatively more likely to rely on the sales of foreign affiliates. This is largely because SMEs are much less likely to be MNCs than large firms, as already noted. However, for those firms that are multinational, SME MNCs behave similarly to large MNCs in that they tend to rely heavily on affiliate sales. Data related to these types of transactions are presented in table 4.5, which compares various measures of U.S. exports of goods and sales by foreign affiliates for SMEs and large firms.

In order to analyze the relative importance of different ways of serving foreign markets, table 4.5 uses the concept of *pure foreign sales*—a category not found in BEA data but derived from it—to denote sales of U.S.-owned firms to

¹⁸ A third option is to license the firm's technology, copyrights, or trademark to a foreign firm. This option is not included in the present analysis.

TABLE 4.4 Sales by U.S. parents and U.S. exports associated with MNCs, by size class and major industry, 2007

Sector	Firm type (number)	Sales by U.S. parents		U.S. exports associated with U.S. MNCs ^a	
		Million \$	% of industry total	Million \$	% of industry total
All industries	Total (2,270)	8,614,733	100.0	558,622	100.0
	SMEs ^b (555)	154,891	1.8	13,675	2.4
	Large firms (1,715)	8,459,842	98.2	544,947	97.6
Mining and agriculture, forestry, fishing, and hunting	Total (63)	119,191	100.0	6,547	100.0
	SMEs ^b (17)	5,116	4.3	197	3.0
	Large firms (46)	114,074	95.7	6,350	97.0
Manufacturing	Total (1,124)	3,904,730	100.0	481,102	100.0
	SMEs ^b (212)	35,589	0.9	6,516	1.4
	Large firms (912)	3,869,141	99.1	474,585	98.6
Wholesale trade	Total (238)	951,837	100.0	51,874	100.0
	SMEs ^b (96)	55,699	5.9	5,749	11.1
	Large firms (142)	896,138	94.1	46,124	88.9
Information	Total (155)	668,868	100.0	2,290	100.0
	SMEs ^b (26)	3,861	0.6	194	8.5
	Large firms (129)	665,006	99.4	2,096	91.5
Finance (except depository institutions) and insurance	Total (121)	987,882	100.0	316	100.0
	SMEs ^b (34)	18,056	1.8	(^d)	n/a
	Large firms (87)	969,827	98.2	(^d)	n/a
Professional, scientific, and technical services	Total (169)	259,024	100.0	4,766	100.0
	SMEs ^b (34)	5,630	2.2	(^d)	(^e)
	Large firms (135)	253,395	97.8	(^d)	(^e)
Other industries ^c	Total (400)	1,723,201	100.0	11,728	100.0
	SMEs ^b (136)	30,940	1.8	848	7.2
	Large firms (264)	1,692,261	98.2	10,880	92.8

Sources: USDOC, BEA, International Investment Division; USITC calculations. Number of parents in parentheses. The number given for parents and affiliates in this table exclude affiliates that were exempt from completing a survey form in the benchmark survey, and parents that had only exempt affiliates, even though estimates for such affiliates and parents are included in the values for other items.

^aU.S. exports of goods associated with U.S. MNCs cover all U.S. exports of goods that involved U.S. parents and their foreign affiliates. It includes all U.S. exports of goods by nonbank U.S. parents, with both affiliated and unaffiliated foreign residents, and all U.S. exports of goods by the nonbank foreign affiliates of U.S. parent companies, with both affiliated and unaffiliated U.S. residents.

^bSME MNCs are defined as firms for which the U.S. parent company has fewer than 500 employees. Large MNCs are defined as firms for which the U.S. parent company has 500 or more employees.

^cOther industries consists of the following NAICS sectors: utilities; construction; retail trade; transportation and warehousing; real estate and rental and leasing; management of companies and enterprises; administrative, support, and waste management; health care and social assistance; accommodation and food services; and miscellaneous services.

^dData not disclosed.

^en/a = not applicable.

TABLE 4.5 Methods of serving foreign markets: Exports and foreign affiliate sales by firm size, 2007

	All firms			Manufacturing firms		
	Total	SMEs ^a	Large firms	Total	SMEs ^a	Large firms
	Billion \$					
U.S. merchandise exports ^b	1,025.8	306.6	719.2	674.6	106.1	568.5
U.S. exports of goods associated with MNCs	558.6	13.7	544.9	481.1	6.5	474.6
U.S. exports of goods not associated with MNCs	467.2	292.9	174.3	193.5	99.6	93.9
U.S. exports of goods to foreign affiliates of U.S. MNCs ^c	247.6	3.5	244.1	222.5	1.5	221.0
U.S. exports of goods by parents of MNCs to unaffiliated persons	311.0	10.2	300.8	258.6	5.0	253.6
Sales by foreign affiliates of U.S. MNCs ^d	4,736.0	119.8	4,616.2	3,326.6	27.8	3,298.8
Sales by foreign affiliates of U.S. MNCs to persons in the United States	499.5	9.9	489.7	381.3	3.1	378.3
Sales by affiliates to foreign persons ^e	4,236.5	109.9	4,126.5	2,945.3	24.7	2,920.5
All Firms	%					
Percentage of pure foreign sales through unaffiliated exports ^f	15.5	73.4	10.3	13.3	80.9	10.6
Percentage of pure foreign sales through foreign affiliates ^f	84.5	26.6	89.7	86.7	19.1	89.4
MNCs						
Percentage of pure foreign sales by MNCs through unaffiliated exports ^f	6.9	8.5	6.8	8.1	16.8	8.0
Percentage of pure foreign sales by MNCs through foreign affiliates ^f	93.1	91.5	93.2	91.9	83.2	92.0

Sources: USDOC, Census; USDOC, BEA, International Investment Division; USITC calculations. Percentages are approximate and subject to caveats. See footnote discussion.

^aSMEs are defined as firms with fewer than 500 employees. Large firms are defined as firms with 500 or more employees.

^bMerchandise exports are exports of goods.

^cIncludes both exports by parents to their own foreign affiliates and exports by unaffiliated parties to foreign affiliates of U.S. MNCs.

^dSales by affiliates include both sales of goods and sales of services.

^eIncludes both sales to foreign persons located in the same country as the foreign affiliate and sales to foreign persons located in third countries.

^fFor an explanation of how these numbers were derived, please see appendix D.

customers that are both located in a foreign country *and* foreign-owned, i.e., they are not foreign affiliates of U.S. MNCs. This concept is designed to exclude exports by U.S. parents of MNCs to their own affiliates, which are generally either intermediate inputs into the goods or services finally sold by those affiliates, or else final goods sold to an affiliate acting as a sales office. Since the foreign affiliate is generally not the final customer, including exports by U.S. parents to their own affiliates would be double-counting foreign sales. “Pure foreign sales” thus include exports by U.S. firms, whether or not they are MNCs, to unaffiliated foreign parties (these transactions are also known as “arms-length exports”) and sales by foreign affiliates of U.S. MNCs to customers located outside the United States. The available data distinguishing SME MNCs do not permit a perfect distinction between unaffiliated or arms’-length exports and intrafirm exports. Thus, the calculations presented in table 4.5, reflecting the share of pure foreign sales accounted for by unaffiliated exports vs. sales of affiliates to foreign persons, are approximate.¹⁹ However, they are broadly indicative of the relative tendencies of SMEs and large firms to serve foreign customers through exporting as opposed to affiliate sales.

As reported in table 4.5, pure foreign sales by SMEs consist of approximately 73 percent arms’-length exports and 27 percent sales by affiliates to foreign persons. The pure foreign sales of large firms consist of approximately 10 percent arms’-length exports and 90 percent foreign affiliate sales. This is largely because SMEs are usually not MNCs, but the sales by large firms are dominated by MNCs. The 27 percent share of pure foreign sales by SMEs accounted for by affiliates may be compared to the small shares of SMEs in sales by parents (1.8 percent) and by affiliates (2.5 percent) reported in table 4.1, suggesting that SME MNCs punch above their weight in terms of serving foreign markets. This is because SME MNCs rely on affiliate sales about as much as large firms do: affiliate sales account for approximately 92 percent of pure foreign sales by SME MNCs and 93 percent of pure foreign sales of large MNCs. The share of pure foreign sales accounted for by arms’-length exports is somewhat higher for manufacturing firms than for other firms—approximately 81 percent for SMEs and 11 percent for large firms.

Since SMEs tend to be purely domestic firms that serve foreign markets through exporting from the United States, while large firms tend to be MNCs serving foreign markets primarily through their affiliates, the role of SMEs in unaffiliated

¹⁹ Limitations of the calculations in table 4.5, potentially resolvable with better data, include the following:

Most U.S. exports to affiliates of U.S. MNCs are exports of the affiliated parents, but not all. In 2007, over 80 percent of U.S. exports to affiliates were exports of U.S. parents to their own affiliates (cf. fn. 11.) The calculation in table 4.5 treats the (unobserved) exports of unaffiliated U.S. persons to foreign affiliates of U.S. MNCs as inputs into the sales of affiliates, and thus avoids double-counting.

The available data include U.S. exports of goods only, while the sales of foreign affiliates include both goods and services. The share of unaffiliated exports in table 4.5 is thus lower than the share of unaffiliated exports in pure foreign sales of goods and services combined, but higher than the share of unaffiliated exports in pure foreign sales of goods. There are at present no available data on U.S. exports or imports of services associated with U.S. parents and their foreign affiliates. It can be calculated from BEA data that in 2009, U.S. exports of services amounted to approximately 32 percent of U.S. exports of goods and services combined. Similarly, it can be calculated that in 2007, the sales of U.S. foreign affiliates in foreign countries consisted approximately of 77 percent sales of goods and 23 percent sales of services. While the share of sales of goods and services of foreign affiliates of manufacturing firms is not available, the share of goods for manufacturing firms is likely to be higher than the 77 percent reported for all firms.

exports from the United States turns out to be unusually high. Approximately 63 percent of U.S. exports of goods not associated with MNCs are exports by SMEs, as are 51 percent of U.S. exports of goods by manufacturing firms not associated with MNCs. This perspective sheds new light on the relative performance of SMEs. The high share of unaffiliated exports accounted for by SMEs suggests that SMEs play a surprisingly large role in finding foreign customers for U.S.-made goods, since SMEs mainly have U.S. goods to offer. Large firms, which are more likely to be MNCs, have a built-in market for U.S. exports in their own affiliates, and are more likely to offer the production of foreign affiliates to their foreign customers than to export final goods directly from the United States.

The share of SMEs in U.S. exports of goods not associated with MNCs is higher for all firms than for manufacturing firms because a large share of SME exports of goods are in fact accounted for by wholesalers and other nonmanufacturing firms. Information relating to this point was presented in the Commission's first two reports on SMEs.²⁰ The present report examines the role of nonmanufacturing firms in the export of goods in more detail in chapter 5, using newly available data from Census.

Related-Party Exports of SMEs

Related-party exports are exports that take place within the boundaries of a firm—from parents to affiliates, from affiliates to parents, or between affiliates. They include both U.S. exports from parents of MNCs to their foreign affiliates, and exports by U.S. affiliates of foreign-owned MNCs to their foreign parent group.²¹ Table 4.6 presents data on the related-party exports of SMEs for 2007, based on data newly obtained by USITC from Census. These exports amounted to \$43.2 billion in 2007. SMEs accounted for 14.8 percent of all related-party exports in 2007, and related-party exports accounted for 15.6 percent of all SME exports in 2007.

As just noted, SME related-party exports include two different types of exports: (1) exports of U.S. SME MNCs to their own affiliates, and (2) exports of U.S. SMEs that are affiliates of foreign companies to their foreign parent groups. The available data do not directly distinguish between these two possibilities. However, BEA reports that U.S. exports of goods associated with affiliates of U.S. SME MNCs were about \$3.5 billion in 2007 (table 4.5). The value of U.S. exports of SME MNCs to their own affiliates is therefore smaller than this amount. This would suggest that over 90 percent of the related-party exports of U.S. SMEs are exports of foreign-owned U.S. SMEs to their foreign parents. These SMEs are discussed in more detail in the following section of the report.

The related-party exports of U.S. SMEs are dominated by manufactured goods. This suggests that U.S. SMEs play an important part in the supply chains of foreign MNCs, as suppliers either of intermediate inputs or of final goods. In dollar terms, the largest categories of goods²² in related-party exports by U.S. SMEs in 2007 were basic chemicals (\$3.6 billion), aerospace products and parts

²⁰ USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, 2010, especially Chapters 1 and 3 and Appendix C; USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms*, 2010, pp. 2-6 to 2-17.

²¹ Either to the parent itself, or to another affiliate of the foreign parent group.

²² By NAICS-4.

TABLE 4.6 SME related-party exports, 2007

Sector	Related-party exports (Million \$)	SME share of sector related- party exports
Basic chemicals	3,609.0	22.7
Aerospace products and parts	2,792.0	27.0
Pharmaceuticals and medicines	2,613.0	13.1
Petroleum and coal products	2,598.0	22.2
Semiconductors and other electronic components	2,060.0	9.2
Communications equipment	1,672.0	43.7
Navigational, measuring, electromedical, and control instruments	1,605.0	7.2
Miscellaneous manufactured commodities	1,449.0	47.2
Computer equipment	1,358.0	15.0
Medical equipment and supplies	1,309.0	16.2
Agriculture and construction machinery	1,289.0	13.2
Other fabricated metal products	1,114.0	22.0
Other general purpose machinery	1,099.0	16.2
Resin, synthetic rubber, and artificial and synthetic fibers and filiment	1,007.0	8.9
Electrical equipment and components, n.e.s.o.i.	911.9	15.6
Motor vehicle parts	888.2	4.7
Nonferrous metal (except aluminum) and processing	812.5	33.0
Plastics products	687.2	13.6
Motor vehicles	684.3	2.2
Electrical equipment	604.3	14.9
Iron and steel and ferroalloy	532.8	19.4
Converted paper products	510.0	15.9
Engines, turbines, and power transmission equipment	497.4	9.6
Soaps, cleaning compounds, and toilet preparations	490.3	12.4
Rubber products	439.3	13.6
Other manufacturing	7,926.8	16.5
Total manufacturing	40,559.0	13.9
Agriculture	1,688.3	25.5
Mining	939.0	24.3
Total, all exports of goods	43,186.3	14.8
Memo: SME related party exports as share of total SME exports		15.6

Sources: Census; USITC calculations.

n.e.s.o.i = not elsewhere specified or indicated.

^aAccurate aggregated firm counts cannot be given because the data include firms that may have exported more than one type of product. Maximum firm counts of 23,027; 61,012; 754; and 224 can be inferred for other manufacturing, total manufacturing, agriculture, and mining, respectively.

(\$2.8 billion), pharmaceuticals and medicines (\$2.6 billion), petroleum and coal products (\$2.6 billion), and semiconductors and other electronic components (\$2.1 billion).

The share of SMEs in related-party exports of U.S. agricultural goods (25.5 percent) and mining goods (24.3 percent) is significantly higher than the share of SMEs in related-party exports of U.S. manufactured goods

(13.9 percent). Within manufactured goods, the share of SMEs in related-party exports is highest for miscellaneous manufactured commodities (47.2 percent), communications equipment (43.7 percent), aerospace products and parts (27.0 percent), basic chemicals (22.7 percent), and petroleum and coal products (22.2 percent). The share of SMEs in related-party exports is lowest for motor vehicles (2.2 percent) and motor vehicle parts (4.7 percent), indicating that the international supply chain for U.S. exports of motor vehicles and parts is dominated by large firms.

Small and Medium-Sized U.S. Affiliates of Foreign Enterprises

Data pertaining to U.S. SMEs tend to include both domestic and foreign-owned enterprises. A significant number of SME-sized enterprises in the United States are in fact owned by foreign enterprises. BEA data for 2007 report that of the 10,941 affiliates of foreign MNCs in that year, 9,048 (82.7 percent) had 250 or fewer employees (table 4.7). A reasonable estimate is that there were approximately 9,400 affiliates of foreign-based enterprises with fewer than 500 employees, the most commonly used definition of an SME in U.S. data.²³ Affiliates of foreign-owned firms with fewer than 500 employees employed an estimated 440,000 U.S. workers in 2007, including 187,000 in manufacturing and 84,000 in wholesale trade.²⁴

Since a significant share of FDI takes place by mergers and acquisitions, some U.S. SME-sized affiliates of foreign firms were originally U.S.-based domestic companies that were acquired by foreign companies. Box 4.2 presents some illustrative recent examples of such acquisitions.

²³ See USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, 2010, pp. 1-2 through 1-4, for the use of “fewer than 500 employees” as a criterion for defining SMEs. BEA data on the size distribution of foreign affiliates in the United States use the following size categories: less than 10 employees, 10–19, 20–99, 100–249, 250–999, 1000–2499, and 2500 employees and over. The number of affiliates with fewer than 500 employees was estimated by adding one-third of the number of affiliates with 250–999 employees to the number with fewer than 250 employees.

²⁴ In table 4.7, employment is estimated by multiplying the midpoint level of employment in each size class reported by BEA by the number of affiliates in that size class. Employment in firms with 250–499 employees was estimated by taking one-third of the number of affiliates between 250–999 employees, and multiplying that number by 374.5 (the midrange of the employment category 250–499).

TABLE 4.7 SME-sized foreign-owned affiliates in the United States, 2007

	Total number of affiliates, all size classes	Number of affiliates with fewer than 250 employees	% of total	Estimated number of affiliates with fewer than 500 employees	% of total	Estimated employment in affiliates with fewer than 500 employees
	Number	Number		Number		Thousands
All industries	10,941	9,048	82.7	9,403	85.9	440
Manufacturing	2,430	1,525	62.8	1,706	70.2	187
Of which:						
Food	163	105	64.4	117	71.8	14
Chemicals	291	187	64.3	204	70.0	21
Plastics and rubber products	158	101	63.9	114	72.2	13
Primary and fabricated metals	312	200	64.1	226	72.3	26
Machinery	326	223	68.4	245	75.2	23
Computers and electronic products	242	167	69.0	183	75.8	17
Transportation equipment	331	151	45.6	187	56.6	27
Wholesale trade	1,824	1,540	84.4	1,598	87.6	84
Retail trade	220	150	68.2	161	73.3	9
Information	448	373	83.3	384	85.7	19
Finance and insurance	915	785	85.8	808	88.3	35
Real estate and rental and leasing	2,622	2,599	99.1	2,605	99.3	20
Professional, scientific, and technical services	687	591	86.0	606	88.3	26
Other industries	1,795	1,485	82.7	1,534	85.5	61

Sources: USDOC, BEA; USITC calculations. See text. "Other industries" includes mining; utilities; construction; transportation and warehousing; administration, support and waste management; health care and social assistance; accommodation and food services; agriculture, forestry, fishing, and hunting; management of nonbank companies and enterprises; educational services; arts, entertainment, and recreation; and miscellaneous and other services.

BOX 4.2 U.S. SMEs acquired by foreign MNCs

In recent years, a number of US SMEs have been acquired by foreign MNCs. Examples include Byram Healthcare; Ribbit Corporation; CMS, Inc.; Nuclear Security Services Corporation (NSSC); and Miradia, Inc. These firms were acquired by firms based in the Netherlands, the United Kingdom, Sweden, and Taiwan.^a

Byram, founded in 1968, had about 450 employees and is a major supplier of disposable medical supplies and services to patients with chronic diseases. OPG Groep N.V., a Netherlands-based market leader in pharmaceuticals and medical supplies, acquired the company in 2008.

Ribbit, founded in 2006, is a Silicon Valley-based software company which has developed a platform allowing new voice applications and services through a combination of telephony and Internet technologies. British Telecom (BT) acquired Ribbit in 2008.

CMS, Inc., founded in 1979, is a developer and distributor worldwide of radiation therapy software, with approximately 250 employees. Elektra AB, a Swedish health care company specializing in treating cancer and brain disorders, acquired CMS in 2008.

Nuclear Security Services Corporation, a risk-consulting and security solutions firm with about 70 employees, has domestic and foreign customers (both private and governmental) in the petrochemical and nuclear power security markets. G4S, a British-based international security solutions firm operating in more than 100 countries with more than 585,000 employees, acquired NSSC in 2010.

Miradia, Inc., founded in 2003, has about 20 employees; it designs and manufactures micro-electro-mechanical system (MEMS) products. The company was acquired in 2009 by the Taiwan-based Touch Micro-system Technology Company.

^a Information on these transactions was obtained from the Zephyr database (looking for whole-company foreign acquisitions of U.S. companies valued under 100 million euros over the past two years) and from assorted news reports and company websites.

CHAPTER 5

Indirect Exports of U.S. SMEs

Key Findings

There are a variety of ways in which U.S. SMEs participate in the global economy in addition to their role as direct exporters. Many SMEs contribute to U.S. exports indirectly, as providers of productive inputs to U.S. exporters both large and small. The value created by the SMEs that provide these inputs is not apparent, however, in official trade statistics. Due to data limitations, little research has been conducted to attempt to estimate the indirect export value created by SMEs. In this chapter, the Commission illustrates one way that the value added by SMEs to exports can be traced through the production process. The results indicate that this value is substantial: whereas statistics indicate that SMEs accounted for approximately 28 percent of gross exports in 2007, SMEs contributed an estimated 41 percent of the U.S. value-added exports in the same year, according to Commission computations. Further, the Commission estimates that these value-added exports supported 4 million U.S. jobs in 2007, including 2.1 million U.S. jobs supported by SME exporters, and 1.9 million U.S. jobs supported by SME indirect exporters.¹

A second way in which SMEs participate in the global economy is via intermediaries such as wholesalers. SMEs are frequent users of intermediaries: small and new exporters benefit greatly from the services of export intermediaries,² as these firms provide skills and economies of scale that are unavailable to SMEs or inefficient for them to acquire. Unlike in the production process described in this chapter's value-added example, the products are not transformed (or are minimally transformed) after leaving an SME's production facility; SMEs sell their finished goods or services to wholesalers or other intermediaries, which in turn export the products. U.S. farms—most of which are SMEs—export little directly and instead rely on a variety of intermediaries such as wholesalers, consolidators, and cooperatives in order to sell unprocessed or minimally processed commodities. SME manufacturers also make frequent use of distribution channels, including wholesalers, export management companies, and other intermediaries. Finally, many wholesalers and other intermediaries are themselves SMEs that enable the export of goods by both large firms and SMEs.

This chapter provides insights on both direct and indirect U.S. value-added exports by SMEs, as well as an illustrative estimate for indirect exports by SMEs. The chapter concludes with a description of the several channels of delivery used by SMEs in the

¹ Although the Commission examines indirect value-added exports and indirect exports through intermediaries using separate data sources and methodologies, estimates of value-added exports and export supported jobs presented in this section include the value-added contribution of intermediaries.

² Peng, *Behind the Success and Failure of U.S. Export Intermediaries*, 1998; USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July, 2010, 3-20 to 3-23.

agriculture, manufacturing, and services sectors, as well as a discussion of the intermediaries themselves.³

Indirect Value-Added Exports by U.S. SMEs

SMEs accounted for \$382 billion, or 28 percent, of total U.S. exports of goods and services in 2007.⁴ However, these values certainly underestimate SMEs' true contribution to the export market: many goods and services produced by SMEs are indirectly exported, being embedded in products that are exported via large firms and other SMEs. With enough data, it would be possible to compute these indirect exports. However, there are significant data gaps: data by firm size do not exist for many of the variables necessary for the computations. These data gaps reduce the precision of any attempt to quantify SMEs' full contribution to the U.S. economy. Therefore, the results reported by the Commission can best be seen as an example demonstrating that the contribution of SMEs to exports is greater than generally assumed. The Commission estimates SMEs' full contribution to be \$480 billion, or 41 percent of U.S. value-added exports, with an estimated 4.0 million SME jobs supported by these value-added exports.⁵

Conventional Export Measures and an Alternate Perspective

Categorizing exports by the characteristics of the final producer to handle the product is consistent with the conventional approach to reporting export statistics. In such cases, the firm that handles the product last in the production process—regardless of how small the value-added contribution of that final step—will be credited with the full value of the product. This method attributes more value to the final producer than to those producers that may have actually created the bulk of the value added throughout the production process.⁶ Products are rarely produced completely by a single firm. Instead, a firm generally produces goods and services using intermediate inputs purchased from other firms in addition to its own capital and labor inputs. As a result, any products that a firm exports will contain both value created by its suppliers, in the form of the intermediate inputs, and its own added value.

³ Although intermediaries are not discussed in detail until the second section, the first section of the chapter does include the use of intermediaries in all computations. Note that while wholesalers are not explicitly broken out, they are included in the services sector; both the value contributed by SME wholesalers and the value contributed by SMEs that use wholesalers are included in figures for value-added SME exports and the corresponding employment figures.

⁴ This corresponds to the share of exports attributed to SMEs in USITC, *Small and Medium-sized Enterprises: Overview of Participation*, January 2010, 3-1.

⁵ To examine the robustness of these figures to model and data assumptions, the Commission examined three sensitivity scenarios. The results of the analysis suggest that the key qualitative finding—that SMEs contribute a significant share of total value exported, and that this share is greater than their share of gross exports—is unlikely to be reversed. On the other hand, the sensitivity analysis also indicates that the precise share of value-added SME exports is uncertain and that the share reported should be seen as indicative. Finally, it should be cautioned that the sensitivity analysis is meant to reflect the possible variability of the results; it is not exhaustive, and the results cannot be taken as firm bounds on the range of possible values. Details of the three sensitivity scenarios are given in appendix H.

⁶ Value added is the value created by a firm when it uses factor inputs such as land, labor, and capital. These values are combined with intermediate inputs to produce new products.

In order to properly disentangle the value added to exports created by SMEs from those created by large firms, this analysis recategorizes exports by value added. This chapter refers to the added value embodied in exports as “value-added exports” (or total value-added exports) and to exports reported using the conventional approach of crediting only the final producer as “gross exports.” Figure 5.1 displays the difference between the two perspectives. Gross export value comes from four sources: the exporting firm itself, large-firm suppliers, SME suppliers, and foreign suppliers. To compute value-added exports, these components are rearranged by firm size. The exporting firm generally adds some value; this portion of value-added exports remains in the same size category as in the gross-exports perspective. Some goods and services are provided by firms of the same size as the exporter (e.g., large firms supplying large exporters and SMEs supplying SME exporters): these also remain in their original size category. However, under the value-added approach, the value added by SME suppliers of large exporters is now part of SME exports; similarly, the value added by large suppliers of SME exporters becomes part of large firms’ exports under this approach.

One complicating issue is the role of foreign suppliers. The gross-exports perspective does not permit an examination of the role of foreign suppliers:⁷ the goods and services purchased from abroad are integrated into production and form part of the product that is ultimately exported. These values cannot be seen explicitly in the conventional perspective. By contrast, the value-added perspective does allow examination of the role of foreign imported products separately. As a result, this analysis distinguishes between value created purely by domestic players and that obtained from foreign sources. The definition of value-added exports is restricted to domestic players only. Total value-added exports sum to the same value as gross exports *less* the foreign suppliers’ contribution.

The three categories denoted by either a diamond or a square in figure 5.1 together equal value-added SME exports. Value-added exports can be further broken down into direct and indirect exports. Of these, the category marked with a square—“Self (exporting SME)” —is termed “direct exports,” as this is the value created by the exporting firm and then exported directly. The two categories marked with a diamond—“SME supplier” of large-firm inputs and “SME supplier” of SME inputs—together are defined as “indirect exports,” as they are exported only via other producers.⁸

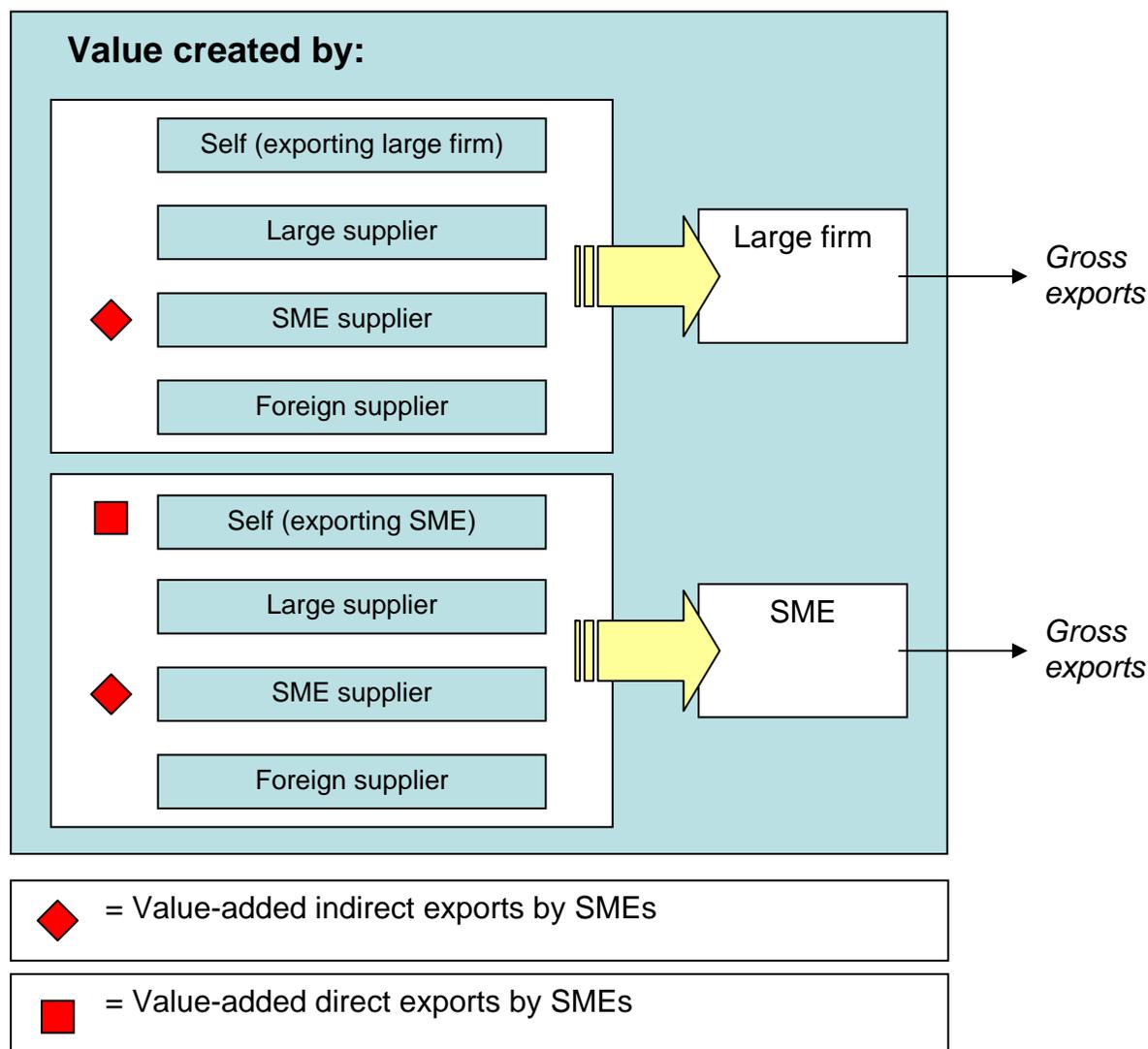
It is important to note that value-added SME exports are not necessarily greater than gross SME exports. In principle, reorganizing exports according to value added could yield a higher or lower share of exports for SMEs.⁹ However, the nature of SME production makes it more likely that SMEs contribute disproportionately to large firms. For example, assembly—the combining of many intermediate goods to form a product—is often best done on a large scale by a large firm. Since assembly is frequently a final step in the production process, the large firm will be the exporter according to the

⁷ Indeed, this is the reason for the term “gross” in gross exports, as these exports represent exports prior to the subtraction of imports.

⁸ It is possible to connect the concepts of value-added exports and gross exports precisely through the following mathematical relationship: value added exports (of SMEs) = gross exports (of SMEs) + indirect exports (by SMEs through large firms and foreign suppliers) – indirect exports (by large firms and foreign suppliers through SMEs).

⁹ For value-added SME exports to be greater than gross exports, it is necessary that the SME contribution to large-firm exports be greater than the large-firm contribution to SME exports.

FIGURE 5.1 Value of products by exporting firm obscures the involvement of upstream firms



Source: Compiled by USITC staff.

conventional method, but under the value-added method much of the value of the export will be shifted to SME producers.

Indirect SME Value-Added Exports

In this section, the Commission presents the core results using the value-added perspective. To estimate value-added exports, an economic framework is constructed that models the key features of the production and export value chain. In brief, the model keeps track of the inputs and outputs of each industry by firm size, and keeps track of the value that is contributed by labor and capital inputs. The model then traces production through the value chain, taking note of when a product uses an SME-produced component and when the product is exported. Other studies in the literature have

partitioned input-output tables using a similar methodology in a related context.¹⁰ Appendix H provides further details of the methodology.

The contribution of SMEs according to the traditional or gross-exports perspective is given in table 5.1. The breakdown of gross exports in this table is computed according to the size of the firm that handled the product immediately before it left the country. Of \$1.3 trillion in gross exports in 2007, SMEs were responsible for only 28 percent, a value that has been relatively stable in recent years.

By contrast, when considered from the value-added perspective, the value-added exports created by SMEs are estimated to be 41 percent of total value-added exports in 2007 (table 5.2). Correspondingly, large firms' share is reduced to an estimated 57 percent of value added exports, down from their gross-export share of 71 percent. These proportions were similar in 2002.

In both 2002 and 2007, approximately half of the SME value-added exports were direct exports (i.e., produced directly by the exporting SME immediately before export) and the other half were indirect exports (i.e., supplied to other exporters by SMEs) (table 5.3). The value of direct value-added exports by SMEs is lower than that of SME gross-exports (\$241 billion versus \$382 billion in 2007). However, the addition of another \$240 billion in indirect value-added exports to the direct value-added exports implies that the total contribution of SMEs to value-added exports is nearly \$100 billion greater than official trade statistics indicate.

SME exports are concentrated in the services sectors from both the gross-exports and the value-added perspective (table 5.4). However, manufacturing firms' share of SME exports is lower under the value-added perspective than under the gross-exports perspective; this is due to the nature of manufacturing itself more than SMEs' specific attributes. Manufacturing, when disaggregated into its value-added components, uses a significant amount of intermediate inputs from primary (agriculture and mining) and services sectors, so that its value-added share is much smaller than its gross-export share. For both SMEs and large firms, then, manufacturing is a smaller share of total value-added exports under the value-added perspective than under the conventional perspective. Primary and services sectors, by contrast, have a greater share under the value-added perspective.

SMEs contribute a substantial portion of the intermediate inputs used by manufacturing firms. This contribution is more apparent in the value-added perspective. SMEs represent only 16 percent of gross exports of manufacturing, but value-added exports by SME manufacturers are double that share: 32 percent (table 5.5).¹¹ The SME shares for primary and services sectors do not change substantially between the gross-export and value-

¹⁰ See, for example, Koopman, Wang, and Wei, 2008. "How Much of Chinese Exports Is Really Made in China?" 2008.

¹¹ This may seem at odds with the decrease of manufacturing shares in table 5.4 from 32 to 23 percent; however, this is due to the fact, noted above, that the manufacturing sector as a whole shrinks under the value-added perspective. The increase in manufacturing shares by SMEs in table 5.5 demonstrates that SMEs' manufacturing value declines by less across the two perspectives than large firms' manufacturing value.

TABLE 5.1 Gross exports by firm size, 2002 and 2007

	2002		2007	
	Value billion \$	Share %	Value billion \$	Share %
U.S. gross exports ^a	809		1,349	
Exports by SMEs ^b	246	30	382	28
Exports by large firms ^b	561	69	962	71
Exports by government ^b	3	0	5	0

Sources: USITC staff calculations. See appendix H for details.

^aThis total excludes trade in used and secondhand goods, as well as noncomparable imports, which cannot be matched to IO tables. (See supplementary Use Tables, http://bea.gov/industry/xls/Annual_IOUse_After_Redefinitions_1998-2008.xls).

^bUSITC calculations. See appendix H for details.

TABLE 5.2 Estimated contribution to domestic value added exports by firm size

	2002		2007	
	Value billion \$	Share %	Value billion \$	Share %
Total domestic value added	726		1,159	0
SMEs	319	44	480	41
Large firms	397	54	665	57
Government	9	1	14	1

Source: USITC staff calculations. See appendix H for details.

Note: Sum of values may not equal shown totals due to rounding.

TABLE 5.3 Estimated direct and indirect value added

	2002		2007	
	Value billion \$	Share of total value added %	Value billion \$	Share of total value added %
Total value-added exports	726		1,159	
Total SME exports	319	44	480	41
Direct exports	167	23	241	21
Indirect exports	152	21	240	21

Source: USITC staff calculations. See Appendix H for details.

TABLE 5.4 Estimates of sectoral breakdown of SME exports, 2007 (%)

Source	Gross exports	Value added
Agriculture and mining	6	12
Manufacturing	32	23
Services	61	65
Total	100	100

Source: USITC staff calculations. See appendix H for details. Sector values are based on the industry of the SME firm rather than the industry of the product.

Note: Totals may not equal 100 due to rounding.

TABLE 5.5 Estimated SME activity as a share of total sectoral activity, 2007 (%)

Source	Gross exports		Value added	
	SMEs	Large firms	SMEs	Large firms
Agriculture and Mining	46	54	50	50
Manufacturing	16	84	32	68
Services	46	54	45	55

Source: USITC staff calculations. See appendix H for details.

added perspectives.¹² This indicates that much of the indirect value-added exports by SMEs—the intermediate goods and services produced by SMEs that are eventually shipped abroad as components embedded in other products—is concentrated in the manufacturing sector.

Total employment supported by value-added SME exports is estimated by the Commission to be 4.0 million jobs. Approximately one-half (an estimated 1.9 million) of the jobs are supported by direct exports (table 5.6). These are jobs tied directly to the value contributed by SMEs in the last stage of the production process. The remaining 2.1 million jobs are supported by indirect exports of SMEs. The overall number of jobs supported by value-added exports (of both SMEs and large firms) is estimated to be 9.2 million. For both direct and indirect exports, employment in services predominates.

Other government agencies have also estimated the number of jobs supported by value-added exports. Analysis performed by the Department of Commerce¹³ finds similar results for the number of jobs supported by U.S. exports; for 2007, the analysis estimates a total of 9.5 million jobs supported by exports. Other agencies have not reported results by firm size, however.

SME Indirect Exports Via Wholesalers and Other Intermediaries

SMEs can also indirectly export by selling their goods or services to wholesalers or other intermediaries that export their products essentially untransformed. A variety of specialized firms act as export intermediaries, connecting producers of goods and services with overseas buyers. The role of such intermediaries is particularly important for many SMEs that lack the resources to export to foreign markets directly. In some industries, these indirect exports via wholesalers and other intermediaries are the primary channels in which SMEs export their final products. In agriculture, for instance, U.S. farms predominantly export through such intermediaries. In addition, SMEs have a significant role as export intermediaries themselves. In many industries, these SME intermediaries account for a substantial proportion of total U.S. exports. The remainder of

¹² Gross exports for the agriculture and mining sector include goods exported by these producers directly to foreign buyers, as well as the value of goods channeled via wholesalers. Using intermediaries to sell abroad is particularly common in agriculture, where a large share of SME farmers sells abroad via wholesalers (see the subsequent discussion in this chapter on indirect exports of agricultural products). Wholesaler exports—part of the services sector—include only the value of the services provided by wholesalers and not the value of the goods being resold. As a result, wheat sold by an SME farmer is part of both gross exports and value-added direct exports, regardless of whether it was sold directly by the farmer or via a wholesaler.

¹³ Tschetter, “Exports Support American Jobs,” 2008.

TABLE 5.6 Estimated breakdown of export-supported jobs, 2007 (millions)

	Direct exports	Indirect exports	Total
Breakdown by size			
Total	4.4	4.7	9.2
SMEs	1.9	2.1	4.0
Large firms	2.5	2.5	5.0
Government	0.0	0.1	0.2
Breakdown by industry			
Total	4.4	4.7	9.2
Agriculture and Mining	0.0	0.1	0.1
Manufacturing	1.9	1.3	3.2
Services	2.5	3.4	5.8

Source: USITC staff calculations. See appendix H for details.

Note: Totals may not add due to rounding.

this chapter focuses first on SME wholesalers and intermediaries that facilitate the indirect exports of other firms, and then on SME indirect exporters in the agriculture, manufacturing, and services sectors that use these intermediaries to access foreign markets.

The Role of Wholesalers and Other Intermediaries

Available trade data do not record the roles of all export intermediaries, such as freight forwarders or brokers. Exports are classified according to the industry of the enterprise which owns the principal party in interest (formerly the “exporter of record”). The principal party of interest is the firm benefiting financially from the sale of the goods in question.¹⁴ If the enterprise in question is a wholesaler, it may be acting as an intermediary that acquired title to the goods from a manufacturer, agricultural, or mining firm, and then exported them.¹⁵ In other cases, a firm may act as an export intermediary for a firm that engages in a related activity, e.g., computer systems and design consultants exporting computers or software, or automobile companies exporting automobile-related chemical products.

The role of intermediaries in the export of goods can be seen more clearly in the present study than in the Commission’s January and July 2010 reports on SMEs, as a result of data recently made available to the Commission by the U.S. Census Bureau.¹⁶ These data distinguish both the type of goods being exported and the type of firm doing the exporting, i.e., manufacturers, wholesalers, and other types of firms. When goods are exported by a different type of firm than that which produced the goods, this is often evidence that export intermediation is taking place. Taking small and large firms

¹⁴ See <http://www.census.gov/foreign-trade/reference/definitions/index.html#P>.

¹⁵ This may not always be the case, however, as firms, particularly larger ones, are often involved in multiple industries and activities. The NAICS code identifying the primary activity of an enterprise does not necessarily describe all the activities of that enterprise. The designations “manufacturer,” “wholesaler,” or “other” in the trade data refer to enterprises. Each enterprise may consist of one or more establishments. Thus, for exports classified as coming from “wholesalers,” the principal party of interest may be a manufacturer owned by a wholesaler, and for exports classified as coming from “manufacturers,” the principal party of interest may be a manufacturer. (U.S. government representative, telephone interview by USITC staff, August 17, 2010.) “Wholesalers and Retailers in U.S. Trade,” 2010.

¹⁶ For an explanation of how data in this section differ from data reported in the Commission’s January and July reports on SMEs, please see chapter 1 of this report.

together, non-manufacturing firms were responsible for 29.9 percent of all U.S. exports of manufactured goods (table 5.7).¹⁷ This highlights the large role of wholesalers and other intermediaries in securing access to U.S. exports in foreign markets in general. The share of SMEs in total exports of manufactured goods, 27.6 percent, is substantially higher than the share of SMEs in total exports of goods by manufacturing firms, at 15.9 percent. In 2007, U.S. SMEs classified as wholesalers exported \$95.0 billion of manufactured goods, accounting for 10.5 percent of all U.S. exports of manufactured goods. U.S. exports by firms in other industries (primarily services firms) accounted for \$53.8 billion of U.S. exports of manufactured goods in the same year, or 6.0 percent of all U.S. exports of manufactured goods.

The exports of manufactured goods exported by SME manufacturers, wholesalers, and other companies in 2007 in dollar terms and percentage terms are presented in tables 5.8 and 5.9 respectively.

The degree of intermediation is much higher for agricultural goods than for manufacturing goods, and the role of SMEs is also greater. Of all agricultural goods, 41.6 percent are exported by wholesalers, 46.2 percent by SMEs, and 32.3 percent by SME wholesalers (table 5.10). The high share of manufacturing firms in the export of agricultural goods suggests another form of intermediation: firms that export both raw agricultural commodities and processed foods. Specifically, 46.9 percent of all agricultural goods are exported by manufacturers. Of these, 43.7 percent are exported by large manufacturers, and 3.2 percent by SME manufacturers. This suggests that SME producers of U.S. agricultural goods may often work together with large U.S. producers of processed foods in exporting agricultural goods. There is also evidence that SME agricultural producers themselves make use of services intermediaries, which are not included in the present data. In its July 2010 report on SMEs, the Commission described the role of intermediaries such as packers, marketers, industry associations, brokers, and agents in the exports of U.S. SMEs producing apples and wine.¹⁸ This topic is also discussed further in the following section discussing SME agricultural exports.

Finally, the share of SMEs in the export of mined goods, including oil, gas, coal, and metals, is higher than for manufactured goods, but lower than for agricultural goods (table 5.11).

Better data concerning the relationship between the producers of goods and the types of firms that export these goods, and further analysis of the available data, would likely be useful in understanding the ways in which expanding U.S. exports may influence the U.S. economy, including effects on employment in various sectors. It is also likely that various goods-producing sectors are paired with particular services sectors in the activity of exporting in ways not clearly evident in the data available to the Commission at present.

¹⁷ The Commission's previous study on this topic, making inferences from the less complete data available at the time of writing, estimated that in 2005, a minimum of 20.9 percent of U.S. exports of manufactured goods were by non-manufacturing firms. USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, 2010, 2-10 and 2-11.

¹⁸ USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010, 4-4 to 4-5 and 4-9 to 4-10.

TABLE 5.7 Exports of manufactured goods by firm type and size class, 2007

Type of firm:	Firm size class	Exports of manufactured goods	Share of total exports of manufactured goods	Share of total exports of manufactured goods by firm type
		Billion \$		%
Manufacturers	SME	100.1	11.1	15.9
	Large	531.3	59.0	84.1
	Total	631.4	70.1	100.0
Wholesalers	SME	95.0	10.5	60.6
	Large	61.8	6.9	39.4
	Total	156.7	17.4	100.0
Other firms	SME	53.8	6.0	47.6
	Large	59.3	6.6	52.4
	Total	113.1	12.5	100.0
Total exports of manufactured goods		901.2 ^a		
				%
SME share of total exports of manufactured goods				27.6
Non-manufacturers' share of total exports of manufactured goods				29.9

Source: U.S. Census Bureau, and USITC staff calculations.

Note: Data may not add due to rounding.

^aTotal does not include exports of manufactured goods for which the type of firm is not known, which amount to approximately \$11.4 billion.

TABLE 5.8 Value of exports of manufactured goods by sector, firm type, and firm size, 2007, million \$

Type of goods exported	Manufacturers			Wholesalers			Other Companies		
	SME	Large firms	Total	SME	Large firms	Total	SME	Large firms	Total
Food products	4,495	16,730	21,224	9,150	1,893	11,043	2,619	1,089	3,709
Beverages and tobacco products	406	2,779	3,186	432	88	520	351	28	379
Textiles and fabrics	1,681	3,981	5,663	868	120	988	251	903	1,155
Textile mills products	373	958	1,331	262	34	297	181	357	538
Apparel and accessories	792	833	1,625	747	189	937	336	458	794
Leather and allied products	486	1,240	1,726	428	124	553	248	380	627
Wood products	1,255	1,447	2,701	1,007	103	1,110	453	85	537
Paper	1,997	12,566	14,563	2,221	557	2,778	570	308	878
Printed matter and related products, not elsewhere specified or included (n.e.s.o.i.)	379	1,073	1,451	451	917	1,368	1,159	1,583	2,742
Petroleum and coal products	1,386	13,804	15,190	7,248	^(a)	^(a)	762	^(a)	^(a)
Chemicals	17,345	84,124	101,469	12,132	13,803	25,935	5,371	8,717	14,088
Plastics and rubber products	3,113	10,509	13,622	1,625	385	2,010	1,057	850	1,906
Nonmetallic mineral products	1,355	5,107	6,462	529	206	736	420	280	700
Primary metal manufacturing	4,859	22,117	26,976	4,168	1,076	5,244	3,991	4,746	8,738
Fabricated metal products, n.e.s.o.i.	5,636	14,541	20,177	2,598	830	3,428	1,684	1,242	2,926
Machinery, except electrical	17,519	66,922	84,442	10,634	8,371	19,005	7,797	6,926	14,723
Computer and electronics products	18,724	82,958	101,682	18,558	27,482	46,040	8,834	12,873	21,706
Electrical equipment, appliances & components	4,390	21,260	25,650	2,524	1,313	3,837	1,613	1,609	3,222
Transportation equipment	7,150	151,059	158,209	8,268	1,670	9,939	13,174	9,272	22,446
Furniture and fixtures	505	1,461	1,967	350	^(a)	^(a)	301	^(a)	^(a)
Misc. manufactured commodities	6,256	15,794	22,051	10,749	2,617	13,366	2,653	7,613	10,266
Total ^b	100,103	531,266	631,368	94,951	61,780	156,732 ^c	53,826	59,318	113,143 ^c

Source: Census; USITC staff calculations.

^aData not available.

^bTotals do not include exports of manufactured goods for which the type of firm is not known, which amount to approximately \$11.4 billion.

^cSome totals will not correspond due to missing data.

TABLE 5.9 Share of exports of manufactured goods by sector, firm type and firm size, 2007 %

Type of goods exported	Manufacturers		Wholesalers		Other Firms		Percent of Exports of Manufactured Goods		
	SME	Large firms	SME	Large firms	SME	Large firms	Total Manufacturers	Total Wholesalers	Total Other Firms
Food products	12.5	46.5	25.4	5.3	7.3	3.0	59.0	30.7	10.3
Beverages and tobacco products	9.9	68.0	10.6	2.2	8.6	0.7	78.0	12.7	9.3
Textiles and fabrics	21.5	51.0	11.1	1.5	3.2	11.6	72.5	12.7	14.8
Textile mills products	17.2	44.2	12.1	1.6	8.4	16.5	61.5	13.7	24.8
Apparel and accessories	23.6	24.8	22.3	5.6	10.0	13.6	48.4	27.9	23.7
Leather and allied products	16.7	42.7	14.7	4.3	8.5	13.1	59.4	19.0	21.6
Wood products	28.8	33.3	23.1	2.4	10.4	1.9	62.1	25.5	12.4
Paper	11.0	69.0	12.2	3.1	3.1	1.7	79.9	15.2	4.8
Printed matter and related products, n.e.s.o.i.	6.8	19.3	8.1	16.5	20.8	28.5	26.1	24.6	49.3
Petroleum and coal products	7.2	71.9	37.8	^(a)	4.0	^(a)	79.1	^(a)	^(a)
Chemicals	12.3	59.5	8.6	9.8	3.8	6.2	71.7	18.3	10.0
Plastics and rubber products	17.7	59.9	9.3	2.2	6.0	4.8	77.7	11.5	10.9
Nonmetallic mineral products	17.2	64.7	6.7	2.6	5.3	3.6	81.8	9.3	8.9
Primary metal manufacturing	11.9	54.0	10.2	2.6	9.7	11.6	65.9	12.8	21.3
Fabricated metal products, n.e.s.o.i.	21.2	54.8	9.8	3.1	6.3	4.7	76.1	12.9	11.0
Machinery, except electrical	14.8	56.6	9.0	7.1	6.6	5.9	71.5	16.1	12.5
Computer & electronics products	11.1	49.0	11.0	16.2	5.2	7.6	60.0	27.2	12.8
Electrical equipment, appliances and components	13.4	65.0	7.7	4.0	4.9	4.9	78.4	11.7	9.8
Transportation equipment	3.8	79.3	4.3	0.9	6.9	4.9	83.0	5.2	11.8
Furniture and fixtures	22.0	63.7	15.3	^(a)	13.1	^(a)	85.8	^(a)	^(a)
Misc. manufactured commodities	13.7	34.6	23.5	5.7	5.8	16.7	48.3	29.3	22.5

Source: Census; USITC staff calculations.

^aData not available.

TABLE 5.10 Exports of agricultural goods by firm type and size class, 2007

Type of firm	Firm size class	Exports of agricultural goods	Share of total exports of agricultural goods	Share of total exports of agricultural goods by firm type
		Billion \$	%	
Manufacturers	SMEs	1.6	3.2	6.9
	Large firms	21.8	43.7	93.2
	Total	23.4	46.9	100.0
Wholesalers	SMEs	16.1	32.3	77.6
	Large firms	4.7	9.3	22.4
	Total	20.8	41.6	100.0
Other firms	SMEs	5.3	10.7	93.1
	Large firms	0.4	0.8	6.9
	Total	5.7	11.5	100.0
Total exports of agricultural goods		49.9 ^a		
				%
SME share of total exports of agricultural goods				46.2
Non-manufacturers' share of total exports of agricultural goods				53.1

Source: Census; USITC staff calculations.

Note: Data may not add due to rounding.

^aTotal does not include exports of agricultural goods for which the type of firm is not known, which amount to approximately \$0.5 billion.

TABLE 5.11 Exports of mining goods by firm type and size class, 2007

Type of firm	Firm size class	Exports of mining goods	Share of total exports of mining goods	Share of total exports of mining goods by firm type
		Billion \$	%	
Manufacturers	SMEs	0.4	2.6	25.0
	Large firms	1.1	7.9	75.9
	Total	1.4	10.4	100.0
Wholesalers	SMEs	2.1	15.0	94.4
	Large firms	0.1	0.9	5.6
	Total	2.2	15.9	100.0
Other firms	SMEs	2.4	17.4	23.6
	Large firms	7.7	56.3	76.4
	Total	10.1	73.7	100.0
Total exports of mining goods		13.7 ^a		
				%
SME share of total exports of mining goods				35.0
Non-manufacturers' share of total exports of mining goods				89.6

Source: Census; USITC staff calculations.

Note: Data may not add due to rounding.

^aTotal does not include exports of mining goods for which the type of firm is not known, which amount to approximately \$1.2 billion.

Indirect SME Exports by Sector

As noted above, U.S. SMEs play a larger role in the export economy than is suggested by traditional trade statistics by exporting indirectly, either through indirect value-added exports or through indirect exports via wholesalers or other intermediaries. The relative role of these two channels of indirect exports, however, varies substantially by sector. In agriculture, for instance, indirect exports via wholesalers or other intermediaries plays a larger role than indirect value-added exports. In professional services, on the other hand, indirect value-added exports are the most important channel for SME indirect exporters. The final section of this chapter examines the relative role of these two channels of indirect exports in the agriculture, manufacturing, and services sectors.

Indirect SME Agricultural Exports

U.S. agricultural SMEs are relatively minor direct exporters of agricultural goods;¹⁹ however, U.S. farms, largely SME operations, are leading indirect exporters of agricultural products through other firms.²⁰ Minimally processed bulk commodities—not substantially transformed from the farm—represent a substantial share of total U.S. agricultural exports. The process by which farmers indirectly export these goods is through consolidation of their produce by wholesalers and brokers (consolidators),²¹ large farmer cooperative organizations, or large multinational agricultural corporations that source a wide variety of agricultural produce to supply their global distribution networks. A second, much smaller channel of indirect U.S. farm exports (by value) is through the exportation of processed agricultural products that contain primary commodities as inputs.

U.S. agricultural exports

A significant share of U.S. farm output is exported. For the leading U.S. agricultural exports, soybeans, corn, and wheat, 15–43 percent of U.S. domestic production was exported in 2009. Export shares of other leading U.S. agricultural products were also significant: 7–19 percent of animal products—beef, pork and poultry—were exported; 19–37 percent of leading horticultural products—apples and grapes—were exported; and 79–83 percent of almonds and pistachios were exported.²²

The majority of U.S. agricultural exports are unprocessed commodities and semiprocessed goods that are exported primarily in large bulk shipments by firms other than farmers. Such goods include oilseeds and grains (e.g., soybeans, corn, wheat) and horticultural products (e.g., apples, grapes, almonds), as well as semiprocessed goods

¹⁹ Agricultural SMEs include farms as well as SME firms that produce value-added agricultural goods. The focus of this section is on farms, which represent the overwhelming share of U.S. indirect SME agricultural exports. See the Commission's January and July reports on SMEs for additional information on U.S. agricultural SME exports, including nonfarm agricultural SMEs.

²⁰ For a discussion of U.S. farm characteristics, see USITC, *Small and Medium-Sized Enterprises: Overview*, January 2010, 2-12.

²¹ Certain brokers and wholesalers may be relatively small enterprises in terms of number of employees, but they generally trade in very large volumes, in contrast to most farmers.

²² Export shares based on volume, USDA, PSD database.

such as soybean oil, beef, poultry, and tobacco.²³ Most direct agricultural exporters are large enterprises that are highly efficient, low-cost suppliers leveraging economies of scale, whereby high fixed costs of storage, processing, and marketing are spread over large sales volumes.²⁴

Indirect agricultural exports

Most agricultural products that are indirectly exported by farmers are primary commodities. U.S. exports of agricultural products were \$104 billion in 2009, of which a substantial share was minimally processed farm commodities.²⁵ The five leading U.S. agricultural exports in 2009, accounting for 35 percent of total exports, were soybeans (\$16 billion), corn (\$9 billion), wheat (\$5 billion), cotton (\$3 billion), and soybean meal (\$3 billion), most with minimal value-added processing after leaving the farm.²⁶

Farm products are also indirectly exported when they are used as an input into exported processed agricultural products (such as distilled spirits or baked goods). The value of farm commodities indirectly exported through the exportation of processed agricultural products is much smaller than the value of indirectly exported primary commodities. In 2009, U.S. exports of primary bulk commodities and semi-processed agricultural products represented 67 percent of the total value of agricultural exports compared to 33 percent for processed agricultural goods.²⁷ Moreover, for most processed foods, the value of the farm-produced input is relatively small compared to the final value of the processed product. For example, the value of the corn component in Bourbon whiskey or the wheat used in bakery goods represents a small share of the value of the final product. Moreover, a higher percentage of total U.S. processed food production is consumed domestically, than for minimally-processed agricultural products.

A contributing reason why a substantial share of U.S. agricultural exports are bulk commodities is that higher-value products, including processed foods, generally face higher tariffs in foreign markets, owing to “tariff escalation,” (a situation in which tariffs rise with the level of processing).²⁸ In addition, processed foods are often subject to a greater number and variety of nontariff measures, including stringent technical barriers (such as labeling and packaging regulations) and other types of regulatory scrutiny (including sanitary and phytosanitary measures).²⁹ Consequently, many U.S. processed

²³ In this analysis, primary commodities are defined as products that are produced on farms and that are minimally processed, such as soybeans, corn, wheat, cotton, fruits, and nuts. Semiprocessed agricultural products are defined as primary commodities that have been transformed into intermediate goods, such as soybean meal and wheat flour. Semiprocessed agricultural products also include meat, such as fresh or frozen beef that is generally exported in large primal cuts to be further butchered into retail-size portions, or used as an input in processed foods such as sausage, meatballs, or prepared meals.

²⁴ For a discussion of barriers to U.S. SME exports, including barriers to direct farm exports, see USITC, *Small and Medium-Sized Enterprise: U.S. and EU Export Activities*, 2010, chap. 3, “Views on SMEs on Barriers to Exporting,” 3-1 to 3-44, and chap. 4, apple and wine case studies, 4-1 to 4-16.

²⁵ Of the leading 25 U.S. agricultural exports by 6-digit HS subheading (representing \$62 billion or 59 percent of total U.S. agricultural exports in 2009), 20 subheadings were minimally or semi-processed agricultural goods.

²⁶ USITC DataWeb.

²⁷ USDA, FAS, GATS System.

²⁸ USDA, ERS, “Market Access for High-Value Foods,” February 2005, 5–9.

²⁹ USDA, ERS, “Processed Food Trade,” February 2005.

foods companies, mostly large multinational firms, locate production facilities within foreign markets or regions, at least in part to bypass tariff and nontariff barriers.³⁰

Distribution: farm to export market

A simplified diagram of the two channels from farms to export markets is presented in figure 5.2. The top channel (above the dotted line) represents the flow of primary commodities through the agricultural marketing and distribution system (supply chain),³¹ while the bottom channel (below the dotted line) illustrates the flow of farm products exported as processed goods. In almost all cases, agricultural products pass from farms through intermediaries—including processors, wholesalers, and manufacturers, depending on the product and sector—to reach export markets.

In figure 5.2, basic processing refers to processing that results in little or no transformation of the farm commodity—for example, the cleaning and sorting of grain by grain elevator firms, or the washing, grading, and sorting of horticultural products by packing houses. Processing is a transformation of the agricultural product into an intermediate good that will be used in the manufacture of final consumer goods—for example, the grinding of wheat into flour and corn into cornmeal, or the stemming and drying of tobacco leaf into semi-processed tobacco. Manufacturing represents the production of final consumer goods, such as transforming flour into baked goods or semi-processed tobacco into cigarettes.

The supply chain from the farm to the export market for both primary and processed products contains a variety of linkages. As indicated in figure 5.2, at each stage of the supply chain, products can be exported depending on the sector and product. For minimally processed agricultural goods such as soybeans, corn and wheat, farmers typically sell or store their produce at local grain elevators (basic processors) that may perform cleaning, grading, sorting, and consolidating. From this stage the grain may be exported by the grain elevator or further channeled to other grain elevators, wholesalers and brokers, or multinational agricultural firms.³²

Multinational agricultural corporations such as Cargill, Bunge, and ADM are vertically integrated firms that operate facilities in all phases of the supply chain—they own and operate grain elevators and processing facilities, and have integrated international marketing operations.³³ Consequently, they source bulk commodities directly from farmers, as well as from grain elevators, distributors, and wholesalers, to supply their distribution networks.

Farmers also indirectly export by consolidating their produce with other farmers in cooperative organizations. For example, a large proportion of U.S.-produced almonds are exported by farmer-owned cooperatives. Almond farmers transport the product to cooperative handlers (basic processors) such as Blue Diamond, which cleans, dries, sorts, shells, and consolidates almonds for distribution. Produce may undergo further distribution through wholesalers and brokers or may be directly exported by cooperatives.

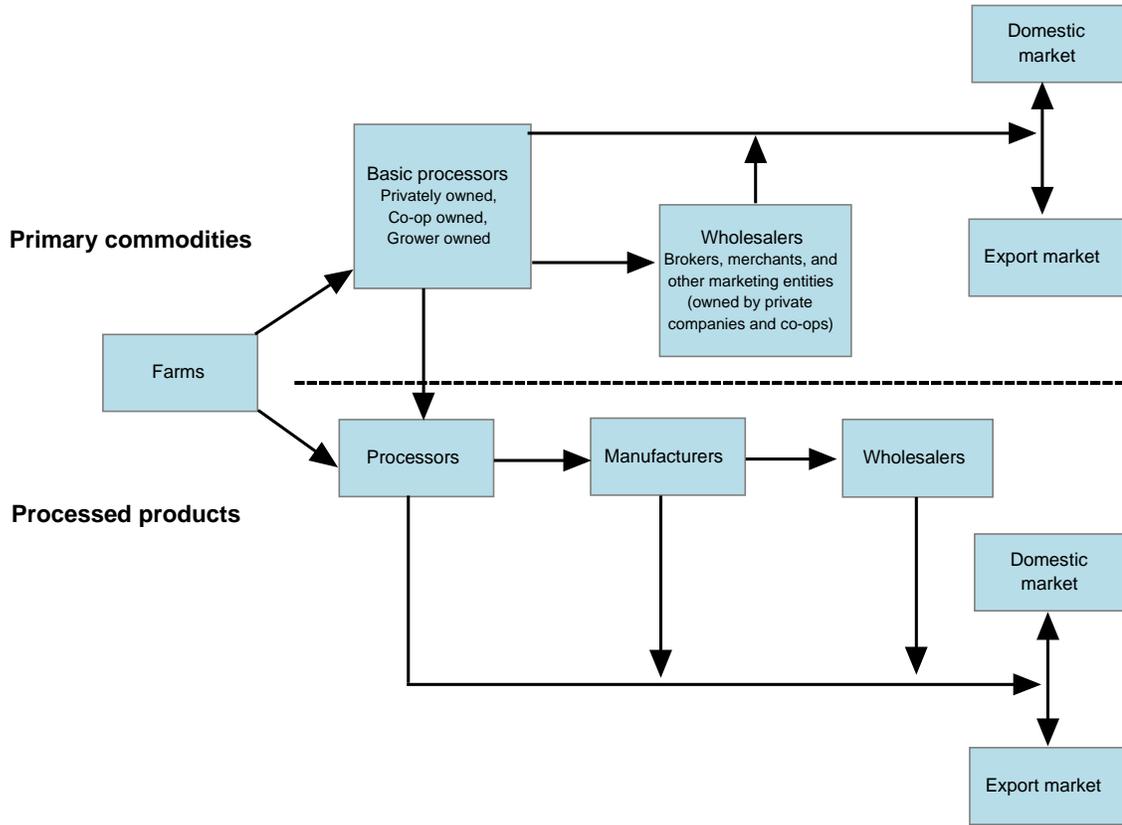
³⁰ USITC, *Processed Foods and Beverages*, 2001, 15-10 to 15-11.

³¹ The marketing and distribution system represents all commercial agricultural activities from the point where raw agricultural products leave the farm to the point where they are consumed by the final purchaser.

³² U.S. government official, telephone interview by USITC staff, June 29, 2010.

³³ U.S. government official, telephone interview by USITC staff, June 29, 2010.

FIGURE 5.2 Agricultural supply chain: Farm to market



Source: Compiled by USITC staff.

Basic processing firms, such as apple and orange packing houses, may also be owned by individual growers that pack their own produce as well as produce from other growers.

The commodity and processed foods supply chains may be linked at various stages of the marketing and distribution system. For example, grains may be channeled from the grain elevator (basic processor) to milling companies (processors) that transform the primary commodity into flour, which in turn is used by processed food companies (manufacturers). In the tobacco sector, tobacco may be exported as a semi-processed commodity or as an input in manufactured products (cigarettes). For example, tobacco farmers may directly contract with tobacco leaf dealers that process leaf tobacco into semi-processed tobacco, then export the product to foreign manufacturers. Farmers also directly contract with domestic cigarette manufacturers (e.g., Philip Morris) that produce cigarettes for export.

Indirect SME Manufacturing Exports

Indirect exports by SME manufacturers may occur when they use distributors, agents, or export management companies to export their products, or when they supply inputs to other companies for incorporation into products for export. Because the final destination of their output may be several transactions beyond their final sale, SMEs are often unaware if their products are eventually exported. This section describes four common distribution chains through which SME manufacturers indirectly export their products: wholesalers or distributors; services firms that export manufactured goods; agents or export management companies; and large manufacturers that export goods that contain inputs from U.S. SMEs.

Agents or export management companies may represent U.S. manufacturers of products in foreign markets. The use of an agent or export management company can significantly facilitate efforts by SMEs to identify and penetrate foreign markets, thus reducing the fixed costs of exporting. The SME pays a fee for the services of the agent or export management company, and the agent or export management company may become the principal party of interest. According to one source, the number of export management companies has declined over time, partly because language barriers have lessened and because international communication and trade finance standards are more widespread.³⁴

One SME export management company noted in written comments to the Commission that its success was due in part to a strategy of exporting high-value products with a focus on a single industry to select markets, rather than exporting commodity products. As a result, the export management company developed expertise in this industry, achieved economies of scale by offering multiple product lines through foreign distributors, and reduced the time to enter the market.³⁵ Other export management companies similarly focus on a few product areas and work with companies manufacturing those products. For example, Dorian Drake International, Inc., an export management company, focuses on four product areas.³⁶

Supplying inputs to companies that export is likely a significant channel of indirect SME manufacturer exports. One study released in 2006 reports the names of over 30,000 suppliers (mainly SMEs) to six large manufacturing firms. These six large firms have SME manufacturer suppliers from every state in the United States.³⁷ SMEs either supply goods directly to large U.S. exporters or are one or several times removed from the exporters. The SME product may be a subassembly or a part that is incorporated into a subassembly. The large company exporters generally have several tiers of suppliers, typically called Tier 1 and Tier 2 suppliers, but possibly extending further to Tier 3 and Tier 4 suppliers. In turn, the Tier 1 and Tier 2 suppliers will also have levels of suppliers. For example, in the automotive industry, the Motor & Equipment Manufacturers Association describes Tier 1 firms supplying finished components to original equipment

³⁴ Horowitz, "A Vanishing Breed," *Shipping Digest*, December 18, 2006. A USITC staff search of the *Export Yellow Pages* for "Export Management Company" resulted in fewer than 100 listings. <http://www.exportyellowpages.com> (accessed July 9, 2010).

³⁵ Kimberly Benson, Cange International, Inc., written submission to the USITC, January 23, 2010.

³⁶ Dorian Drake International, "About Dorian Drake," n.d. (accessed July 14, 2010).

³⁷ Democracy Data and Communications LLC, "ExIm Bank Suppliers."

manufacturers, Tier 2 firms supplying parts to Tier 1, and Tier 3 firms supplying raw materials to Tier 2.³⁸

For machinery exports, many of the items are likely to be produced by contract machine and metal-forming shops that make metal parts to customer specifications; by mold and die makers; and by contract plastics and rubber parts molders. Many of these are likely to be SMEs. In most instances, these SME manufacturers must be qualified as a supplier to the larger customers and meet a variety of quality and performance standards. Once qualified as a supplier, they generally compete on price.

Indirect SME Services Exports

In many cases, U.S. companies export services indirectly, rather than directly. An indirect services export occurs when a nonexporting U.S. company provides services to a firm that ultimately exports goods or services abroad. Indirect services exports are perhaps most associated with professional and business services such as accounting, advertising, consulting, and legal services. Using professional services as an example, an indirect services export on the part of a U.S. SME firm occurs when a small accounting firm prepares the books of a company that exports goods or services to foreign markets. Similarly, services would be exported indirectly when a small U.S. advertising firm creates an advertising campaign for a multinational corporation that ultimately uses that campaign to sell products and services outside the United States.

Although most often associated with professional services, indirect services exports occur across a broad range of industry sectors. In the audiovisual services industry, for example, approximately 100,000 SMEs provide services to the producers of film and television content, with most such content ultimately exported around the world. For example, Hammerhead Productions, a California-based computer graphics, special effects, and digital enhancement studio, provided services crucial to the production of several big-name Hollywood films.³⁹ Similarly, Hydraulx Visual Effects, which specializes in digital cosmetic enhancements and the development of creatures, and a make-up special effects studio KNB EFX Group, also provided services in the production of a number of major U.S. motion pictures.⁴⁰

Wholesale transactions are another significant channel for U.S. SME indirect exports: U.S. SME services providers both facilitate wholesale transactions and sell services abroad through wholesale intermediaries. Such transactions are particularly common in the financial services industry. For example, the international sale of services by a small U.S. firm is facilitated by wholesale intermediaries when a hedge fund sells shares to foreign investors through a wealth management advisory firm. U.S. services SMEs also perform the role of wholesale intermediary when, for example, a boutique brokerage based in the United States purchases stocks or bonds for foreign clients.

³⁸ Motor & Equipment Manufacturers Association, "Original Equipment," n.d. (accessed July 13, 2010).

³⁹ Industry representative, e-mail message to USITC staff, July 1, 2010; Internet Movie Database Web site, <http://www.imdb.com/company/co0028079/> (accessed July 15, 2010).

⁴⁰ Internet Movie Database Web site, <http://www.imdb.com/company/co0109632/> and <http://www.imdb.com/company/co0015640/> (accessed July 15, 2010); industry representative, e-mail message to USITC staff, July 1, 2010.

CHAPTER 6

Trade Barriers That Disproportionately Affect SME Export Performance

Key Findings

Overall, SMEs' share of U.S. exports is low, especially relative to their share of total U.S. output.¹ This is partly due to some impediments to exporting falling disproportionately on smaller exporters. Information collected and analyzed by the Commission provides some evidence that both tariffs and nontariff measures (NTMs) are relatively more burdensome to SMEs than to larger firms. Analysis of applied tariffs in foreign markets on traded manufactured goods shows tariff spikes in some industries in which U.S. SMEs have large export shares. NTMs also frequently impede exports by SMEs disproportionately more than exports by large firms. For example, many firms surveyed through the Commission's questionnaire, and especially SMEs, considered foreign regulations and customs procedures to be important barriers to doing business abroad. In addition to NTMs, business impediments such as transportation costs figured prominently in the overall impediments to exporting. Also, according to SME industry representatives, standards and certification are typically important hurdles for manufactured goods. Licensing, residency requirements, and commercial presence requirements present challenges for services providers that export.

This chapter begins by examining overall impediments to exporting as reported in the USITC questionnaire. It then uses trade and tariff data to examine how tariffs on certain exports may disproportionately affect some SMEs. The importance of NTMs for SMEs is subsequently analyzed. A discussion of particular NTMs on SME exporters in the manufacturing and services sectors concludes the chapter. First, however, box 6.1 describes how NTMs can impose fixed costs on firms and create a disproportionate effect on SMEs.

Disproportionate Impediments to SME Exports

Many impediments to international trade disproportionately affect SMEs.² This is the case even though these impediments often do not explicitly discriminate—for example, they may apply equally to different-sized firms. The disproportionate effect holds for firms in both the services and manufacturing sectors and also for a variety of impediments, including business impediments (i.e., obtaining financing, lack of trained staff, etc.), foreign policy impediments, and domestic policy impediments.

The Commission's questionnaire surveyed firms' opinions about 19 potential impediments to trade. These included seven business impediments, five foreign policy

¹ See USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, January 2010.

² Findings in this section are drawn from the Commission's survey of 3,200 firms. Details of the survey and the Commission's analytical approach are in appendix F.

BOX 6.1 Variable and fixed costs of exporting

Foreign trade measures can increase both the variable and fixed costs of trade. Variable-cost measures vary with the sale value or the quantity sold of the traded goods. Tariffs, whether ad valorem rates or specific duties, are typically a variable cost. Fixed-cost measures, on the other hand, represent transaction costs that do not vary based on the traded amounts. Many NTMs impose fixed trade costs. Complying with certain foreign standards, for instance, imposes fixed costs that must be borne to enter the market, regardless of the extent to which exports contribute to a firm's revenues. Complex licensing procedures required to practice certain professional services abroad provide another example of fixed-cost measures identified in this chapter.

The distinction between variable and fixed cost trade measures is important because large exporters can spread fixed costs more easily over their sales volumes than small exporters. Thus, many NTMs have the potential to affect SMEs disproportionately; some NTMs may even make it infeasible for some SMEs to export, at least directly.^a NTMs are particularly relevant for services trade, for which tariffs at the border are unimportant.

^a For a discussion of indirect exports, see chap. 5 in this report.

measures (tariffs or NTMs), and three domestic policy measures (table 6.1).³ Four others were a combination of business impediments and domestic or foreign policies. For example, a firm could report “difficulty in receiving or processing payments” as an impediment because a foreign government does not adequately enforce contracts or because the firm lacks the know-how to set up letters of credit or other instruments used in international finance. In the questionnaire, firms were first asked if they had ever exported or considered exporting (the latter point was included to account for the possibility that firms had faced perceived insurmountable barriers). These firms were then asked to report whether they had encountered the impediment and then to assess the impediment's severity on a scale of 1 to 5, with 1 representing no impediment, 3 a moderate impediment, and 5 a major impediment.

Most Frequently Encountered Impediments

The most frequently encountered impediment for manufacturers was high transportation and shipping costs, reported by 88.5 percent of SME manufacturers and 93.6 percent of large manufacturers (table 6.2).⁴ Language or cultural barriers were reported by the second largest share (82.2 percent) of SME manufacturers. Overall, services firms encountered fewer impediments than manufacturing firms. The three impediments encountered most often by SME services firms were “foreign sales not sufficiently profitable” (58.7 percent), “difficulty locating sales prospects” (55.8 percent), and “transportation and shipping costs” (53.6 percent). Less than half of the large services firms had encountered any of the impediments on the Commission's list.

³ Table 6.1 also briefly describes the impediments and provides references to the second USITC SME report if the impediment is described there more fully. USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010.

⁴ Firms responding to the questionnaire had the choice of marking “not encountered” or rating the severity of the impediment on the 1-to-5 scale. “Firms encountering the impediment” was calculated as the ratio of 1-to-5 responses to all responses. Thus, shares in table 6.2 include firms that encountered the barrier but did not find it burdensome.

TABLE 6.1 Impediments to SME exporting included in the USITC questionnaire and described in the Commission's July 2010 report on SMEs

Category	Type of impediment	Impact of impediments on SME exporting activities^a
Difficulty locating sales prospects	Business	SME representatives reported that the high costs associated with identifying sales prospects and acquiring information on foreign markets are significant impediments to small firms (3-19). SME textile and apparel firms rely on a single or relatively few domestic customers and do not have a sales force or marketing strategy to identify potential international sales (4-15). Even small suppliers of well-known brands noted the challenges of high international marketing costs. ^b
Foreign sales not sufficiently profitable	Business	The costs of accessing a foreign market, when added to the cost of the good or service, reduce profit margins and can lower the incentive to export. Also, the attractiveness of exporting to a foreign market is less if prices in that market are below U.S. levels. Exchange rate fluctuations can also undermine profitability (3-18). Textile and apparel SMEs reported that their products are often at a competitive disadvantage internationally because foreign governments subsidize textile and apparel exports through low-cost loans and marketing support (4-16). SME exporters of medical devices reported that payments made by third-party insurers and government agencies in foreign markets may not fully reimburse them for commercialized medical devices (4-20). Moreover, the significant commercialization costs and lengthy product development cycle of up to two years can pose critical challenges for SMEs seeking to export advanced medical devices (4-20).
Lack of trained staff	Business	Dealing with foreign regulations, customs and shipping complexities, and international payments arrangements can be daunting for small firms that lack specialized staff. Textile and apparel SMEs reported that they are often unfamiliar with letters of credit, accounts receivable insurance, or ways of providing discounts or financing to international customers (4-16).
Language/cultural barriers	Business	Language and cultural barriers make it more difficult for firms to identify and service foreign customers. Language barriers can lead to misunderstandings in interpretation of customer orders and contracts, and can impede the development of marketing materials. ^c These barriers also impede the ability of SMEs to develop an ongoing relationship with a foreign customer by, for example, providing onsite customer service and installation assistance (3-18 to 3-19).
Obtaining financing	Business	SMEs reported more difficulties in obtaining financing than large firms and that those problems were exacerbated by the 2008–09 global economic downturn. SMEs reported problems both in obtaining trade financing, particularly pre-shipment financing to cover large exports, and in obtaining working capital for daily operations and expansion into new business areas (3-2, 3-4). For example, SME apple exporters reported that difficulties obtaining financing posed a significant restriction for apple exports (4-3). SME wine exporters reported that obtaining long-term financing was particularly challenging for small firms (4-9).
Preference for local goods/services in foreign market	Business	Consumers in some countries prefer to buy goods that are made locally; moreover, they may have limited knowledge of foreign products. For example, SME wineries reported that importers and retailers in many foreign markets know little about U.S. wine (4-8). In addition, foreign government support programs for particular industries—such as low-cost loans, marketing support, and tax incentives—may make U.S. exports less price-competitive vis-à-vis locally produced goods (3-17).

See footnotes at end of table.

TABLE 6.1 Impediments to SME exporting included in the USITC questionnaire and described in the Commission's July 2010 report on SMEs—*Continued*

Category	Type of impediment	Impact of impediments on SME exporting activities^a
Transportation/shipping costs	Business	Unit transportation costs are less on larger shipments, which may put SMEs at a disadvantage compared to larger firms. Other impediments include rising ocean freight rates, the difficulties small exporters have in filling a shipping container (shipping full containers is less expensive than shipping smaller orders), ^d and container shortages (3-11). SME chemicals exporters reported that transportation costs and limited container availability were constraints on exports (4-11).
Lack of government support programs	Domestic	Some SMEs reported that their transactions often are too small to qualify for approval by the Ex-Im Bank. SMEs reported that Small Business Agency-guaranteed loans became more difficult to obtain during the 2008–09 economic downturn (3-4). Some SMEs also reported that they were not aware of U.S. government support programs for exporters. ^e
U.S. regulations	Domestic	U.S. federal and state laws and regulations may serve as barriers to exporting, particularly with respect to the administrative burden and logistics required for compliance. Examples include the administrative burdens associated with U.S. export control regulations and USDA Animal and Plant Health Inspection Service (APHIS) fees charged for the approval of export health papers and overtime user fees (3-10 to 3-11). Computer services SMEs stated that U.S. export and re-export controls on commercial encryption products constrain exports of both software and hardware (4-22). High U.S. tariffs on goods SMEs import as intermediate inputs can also impede firms' ability to export (3-9).
U.S. taxation issues	Domestic	A number of sources expressed the concern that tax rules may place SMEs at a competitive disadvantage with regard to both the actual tax burden and the administrative burden of compliance with tax rules. ^f Firms that do business in other countries face the potential of being taxed on both foreign earnings and again when those earnings are repatriated (so-called "double taxation"). SMEs that only export occasionally may find the requirement that they have a federal tax ID number to be a barrier to exporting (3-10).
Customs procedures	Foreign	SME exporters frequently reported problems with customs clearance delays. ^g Delays were especially problematic for shipments of perishable products, such as food or medical supplies. One SME that exports radioactive isotopes for medical treatments, which are time-sensitive, stated that it does not export to Latin America because of frequent customs delays in many countries in that region (3-17).

See footnotes at end of table.

TABLE 6.1 Impediments to SME exporting included in the USITC questionnaire and described in the Commission's July 2010 report on SMEs—*Continued*

Category	Type of impediment	Impact of impediments on SME exporting activities ^a
Foreign regulations	Foreign	<p>The costs of understanding and complying with foreign government regulations are often high because of the following:</p> <ul style="list-style-type: none"> • the administrative burdens of compliance (e.g., administrative paperwork, additional record keeping, testing, or certification); • the lack of standardized regulations across countries, including the lack of mutual recognition agreements between U.S. and foreign regulators; • the costs of meeting foreign regulations such as sanitary and phytosanitary (SPS) regulations and packaging and labeling requirements; and • market access barriers in certain services sectors, including local content or screen quota requirements in the film and television industry (3-12 to 3-14). <p>For instance, SME apple exporters stated that there were challenges in meeting different SPS rules in various export markets (4-4). SME wineries reported challenges in meeting differing foreign SPS requirements (4-8). SME chemical exporters reported that the costs of compliance with the EU chemical regulatory system constrained their shipments to Europe (4-12). Local labeling requirements were also noted as a constraint to exporting by SME chemical and nanotechnology companies (4-13). Textile and apparel SMEs reported that they lack the resources or experience to navigate foreign customs and other regulations (4-15). SMEs in the medical device industry reported that complex regulatory procedures abroad were a significant barrier to exporting (4-20).</p>
Foreign taxation issues	Foreign	<p>Foreign taxes imposed on U.S. exports increase the prices of U.S. products in foreign markets, particularly when the taxes are not applied to comparable domestic goods and services. The combination of foreign taxes, foreign duties, and shipping costs can make U.S. goods uncompetitive.^h This problem is made worse when foreign tax regimes are nontransparent (3-14)ⁱ or when foreign governments provide tax incentives to local companies (3-17 and 4-16). Textile and apparel SMEs reported that value-added taxes in foreign markets often increase the cost of U.S. exports compared to local competitors in each market (4-17).</p>
High tariffs	Foreign	<p>Foreign tariffs imposed on U.S. exports, when passed on to consumers in the importing country, can increase the price of U.S. exports in foreign markets.^j SME wineries reported that ad valorem (value-basis) duties can raise the price of U.S. wines in foreign markets very substantially (4-7). SME textile and apparel producers reported that high Brazilian tariffs effectively preclude exports of certain U.S. yarn to Brazil (4-18).</p>
Insufficient IP protection	Foreign	<p>Financial losses often occur due to unreliable IP protection in countries with few legal protections against theft of trade secrets, IP product designs, and other IP infringements (3-15 to 3-16). Exporters of film and television programming reported that seeking remedies to IP infringement was often too expensive for SME producers.^k SME producers of medical devices reported that they incur financial losses as a result of third country producers that copy U.S. technologies and sell them on world markets at significantly lower prices.^l</p>

See footnotes at end of table.

TABLE 6.1 Impediments to SME exporting included in the USITC questionnaire and described in the Commission's July 2010 report on SMEs—*Continued*

Category	Type of impediment	Impact of impediments on SME exporting activities^a
Difficulty establishing affiliates in foreign markets	Foreign, business	SMEs often lack the financial resources and detailed knowledge of the foreign business environment needed to establish foreign affiliates. ^m For this reason, SMEs have tended to establish fewer foreign affiliates than large firms do and, consequently, lack the access to local business networks that can be provided by affiliates (3-19). SME exporters of professional services frequently join networks of service providers; some SME professional services providers reported that they can face high entry costs in foreign markets in seeking to first understand the local legal, institutional, or cultural environment (4-26 to 4-27).
Difficulty in receiving or processing payments	Foreign, business	Foreign laws and enforcement practices may not be adequate to ensure payment for delivered goods and services. SMEs, particularly those new to exporting, often lack knowledge about international payment risks and options such as letters of credit and accounts receivable insurance. ⁿ U.S. textile and apparel SMEs reported that the 2008–09 global financial downturn caused payment terms of their foreign customers to increase significantly, resulting in higher accounts receivable (4-16).
Unable to find foreign partners	Foreign, business	Foreign firms often lack resources and business networks to find reliable local representatives, business partners, and distribution agents in foreign markets (3-20) .

See footnotes at end of table.

TABLE 6.1 Impediments to SME exporting included in the USITC questionnaire and described in the Commission's July 2010 report on SMEs—*Continued*

Category	Type of impediment	Impact of impediments on SME exporting activities ^a
Visa issues	Foreign, domestic	<p>Foreign visitors sometimes report difficulties in obtaining visas to enter the United States. Cumbersome and lengthy entrance procedures can discourage foreign visitors from entering the United States, which can have adverse impacts on U.S. firms in several ways, including:</p> <ul style="list-style-type: none"> • reducing foreign demand for U.S. tourism, health care, and education services; • making it difficult for manufacturers to invite potential foreign customers to the United States to demonstrate their products;^o • restricting or preventing U.S. firms with affiliates outside the United States from sending personnel to the United States to receive in-house training^p (3-8 to 3-9). <p>Similarly, U.S. travelers have reported difficulties obtaining visas to enter foreign countries. Delays in obtaining visas can make it difficult for U.S. business operators and their staff to visit foreign customers and to launch or build local business networks.</p>

Sources: Compiled from questionnaire data; USITC hearings held in conjunction with this investigation; and USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010.

^aNumbers in parentheses refer to page numbers in the Commission's July 2010 report.

^bUSITC, hearing transcript, March 10, 2010, 189 (testimony of Thomas Dustman, Sunnen Products).

^cUSITC, hearing transcript, March 10, 2010, 188, 190 (testimony of Rebecca Herwick, Global Products International).

^dUSITC, hearing transcript, March 18, 2010, 137 (testimony of Jameson French, Hardwood Federation/Northland Forest Products).

^eUSITC, hearing transcript, March 10, 2010, 290 (testimony of Stephen Mitchell, Magna Technologies); March 12, 2010, 40 (testimony of Matt Nees, Software Association of Oregon).

^fFor example, see OECD, *Taxation of SMEs: Key Issues and Policy Considerations*, October 2009.

^gUSITC, hearing transcript, March 10, 2010, 33–37 (testimony of Solomon Akinduro, Afram Corp.); hearing transcript, March 10, 2010, 164 (testimony of Thomas Dustman, Sunnen Products); hearing transcript, March 12, 2010, 159–205 (testimony of Leonard Felix, CID Bio-Science); hearing transcript, March 18, 2010, 197–205 (testimony of Miguel Angel Oliva, HBO Latin America).

^hUSITC hearing transcript, March 10, 2010, 206–209 (testimony of Rudi Roeslein, Roeslein & Assoc.); March 18, 2010, 203 (testimony of Miguel Angel Oliva, HBO Latin America).

ⁱUSITC, hearing transcript, March 18, 2010, 12 (testimony of Representative Donald A. Manzullo).

^jUSITC, hearing transcript, March 10, 2010, 166 (testimony of Thomas Dustman, Sunnen Products); March 10, 2010, 224 (testimony of Karen Bomba, Zoltek Corp.).

^kIndependent Film & Television Alliance, written testimony to the USITC, March 26, 2010.

^lTiba Medical, written testimony to the USITC, March 26, 2010.

^mUSITC, hearing transcript, March 18, 2010, 209–10 (testimony of Maria Hardy, Medical, Laboratory & Technology Consultants).

ⁿUSITC, hearing transcript, March 10, 2010, 33–37, 73 (testimony of Solomon Akinduro, Afram Corp.); March 10, 2010, 120 (testimony of Cory Simek, U.S. Department of Commerce); March 10, 2010, 198–202–203 (testimony of Rebecca Herwick, Global Products International); March 10, 2010, 206 (testimony of Stephen Mitchell, Magna Technologies); March 10, 2010, 248 (testimony of Rudi Roeslein, Roeslein & Assoc.).

^oUSITC, hearing transcript, March 10, 2010, 56–57 (testimony of Cory Simek, U.S. Department of Commerce); March 12, 2010, 14 (testimony of Tim McCabe, Oregon Business Development Department); March 18, 2010, 143–144 (testimony of Spencer Ross, National Institute for World Trade); March 18, 2010, 272 (testimony of Miguel Angel Oliva, HBO Latin America).

^pUSITC, hearing transcript, March 10, 2010, 211 (testimony of Karen Bomba, Zoltek Corp.).

TABLE 6.2 Proportion of firms encountering the impediment^a (%)

	SME manufacturer	Large manufacturer	SME services	Large services firms
Transportation/shipping costs	88.5	93.6	53.6	35.1
Language/cultural barriers	82.2	86.8	53.4	42.2
Difficulty locating sales prospects	79.1	83.2	55.8	45.2
Foreign regulations	78.0	90.0	51.1	48.3
U.S. regulations	73.4	86.8	45.4	37.8
Foreign sales not sufficiently profitable	72.5	84.4	58.7	46.2
Customs procedures	71.9	87.4	44.6	35.5
Difficulty in receiving or processing payments	67.9	87.9	39.3	41.1
U.S. taxation issues	62.8	80.7	37.4	39.2
Lack of trained staff	62.6	85.7	36.7	46.5
Insufficient IP protection	61.8	71.6	43.6	27.3
Foreign taxation issues	60.4	80.5	36.1	40.6
Preference for local goods/services in foreign market	57.4	81.7	37.8	35.8
Difficulty establishing affiliates in foreign markets	57.2	76.9	29.8	33.8
High tariffs	56.6	81.6	36.8	28.8
Lack of government support programs	56.4	70.3	29.2	29.4
Obtaining financing	51.6	63.8	38.5	31.9
Unable to find foreign partners	50.5	66.6	33.0	36.0
Visa issues	30.1	67.8	34.9	33.5

Source: USITC staff calculation from questionnaire data.

^aThe proportion of firms encountering the impediment was calculated as the ratio of 1-to-5 responses to all responses, including those not encountering the impediment.

Highest-Ranked Impediments

When asked to rank the three most important impediments to trade, there was a wide difference of opinions among firms, with no single impediment ranked as most burdensome by a majority of respondents. Manufacturing SMEs most frequently reported that the most important impediment was “obtaining financing,” “high tariffs,” or “transportation and shipping costs” (table 6.3). Large manufacturing firms reported that the most important impediment was either “foreign regulations” or “preference for local goods or services in a foreign market.” For services SMEs, the greatest concern was “language or cultural barriers” or “foreign sales not sufficiently profitable.” In contrast, large service providers most frequently found the most important impediment to be either “difficulty locating foreign sales prospects” or “foreign regulations.”

Box 6.2 summarizes the results of a member survey by the National Minority Business Council. Similar to SME manufacturers responding to the USITC questionnaire, their top concern was access to capital; government support programs appear to be more important to this group than to firms responding to the Commission’s questionnaire.

TABLE 6.3 Share of respondents to USITC questionnaire ranking a given impediment as the most important

Impediment	Manufacturing				Services			
	SMEs		Large firms		SMEs		Large firms	
	Percent	Rank	Percent	Rank	Percent	Rank	Percent	Rank
Obtaining financing	21.0	1	9.7	3	15.9	3	3.4	13
High tariffs	18.3	2	3.3	10	0.2	15	0.9	19
Transportation/shipping costs	18.3	3	1.1	15	14.9	4	4.5	8
Language/cultural barriers	8.7	4	0.9	16	23.6	1	4.1	10
Difficulty in receiving or processing payments	6.7	5	2.1	14	0.5	12	3.8	11
Difficulty locating sales prospects	5.8	6	7.0	5	3.9	6	27.4	1
Unable to find foreign partner firms	5.3	7	0.6	17	0.2	16	1.4	17
Difficulty establishing affiliates in foreign markets	4.3	8	0.5	19	0.1	17	1.5	16
Foreign regulations	3.6	9	19.3	1	2.4	7	12.0	2
U.S. regulations	2.1	10	5.2	7	1.4	9	5.2	6
Customs procedures	1.9	11	2.1	13	0.2	14	1.0	18
Preference for local goods/services in foreign market	1.3	12	17.6	2	0.5	11	3.6	12
Foreign sales not sufficiently profitable	1.0	13	8.9	4	22.5	2	5.9	4
Lack of trained staff to manage international business activities	0.6	14	3.0	12	0.2	13	5.0	7
U.S. taxation issues	0.3	15	3.1	11	1.8	8	2.6	14
Foreign taxation issues	0.3	16	0.6	18	10.9	5	6.0	3
Insufficient IP protection	0.2	17	4.1	9	0.6	10	1.5	15
Lack of government support programs	0.1	18	6.2	6	0.0	19	5.8	5
Visa issues	0.0	19	4.6	8	0.1	18	4.3	9
Total	100		100		100		100	

Source: Commission calculations from USITC questionnaire data.

Note: Totals may not add due to rounding.

BOX 6.2. Impediments to exporting experienced by minority-owned businesses

To assist the Commission in understanding the particular impediments to exporting faced by minority-owned businesses, the National Minority Business Council (NMBC)^a questioned selected member firms regarding the major impediments that prevent these businesses from reaching their full export potential.^b

The respondent firms represent a wide range of industries, including recycling, industrial chemicals, food ingredients, marine equipment, fasteners, and coffee and tea equipment. Firms exported to a number of countries in Asia, Europe, South America, and Africa. The principal reported impediments to exporting were:

- Access to capital, reported as a major concern by all respondents.
- Increased administrative and marketing costs required to serve the export market.
- Lack of knowledge regarding the existing government assistance programs and available information. In some cases, respondents reported that they were aware of government export assistance programs but were unable to meet the requirements.
- Lack of language skills, particularly for the emerging markets of Asia and South America.
- Maintaining international quality control standards in foreign markets.

This list is quite similar to the impediments cited by non-minority-owned SMEs, as described elsewhere in this study, and in the previous USITC study, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010. However, there is some evidence that small, minority-owned firms find it more difficult to gain access to capital than SMEs in general, as they are more likely to be denied credit, and when bank loans are approved, they receive loans for smaller amounts and at higher interest rates than the average for all firms.^c

^a The NMBC is a nonprofit organization that provides advocacy, education, and technical assistance to enable its members to effectively compete in the global marketplace.

^b A member of the NMBC staff conducted phone interviews and e-mail inquiries. From the total membership of 350 firms, NMBC selected and contacted 56 firms, based on the assumption that they had a product or service that was exportable. Of these, 18 firms responded and 10 indicated that they were engaged in exporting.

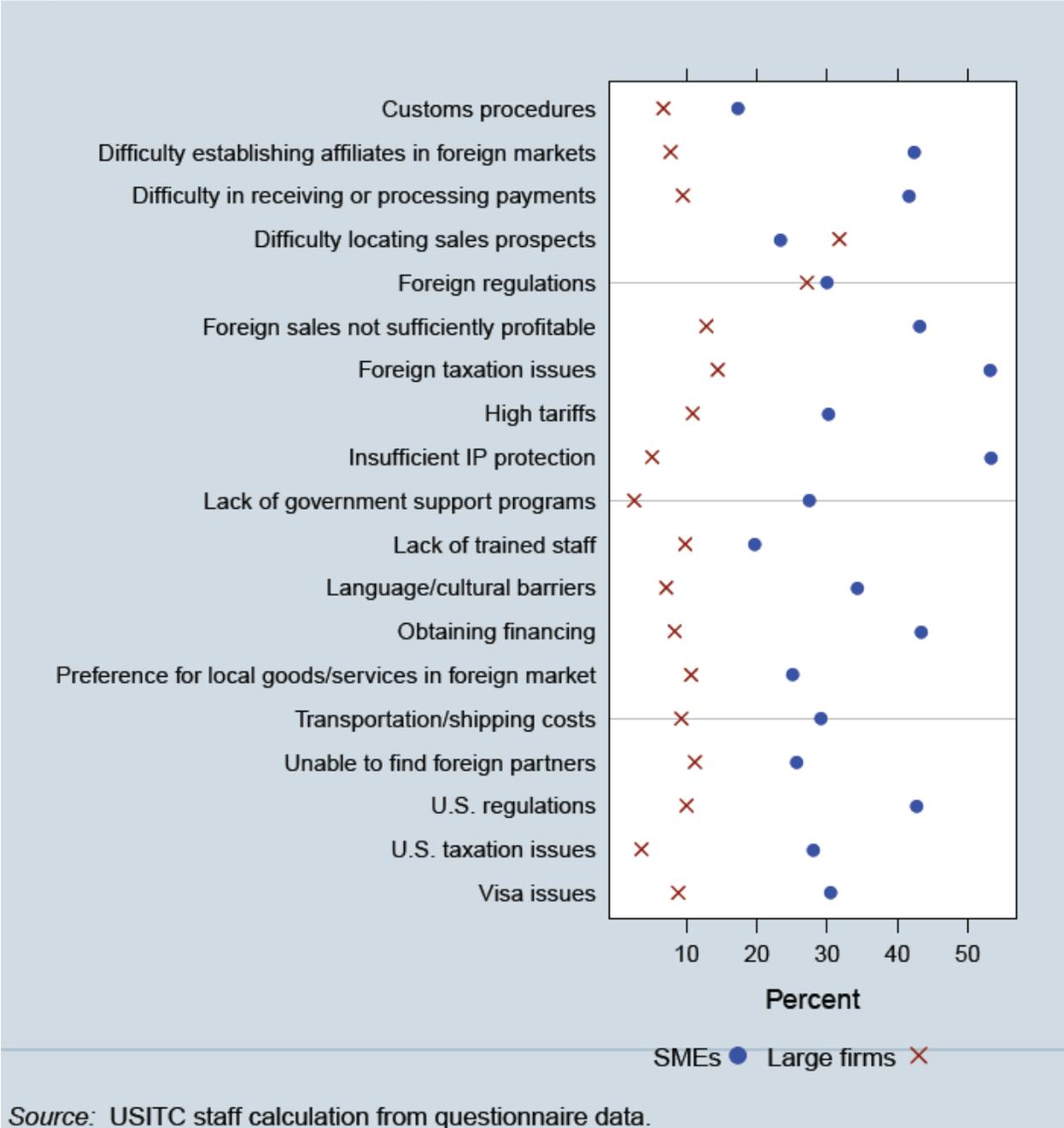
^c Fairlie and Robb, *Disparities in Capital Access between Minority and Non-Minority-Owned Businesses*, January 2010.

Impediments Disproportionately Affecting SMEs

Differences in the ratings of impediments by large firms and SMEs indicated that a number of impediments may disproportionately affect SMEs. The Commission tabulated the proportion of SMEs and large firms by major sector that provided a response of 4 or 5 to each impediment. These high scores indicate that firms consider the impediment to be a major burden. Of the services firms that had encountered the impediment, a higher proportion of SMEs rated each impediment as a 4 or 5 than did large services firms, with one exception (figure 6.1).⁵ A higher proportion of large services firms rated locating sales prospects as a 4 or 5 than did SME service providers. The impediments where SMEs' scores exceeded large firms' scores by the largest amount were "insufficient intellectual property (IP) protection", "foreign taxation," "obtaining financing," "difficulty establishing affiliates in foreign markets," "U.S. regulations," and "foreign sales not sufficiently profitable."

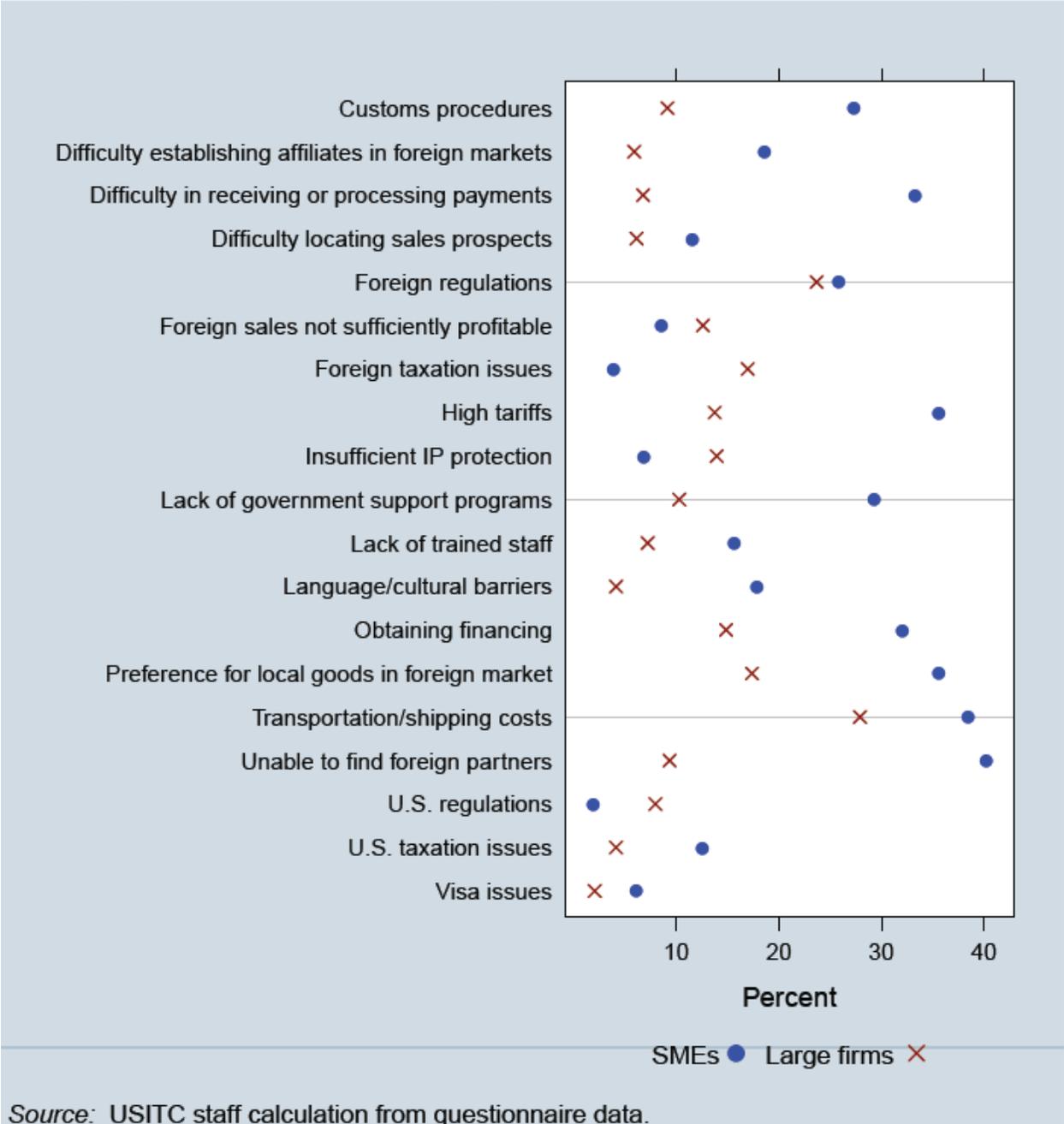
⁵ Tests were carried out to determine if the differences in proportions were statistically significant. For services firms, except for difficulty locating sales (where large firms had a higher proportion of 4–5 responses), SMEs had a statistically significantly higher proportion of 4–5 responses than the larger firms at the 1 percent significance level for each impediment except foreign regulations, which was significant at the 5 percent significance level. Also, a test based on ranks was also carried out, and the scores of SMEs services firms were significantly higher (indicating that they consider the impediment to be burdensome) for all impediments. See appendix G.

FIGURE 6.1 Services: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on a scale of 1–5)



For manufacturing firms that encountered the impediment, SMEs reported disproportionate burdens relative to large firms for all impediments except for “foreign sales not sufficiently profitable,” “foreign taxation,” “insufficient IP protection,” and “U.S. regulations” (figure 6.2). For the remaining 15 impediments, the difference in

FIGURE 6.2 Manufacturing: Shares of SMEs and large firms rating impediments as burdensome (response of 4 or 5 on a scale of 1–5)



Source: USITC staff calculation from questionnaire data.

proportions was fairly large except for “foreign regulations.”⁶ The impediments for which SME scores exceeded those of large firms by the greatest amount were “inability to find foreign partners,” “difficulty in receiving or processing payments,” and “high

⁶ Except for foreign regulations, tests of differences in proportions showed that the proportion of SMEs rating the impediments as a 4 or 5 was significantly greater than that of large firms for 14 out of these 15 impediments at a 1 percent significance level. The SME proportion of 4–5 responses for foreign regulations was greater than that of large manufacturers at the 5 percent significance level.

tariffs.” In general, the differences in proportions between small and large manufacturers were smaller than the similar differences between small and large service providers.

Experience and the Severity of Barriers

The survey indicates that as SMEs export more, their perception of the severity of impediments tends to decline. Newer services SMEs tend to report impediments as more burdensome, export to fewer regions, and export less intensively. Manufacturing SMEs also tend to report impediments as burdensome when they export to only one or two regions; however, the effects of newness to exporting and lack of export intensity have a less pronounced effect on burdens reported by manufacturers.

The data were divided along three experience metrics. The first was age: the scores of firms that have been in business for 15 years or less were compared with those that have been in business more than 15 years. The second was the number of export regions: the firms that exported to only one or two regions were compared with those that exported to three or more. The third was export intensity: the firms that earned less than 10 percent of their total revenue from exports were compared with those that earned more than 10 percent from exports. For each of the 19 impediments to trade, the differences in mean scores between the less and more experienced groups encountering impediments were tested for statistical significance.⁷

Table 6.4 shows that experience, particularly experience exporting to multiple regions of the world, can reduce the perceived severity of policy and business measures. Each column reports a plus (+) where the mean score for inexperienced firms is higher than that for more experienced firms, provided that the difference is statistically significant.

For services SMEs, many barriers are seen as disproportionately more severe by inexperienced firms. For five impediments, for example, younger services firms reported significantly greater impediments than established firms. Similar results hold for services SMEs exporting to relatively few regions; they are more likely to perceive impediments as more severe than services SMEs exporting to multiple regions.

Similarly, SME manufacturers that export to fewer regions view eight impediments as a greater problem than SME manufacturers that export to many regions. Other measures of experience have less effect on the reported burdens for this group, however. Younger SME manufacturers found two impediments (customs and U.S. regulations) more burdensome than their older peers. However, more established firms had greater difficulty in establishing affiliates and finding foreign partners than new firms. Export intensity also had an effect: five impediments are viewed as more burdensome by firms that export less than by those that export more. On the other hand, SMEs with high export earnings reported greater concern in obtaining visas and overcoming customs issues than firms with low export earnings. These results are broadly distributed across impediments. Each impediment is significantly more burdensome for inexperienced SMEs by at least one measure, and most are significant in two or three instances. Only one impediment, difficulty in establishing affiliates, is significant in five cases (one of these being significant in the opposite direction).

⁷ These mean scores are computed by averaging the scores of all firms that reported a score of 1 through 5 for the degree to which a measure was considered an impediment.

TABLE 6.4 SMEs with less experience report greater impediments

Impediment	Manufacturers			Services		
	Age	Markets	Export intensity	Age	Markets	Export intensity
Transportation/shipping costs		+	+		+	
Customs procedures	+				+	
High tariffs					+	
U.S. regulations	+		(-)		+	
Language/cultural barriers						+
Difficulty establishing affiliates in foreign markets	(-)		+	+	+	+
Preference for local goods/services in foreign market		+		+		
Difficulty in receiving or processing payments		+		+		+
Insufficient IP protection					+	+
Foreign regulations		+			+	
Obtaining financing				+	+	
Lack of government support programs		+				
Foreign taxation issues				+		+
Foreign sales not sufficiently profitable		+				+
Difficulty locating sales prospects		+	+			+
Lack of trained staff		+	+			+
Unable to find foreign partner firms	(-)		+		+	
Visa issues			(-)			+
U.S. taxation issues		+			+	
Summary						
Number of measures where less experienced firms reported greater impediments	2	8	5	5	10	9
Number of measures where less experienced firms reported fewer impediments	2	0	2	0	0	0

Source: Staff calculations from questionnaire data.

Note: Statistically significant differences in mean scores were recorded as either a plus (+) or a minus (-) that signify, respectively, a higher impediment level reported by less experienced firms and a lower impediment level reported by less experienced firms.

Tariffs Faced by U.S. Exporters

Tariffs levied on U.S. exports to foreign markets are, on average, moderate, especially compared to total trade costs.⁸ On an export-weighted basis, the average tariff applied against U.S. exports in 2004 was 3.0 percent.⁹ An examination of foreign applied tariffs faced by different U.S. industries finds significant tariff spikes in industries for which SMEs account for a high share of exports, particularly in apparel and certain processed food industries. Also, according to the Commission's survey analysis, SMEs were more likely than larger firms to identify high tariffs as a substantial impediment or as the main impediment to exporting.

Tariffs Faced by Different U.S. Industries

Foreign tariffs affect some domestic industries more than others because rates of duty vary by product, as well as by country. Table 6.5 shows average applied tariff rates by broad industry classification (2-digit NAICS).¹⁰ In general, tariffs are higher for U.S. agricultural commodity exports (industries within NAICS 11), where the trade-weighted average applied tariff was 8.9 percent in 2004, and lower for manufactured and processed agricultural products (industries within NAICS 31–33), where the average applied rate was 2.9 percent in 2004.

Detailed information on exports by firm size and 4-digit NAICS codes for the manufacturing and food manufacturing sector was combined with applied tariff information to calculate trade-weighted average tariffs for SMEs versus large firms. As table 6.5 shows, about 90 percent of traded goods fell within this broad sector in 2004.¹¹ The average applied tariff rate for SMEs is calculated at 3.4 percent, while the similar measure for large firms is 2.4 percent. Both are moderate tariff levels. Yet, the extra percentage point means that SMEs face an average tariff rate that is 41 percent higher than that for large firms on the mix of goods that SMEs export.

Figure 6.3 provides a closer look at the relationship between tariff levels and SME exports. The horizontal axis shows the share of SME exports by value, and the vertical axis shows the trade-weighted average applied tariff for each manufacturing and food manufacturing industry. For reference purposes, the graph is divided in four quadrangles by two red lines representing the (simple) averages of both measures. The

⁸ Anderson and van Wincoop, "Trade Costs," 2004.

⁹ Applied tariff-rate data in this section are from the MAcMap Database, which reports consistent ad valorem equivalent tariff duties and tariff-rate quotas at the HS six-digit product level. The Commission analyzed a subset of 864,000 records for the United States that covers 169 trading partners and 5,113 HS 6-digit product categories. For a description of the database, see Buoët et al., "Assessing Applied Protection across the World," 2008. Although MAcMapHS6-v2 is being updated, the latest data currently available are from 2004.

¹⁰ Trade-weighted average tariff is a common measure of protection and is used in the analysis in this section. It uses trade flows (i.e., exports) as weights to account for the relative importance of the different goods in summarizing the data. Yet, to the extent that tariffs significantly disrupt export flows, it may understate actual tariff protection. For example, prohibitive tariffs that block any trade would not be reflected in such an average.

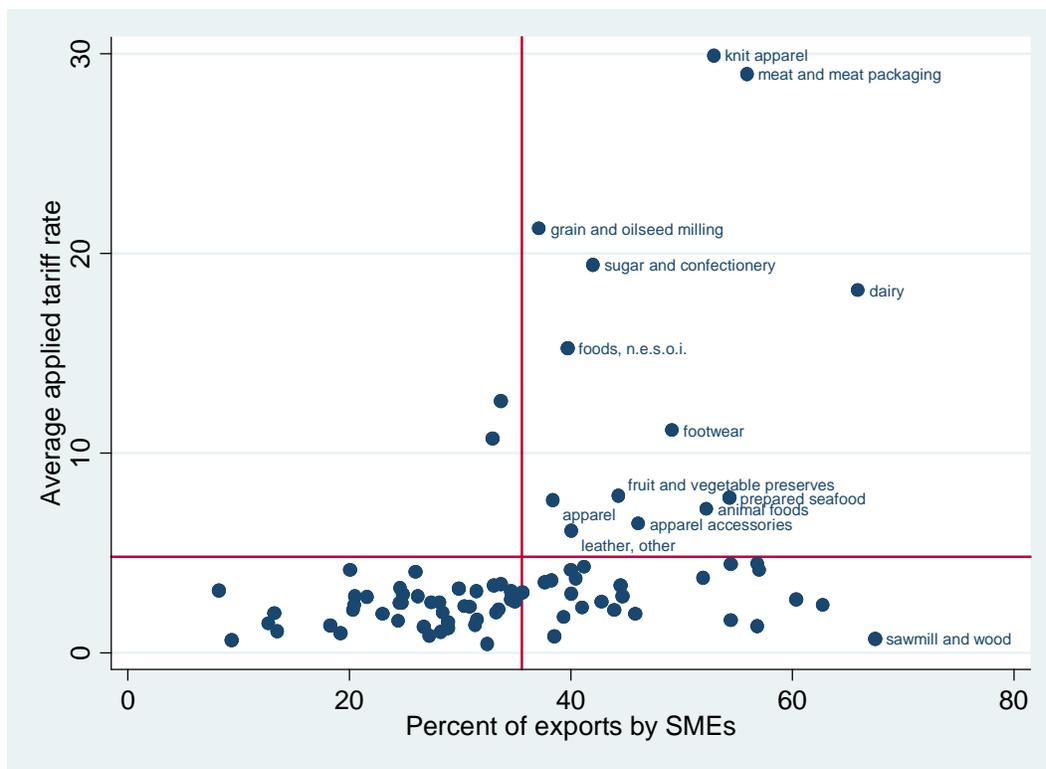
¹¹ Trade data by firm size and manufacturing and food manufacturing NAICS code is from Census. Comparable export data for agriculture or mining were not available.

TABLE 6.5 Tariff rates applied to U.S. exports, 2004

	Percent of HS6 products	Applied tariff rate
All HS6 products	100.0	3.0
Aggregated by sector:		
Agriculture, forestry, fishing and hunting (NAICS 11)	7.1	8.9
Mining (NAICS 21)	1.5	0.6
Manufacturing and food manufacturing (NAICS 31-33)	90.1	2.9
Other (NAICS 91, 92, 99)	1.3	1.7

Source: USITC staff calculation from MAcMaps data.

FIGURE 6.3 Manufacturing and food processing SME export participation and applied tariffs by 4-digit NAICS codes



Source: USITC staff calculation from MAcMap data and Census trade data.

red vertical line indicates that, on average, SMEs supply 35.6 percent of sectoral exports.¹² The horizontal red line at 4.8 percent is the simple average applied tariff across products.¹³

¹² USITC, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, January 2010, reports similar participation statistics.

¹³ The 4.8 percent average tariff in figure 6.3 is the simple average of the trade-weighted average tariffs for manufacturing and food manufacturing at the 4-digit NAICS. The trade-weighted average applied tariff of 3 percent in table 6.5 is the trade-weighted average tariff over the entire manufacturing and food processing sector.

The figure suggests a positive association between both measures: SMEs tend to export higher shares of exports in industries with higher tariffs. In particular, the upper right quadrangle shows industries in which SME export participation is higher than average and the applied tariff rate is also above average. While an ad valorem tariff may affect large and small firms within an industry proportionately, significant tariff spikes occur in industries for which SMEs account for a high share of exports, such as apparel and certain processed foods. This finding helps explain the differing tariff burden by SMEs versus large firms reported above. Not all sectors in which SMEs are important exporters, however, face high tariffs. As figure 6.3 shows, sawmill and wood products provide a case in which SMEs supply a large majority of exports (67.5 percent), yet the applied tariff is low (0.7 percent).

Firms' Perceptions of Foreign Tariff Barriers

This section reports firms' assessments of the severity of tariff barriers based on the previously discussed 1-to-5 scale from the firm questionnaire. High tariffs were reported to be a problem for about half of exporting firms in the manufacturing sector (both small and large). Despite the fact that tariff rates are typically proportional to exports and could be expected to affect firms in the same export sector proportionally, SMEs identified tariffs more often as a substantial impediment—or as the main one—than large firms did.

Table 6.6 shows responses to the high tariff impediment question by firm size, both for all surveyed firms and manufacturing firms only. Tariff effects are, not surprisingly, larger for manufacturing firms. Because tariff duties at the border are not relevant for trade in services, the discussion below focuses on the responses by manufacturing firms (last two columns in table 6.6).¹⁴

When asked about high tariffs, 46.4 percent of manufacturing SMEs that export or that have considered exporting identified high tariffs as causing some impediment (a score of 2 or higher in the scale). About half of those SMEs (20.1 percent) reported high tariffs as more than a moderate impediment (a score of 4 or higher). On the other hand, only 11.0 percent of large manufacturing firms that export or that have considered exporting identified high tariffs as more than a moderate impediment. In a separate question, firms were asked to identify their top impediments. About 1 out of 5 export-oriented manufacturing SMEs (18.3 percent) classified tariffs as the most important impediment that they face, compared to only 3.4 percent of large manufacturing firms. Again, this indicates that tariffs are relatively more burdensome to SMEs than to larger firms.

To put the tariff burden into perspective, table 6.6 also shows responses for another impediment, transport costs. In general, firms cited transport costs as an impediment

¹⁴ Firms are classified as manufacturing or services based on their main activity. Yet some services firms could export goods, as well.

TABLE 6.6 Percentage of exporting firms and firms considering exporting that identified high tariffs as a barrier

	All firms		Manufacturing firms only	
	Large firms	SMEs	Large firms	SMEs
Tariffs:				
Some impediment	30.9	30.9	55.9	46.4
More than moderate impediment	6.2	14.0	11.0	20.1
The top impediment	2.3	7.2	3.4	18.3
Transport costs:				
Some impediment	43.0	56.8	77.0	76.6
More than moderate impediment	12.3	21.4	25.9	34.0
The top impediment	11.3	16.2	17.9	18.3

Source: USITC staff calculation from questionnaire data.

more often than they did high tariffs. This is consistent both with evidence that shows that tariffs are, on average, small, and with customs data that suggest that transportation costs are at least as large as tariffs.¹⁵

Nontariff Measures

Nontariff measures (NTMs)—defined here as foreign policy measures other than tariffs that may impede imports by other countries—were a hindrance to exports for a substantial share of the firms surveyed.¹⁶ These NTMs are a subset of those discussed at length in the first section of this chapter and are analyzed here in greater detail.

Eight of the 19 surveyed impediments pertained at least partly to foreign NTMs:¹⁷ (1) customs procedures, (2) difficulty establishing affiliates in foreign markets, (3) difficulty in receiving or processing payments, (4) foreign regulations, (5) foreign taxation issues, (6) insufficient IP protection, (7) unable to find foreign partner firm, and (8) visa issues. A large share of firms reported foreign regulations to be at least some hindrance to exporting. On the other hand, visa issues and an inability to find foreign partner firms were considered less of a burden by the majority of firms surveyed. These results were largely consistent across firm size (table 6.7). Differences linked to firm size arose in the perception of a measure’s severity; a greater share of SMEs than large firms reported most of these NTMs to be more than moderate.

Table 6.7 displays the details of firms’ perceptions about the NTMs that they face. Two measures are used: the column labeled “some burden” reports the share of firms that gave a particular impediment a score greater than 1 (where 1 indicates “not a problem”).¹⁸ The second measure, labeled “major burden,” computes the share of firms that gave the impediment a score of 4 or greater. The percentages of each are taken over all respondents to the question, including those indicating “not encountered.”

¹⁵ Hummels, “Transportation Costs and International Trade in the Second Era of Globalization,” 2007.

¹⁶ UNCTAD’s Multi-Agency Support Team, set up to examine issues related to nontariff measures, defines this as follows: “Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.” We extend this definition to include trade in services.

¹⁷ Detailed explanations of each NTM and its foreign policy relevance are laid out in table 6.1.

¹⁸ This measure differs from table 6.2 in that “some burden” excludes scores of 1 (“not a problem”) from the share of firms. The “some burden” measure is also referred to as “a burden” in the text.

TABLE 6.7 Percentage of firms experiencing burdensome NTMs, by size (%)

Nontariff Measure	SMEs		Large firms	
	Some burden	Major burden	Some burden	Major burden
Customs procedures	46	28	39	19
Difficulty establishing affiliates	34	21	28	12
Difficulty in receiving or processing payments	35	29	38	20
Foreign regulations	38	34	51	39
Foreign taxation issues	35	24	41	26
Insufficient IP protection	38	35	28	14
Unable to find foreign partners	23	13	25	9
Visa issues	22	11	20	9

Source: Staff calculations from questionnaire data. The “some burden” measure was calculated as the firms rating the severity of the impediment as a 2 through 5 as a proportion of firms providing any score plus those reporting not encountering the impediment. The “major burden” measures was similarly calculated, but based on a score of 4 or 5.

No NTM is considered a “major burden” (a score of 4 or more) by more than half of respondents. Even at the lower threshold of a score of 2 or greater, only one NTM (foreign regulation by large firms) was perceived to be a burden by the majority of respondents. By contrast, two NTMs—visa issues and the inability to find foreign partners—were rated as a burden (a score of 2 or more) by a quarter of respondents or less, for both SMEs and large firms.

SMEs are somewhat more likely to view an NTM as a major burden. Of the eight NTMs, six were considered to be a major burden by a higher share of SMEs than large firms (the exceptions were foreign regulations and foreign taxation). Moreover, nearly all SMEs that rated foreign regulations and poor IP protection as a burden found them to be a major burden: 38 percent of respondents considered foreign regulations some burden, and 89 percent of those (34 percent of total respondents) found them to be a major burden; similarly 38 percent found inadequate IP protection to be a burden, and 92 percent of those found it to be a major burden. By contrast, out of the 51 percent of large firms that saw foreign regulations as a burden, far fewer (76 percent) of these found it to be a major burden; this ratio was even lower for other NTMs.

Table 6.8 provides the same analysis as above, but contrasts manufacturing firms with services firms. Again, there are relatively few measures that are considered a burden by the majority of firms. A majority of SME manufacturers considered customs procedures and difficulties establishing a foreign affiliate to be a burden. A majority of large manufacturers considered customs procedures, difficulty receiving and processing payments, foreign regulations, and foreign taxation issues to be a burden. No measure is considered to be some burden by a majority of services firms, whether large or SME.

By contrast, many NTMs were considered to be a burden by less than 25 percent of a particular group. Visa issues were considered a burden by less than 25 percent of firms in each of the four categories. Further, relatively few services firms (large or SME) considered the “inability to find a foreign partner” or “difficulty establishing an affiliate” to be a burden. Large services firms as a group also did not consider customs procedures to be a burden.

TABLE 6.8 Percentage of firms experiencing burdensome NTMs, by sector and size (%)

Nontariff Measure	Manufacturing				Services			
	SME		Large firms		SME		Large firms	
	Some burden	Major burden	Some burden	Major burden	Some burden	Major burden	Some burden	Major burden
Customs procedures	62	47	65	30	39	18	22	11
Difficulty establishing affiliates	52	21	42	17	24	21	19	8
Difficulty in receiving or processing payments	41	34	55	29	32	26	27	14
Foreign regulations	35	28	71	50	39	37	39	32
Foreign taxation issues	44	23	60	36	30	25	28	19
Insufficient IPR protection	39	36	44	24	37	35	17	7
Unable to find foreign partners	31	12	31	16	19	13	22	5
Visa issues	20	3	21	7	23	14	19	10

Source: Staff calculations from questionnaire data.

The measures noted as being a burden by a large share of firms vary, by both size and sector. Foreign regulations were considered to be a burden by more firms in each group (aside from SME manufacturers) than any other NTM. For SME manufacturers, a larger share of SME manufacturers considered customs procedures to be a burden than other impediments they face. The inability to find foreign partners and visa issues are, as in the more aggregate results of table 6.7, less important impediments.

Placing these impediments in the context of other impediments (business and domestic policy impediments), large firms both in the manufacturing and the services sectors considered foreign regulations to be the most significant impediment to exports overall. For SMEs, however, other types of impediments are considered more important: table 6.2 shows that the NTM encountered by the largest share of firms only ranked fourth according to that measure; for SME services firms, the most encountered NTM is only the fifth most encountered overall.

Finally, firms were invited to write in other barriers that were not covered in the list of 19 impediments. There were 156 write-in responses, of which 65 percent were from SMEs. Large firms commented extensively on various foreign regulatory constraints (47 percent of their comments). These included comments on exchange rates and on the lack of uniformity or harmonization of standards and regulations surrounding the establishment of an affiliate. SMEs were more concerned about business barriers (44 percent of SMEs' comments), including high relative costs of U.S. labor and materials, slow foreign acceptance of new technology, and credit insurance. A substantial share of SMEs comments (13 percent of all written responses) noted exchange rates as a concern.

Examination of Specific NTMs

This section examines some specific NTMs that affect SMEs in the manufacturing and services sectors. Standards and certification requirements can have large effects on manufacturing SMEs, and nationality restrictions, licensing, and commercial presence requirements affect services SMEs. These NTMs primarily affect exports rather than sales by foreign affiliates. As discussed in chapter 4, large firms tend to establish foreign affiliates, whereas SMEs tend to export directly; thus, SMEs are more likely to be adversely affected by many of these NTMs than large firms. The information for this section comes primarily from field work and secondary sources. It also includes two

boxes: one discusses special issues faced by agricultural SMEs (box 6.3); the other, Export-Import Bank programs for SMEs, appears later (box 6.4).

NTMs Facing SME Manufacturers

A number of impediments disproportionately affect SME manufacturing exporters because SMEs often lack the capital and staff to cope with complexities required for exporting. For example, several SMEs interviewed by Commission staff stated that a single person handled domestic and foreign regulatory compliance issues in addition to other responsibilities.¹⁹ Many NTMs that affect SME manufacturers concern standards, testing, and certification.

The EU Regulation for the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), implemented on June 1, 2007, is a major regulatory impediment for many exporters to the EU.²⁰ REACH disproportionately affects SME exporters in that companies lack the staff and funds available to large companies for compliance. The regulation mandates that EU manufacturers and importers register all substances in their products, if they are equal to or greater than one metric ton per year. Besides chemicals, the regulation covers substances used in industrial processes and consumer goods, such as cleaning products, paints, textiles and apparel, furniture, and electrical appliances. The registration process for firms is complex and costly. For example, one firm estimated total registration costs at up to \$1 million per product.²¹ Thus, the high cost of REACH compliance can force SMEs not to export to the EU.

Canada, China, Japan, Switzerland, Taiwan, and Turkey are developing regulations similar to REACH.²² However, SME exporters participating in the Commission investigations did not note other substance regulations as having a significant negative effect on exports.

Exporters of medical devices frequently encounter complex regulations and lengthy approval times that require extensive test data. Many countries (Australia, Canada, China, certain EU member states, Japan, and the United States) have adopted medical device approval procedures that require producers to implement a quality management system based on International Standard Organization standard 13485 (ISO 13485). A firm must pay various fees and related charges to gain accreditation, and additional annual fees and inspections may be necessary to maintain accreditation.²³ Many SME exporters cannot tie up financial resources for long periods to gain approval in multiple markets. One SME exporter of such equipment stated that many SME medical device exporters seek to generate revenues quickly and therefore pursue regulatory approvals in markets with

¹⁹ Industry representatives, interviews by USITC staff, Raleigh, NC, February 26, 2010, and Boston, MA, March 2, 2010.

²⁰ For a more detailed information about REACH, see European Chemicals Agency Helsinki, "About Reach," (accessed June 25, 2010); European Commission, Enterprise and Industry, Chemicals, "REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals," (accessed June 25, 2010).

²¹ Industry representatives, interviews by USITC staff, January–March, 2010; USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010, 4-19.

²² Banerjee, "REACH-Like Regulations Enacted Globally: A Regulatory World Tour," *ICIS Chemical Business*, May 26, 2010 (accessed June 25, 2010).

²³ USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010, 4-30.

BOX 6.3 Foreign barriers to SME agricultural exports^a

Foreign trade barriers that affect U.S. agricultural SMEs include NTMs, such as sanitary and phytosanitary (SPS) measures, and tariffs. Although these barriers affect all agricultural exporters, they can have a disproportionate effect on SMEs, primarily because many NTMs are fixed-cost charges that SMEs cannot spread over large export volumes. Moreover, agricultural SMEs generally compete on quality and other factors in addition to price, and generally export higher-value products in relatively low volumes compared to large exporters. These factors limit their ability to supply large-scale foreign purchasers, including supermarket and other large outlets.

Most U.S. agricultural exporters are large, highly efficient, low-cost suppliers that export high volumes of minimally processed bulk commodities such as soybeans, corn, wheat, cotton, poultry, and beef. In contrast, while SMEs account for a small share of total agricultural exports, they are concentrated in higher-value specialty products (e.g., certain horticultural products, including fruits, vegetables, and nuts), and certain specialty branded products (e.g., wine). U.S. agricultural SMEs generally compete in international export markets on factors such as branding, quality, variety, and customer service, which may not be improved through economies of scale.

Scale of production is a major reason NTMs may disproportionately affect SMEs. For example, SPS measures can take the form of laboratory analyses to determine if the product is consistent with its label, or does not contain prohibited additives or chemicals.^b In practice, the same number of certification documents may be required for a small container shipment as is required for very large shipments.^c Thus, complying with foreign standards can be prohibitively costly for small-volume SMEs.

This problem is compounded by the large number and variety of compliance regulations such as quality, health, and labeling standards that can vary substantially from product to product and from country to country and often differ markedly from international standards.^d It may be feasible for large producers that export large volumes to absorb the cost of producing to a variety of foreign standards, but this is typically too costly for small-scale SME producers.

^a This text box refers to barriers facing nonfarm agricultural SMEs that are direct exporters. See chapter 5 for a discussion of farmers as indirect SME agricultural exporters.

^b Certain markets (including the United States) allow self-certification, but others require third-party certification, which can be costly. Industry representative, telephone interview by USITC staff, February 11, 2010; industry representative, interview by USITC staff, Washington, DC, February 4, 2010.

^c Industry representative, interview by USITC staff, February 4, 2010.

^d Many international standards are set by the Codex Alimentarius, an international body established by the Food and Agriculture Organization and World Health Organization to protect consumer health and coordinate international food standards; USITC, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, 2010, 4-4.

shorter approval costs can limit the number of markets in which SMEs seek to export.²⁴ One SME exporter stopped its efforts to export to Brazil and Russia because of the high costs and lack of transparency in those markets.²⁵ In contrast, large firms are more likely to have the financial resources to fund lengthy medical device registration in foreign markets, as well as staff to direct the process.

Other complex standards are also a barrier to SME exporters. One SME exporter stated in response to the Commission questionnaire that the EU safety and regulatory specifications for electrical products are very expensive and time-consuming, with requirements that are not found in U.S. standards. Another SME exporter noted in response to the Commission questionnaire that its exports were limited to only those

²⁴ USITC, hearing transcript, March 12, 2010, 140–143 (testimony of Grant Ramaley, Aseptico, Inc.).

²⁵ Merat Bagha, Tiba Medical, Inc., written submission to the USITC, March 26, 2010.

countries where U.S. National Electrical Code standards were used, as its product is only made to those standards; thus its export volume and opportunities are low.

Barriers to Foreign Markets in Services Industries

SMEs in the services sector face a variety of barriers and obstacles in foreign markets, including limited knowledge of foreign markets, insufficient access to trade finance (box 6.4),²⁶ and IP violations.²⁷ In addition to these factors, burdensome or discriminatory government regulations in many foreign markets present barriers to the exports of services SMEs, similar to the regulations discussed above that affect manufacturers. Some such regulations, including nationality and licensing requirements, discriminate against U.S. services SMEs by placing restrictions on the individual providing a service.²⁸ In other cases, foreign regulations discriminate against SMEs by placing restrictions on a service itself, such as screen quotas in the audiovisual industry. Such regulations have the potential to affect the operations of U.S. services SMEs by increasing costs or introducing delays, or by completely prohibiting the delivery of services. Moreover, the very process of complying with some foreign government regulations can place a disproportionate burden on services SMEs, which may lack the staff, expertise, or financial resources to dedicate to foreign compliance.

Residency and nationality restrictions

Many countries maintain nationality or residency requirements that apply to hiring and employment practices across a broad range of service providers. To the extent that such requirements interfere with the cross-border delivery of services—the primary means by which small companies operate internationally²⁹—they have the potential to disproportionately affect the operations of SME service providers. Impediments that restrict the cross-border delivery of services are particularly an issue for the providers of

²⁶ Box 6.4 describes products offered by the Export-Import Bank to help services SMEs overcome financial impediments.

²⁷ For more information on barriers facing SME firms in the services sector, see chapter 3 of USITC *Small and Medium-Sized Enterprises: U.S. and EU Export Activities*, July 2010. Chapter 4 of this report also features case studies focusing on the challenges facing companies in the computer services and professional services industries.

²⁸ Census, 2007 Economic Census. This particularly affects professional services such as architecture and engineering (A&E) services, where SMEs accounted for 52 percent of total U.S. A&E exports in 2007, or legal services, where SMEs accounted for 44 percent of total legal services exports during the same year.

²⁹ See Chapter 4 for further discussion.

BOX 6.4 Export-Import Bank trade finance products for SME services companies

Of the programs and products offered by the Export-Import Bank of the United States (Ex-Im Bank), SME services firms mainly use two short-term products: export credit insurance and working capital guarantees.^a Export credit insurance is a financial product that protects exporters from the risk of nonpayment by foreign customers. Such insurance typically covers commercial risks like bankruptcy as well as certain political risks, including war and currency inconvertibility. Export credit insurance benefits small U.S. services firms by allowing them to extend credit to foreign customers and/or offer more liberal credit terms, key competitive advantages in tender competitions that allow U.S. SMEs to successfully bid against foreign services suppliers.^b Such insurance also helps U.S. SME services firms to increase sales abroad by eliminating the need for buyers/importers to pay fees associated with letters of credit.^c By contrast, working capital guarantees facilitate SMEs' access to finance by insuring lenders that extend short-term loans to SME services firms. Such loans are subsequently used to purchase inventory and/or pay for labor and overhead used in the provision of services abroad.^d

In 2009, the Ex-Im Bank provided direct loans, loan guarantees, and export credit insurance that ultimately supported \$1.0 billion in exports by SME businesses in the services sector. Of this total, working capital guarantees and short-term export credit insurance accounted for \$213 million and \$25 million, respectively. The remaining \$777 million represented SME services exports associated with large, complex projects supported by medium- to long-term loans, medium- and long-term loan guarantees, and medium-term insurance products. In terms of industry coverage, the exports of SME firms were spread across a large number of sectors, including oil and gas drilling services (\$528 million), engineering and consulting services (\$200 million), rental and leasing services (\$173 million), information technology and telecommunication services (\$86 million), transportation services (\$19 million), legal and banking services (\$2 million), and medical services (\$2 million).^e

^a USITC, hearing transcript, March 18, 2010 (testimony of Dianne Farrell, Ex-Im Bank); Ex-Im Bank representatives, interview with Commission staff, July 21, 2010.

^b Ex-Im Bank Web site, <http://www.exim.gov/smallbiz/index.html>; Small Business Administration, "Export Credit Insurance," January 2009.

^c Bank of America Merrill Lynch, *Bank of America Solutions for Exporters*, 2009, 106; CreditManagementWorld.com Web site,

<http://www.creditmanagementworld.com/letterofcredit/lcinternationallocfees.html>. In many international transactions, the foreign buyer/purchaser pays some, if not all, fees charged in connection with a letter of credit (LOC). Common LOC fees include, *inter alia*, advising fees, confirmation fees, negotiation fees, payment fees, discrepancy fees, and bank reimbursement charges as well as telecommunication, courier, and postage fees.

^d Ex-Im Bank Web site, <http://www.exim.gov/smallbiz/index.html>; Ex-Im Bank representatives, interview by USITC staff, July 21, 2010.

^e Ex-Im Bank, spreadsheet attachment to e-mail sent to Commission staff, July 29, 2010. In addition, exports in an "other services" category totaled \$5 million.

professional services, which often have to send employees abroad to perform contracted services. In Malaysia, for example, foreign engineers cannot work on building projects unless the hiring company demonstrates to the Malaysian Board of Engineers that a Malaysian engineer cannot perform the required engineering work. Once authorized, foreign engineers are allowed to work in Malaysia only for the duration of the specific project for which they were hired.³⁰

In Thailand, the Alien Occupation Act lists architecture and engineering services among occupations that are reserved for Thai nationals.³¹ In the Bahamas, applicants for a license to practice architecture must be permanent residents of the Bahamas and must possess a permanent resident certificate permitting gainful employment. Applicants must

³⁰ U.S. Trade Representative, *2010 National Trade Estimate Report on Foreign Trade Barriers*, 2010.

³¹ U.S. Department of Commerce, International Trade Administration, "Country Commercial Guide: Thailand," February 18, 2008, 64.

also demonstrate that they have previously worked in the Bahamas in architectural practice for not less than six months.³²

In some countries, the practice of certain professions, including mandatory membership in professional organizations/associations, is restricted to citizens or residents. In the Philippines, for example, the practice of most licensed professions is reserved by law for Philippine citizens.³³ In Morocco, foreign architects are not allowed to register with the National Association of Architects, a mandatory requirement for practicing architecture in Morocco.³⁴ In Malaysia, too, citizenship or permanent residency is required to register with the Malaysian Institute of Accountants.³⁵

Licensing and authorization requirements

In many countries, the practice of certain professions requires service providers to obtain a license or other form of authorization. In some cases, complex procedures to obtain needed licenses can place a disproportionate burden on SMEs, which may not have the staff, technical expertise, or financial resources to uncover and comply with such procedures.³⁶ Licensing issues are particularly prevalent in the architectural and legal services fields. Many countries, for example, require foreign architects to obtain a license or other approval before working on domestic projects, with typical requirements including a degree from a recognized school of architecture, several years of experience, and passage of a professional exam. In Canada, for example, architects are required to obtain a Canadian Architectural Certification Board Certificate recognizing a degree from an accredited Canadian university architecture program, with degrees from outside Canada subject to equivalence approval. Architects are also required to have 5,600 hours of approved experience and pass the Architect Registration Exam.³⁷

In Peru, to practice architecture, both domestic and foreign architects must be members of the Colegio de Arquitectos del Peru (CAP), a professional architect's society that also performs a licensing function. In some cases, CAP membership criteria impose a heavy burden on foreign architects. A key criterion is a degree from a Peruvian university, or from a foreign university that has a bilateral agreement with a Peruvian university.³⁸ Architects with a degree that does not comply must go through a lengthy process with multiple approvals to have their degree revalidated, a process that requires burdensome notary and translation procedures, coursework evaluations, interviews, and other steps.³⁹ In Japan, to practice architecture as a *Kenchikushi*,⁴⁰ foreign architects are required to take a *Kenchikushi* test as well as obtain approval of (pretranslated) educational and

³² Perkins, *International Practice for Architects*, 2008, 79.

³³ U.S. Trade Representative, *2010 National Trade Estimate Report on Foreign Trade Barriers*, 2010.

³⁴ Perkins, *International Practice for Architects*, 2008, 189.

³⁵ U.S. Trade Representative, *2010 National Trade Estimate Report of Foreign Trade Barriers*, 2010.

³⁶ Industry representative, interview with Commission staff, June 28, 2010.

³⁷ Perkins, *International Practice for Architects*, 2008, 65.

³⁸ Perkins, *International Practice for Architects*, 2008, 65.

³⁹ Perkins, *International Practice for Architects*, 2008, 108.

⁴⁰ The Japan Architectural Education and Information Center Web site. <http://www.jaeic.or.jp/k-seidozenpan-e.htm>. The qualification of *Kenchikushi* combines the roles of architect and building engineer, allowing individuals to both design buildings and supervise construction.

experience qualifications by the Ministry of Land, Infrastructure, Transport, and Tourism. License issuance, too, is determined on a case-by-case basis.⁴¹

Foreign lawyers face potentially burdensome licensing or conditions of qualification in many countries. In Brazil, a foreign lawyer seeking to become a Foreign Legal Consultant—a designation required of foreign lawyers interested in providing advice on home-country law—must obtain authorization from and registration by the Brazilian Bar Association (OAB), a process that requires extensive documentation detailing home-country legal licenses, home-country bar admission, and proof of Brazilian residency. Applicants are also required to provide evidence of good conduct—an affidavit by three OAB-registered, Brazilian lawyers.⁴² In India, where the domestic legal profession strongly opposes even minimal access to foreign lawyers, the provision of legal services is restricted to natural persons who are both Indian citizens and on the advocates roll in the state where legal services will be provided. Furthermore, to be eligible for enrollment as an advocate, candidates must either be an Indian citizen or a citizen of a country that allows Indian nationals to practice law on a reciprocal basis; hold a degree from a university recognized by the Bar Council of India; and be at least 21 years of age.⁴³

Commercial presence issues

In several countries, laws and regulations restrict or prohibit the establishment of commercial presence by foreign firms, with some such laws directed specifically at SMEs. In the Philippines, the Department of Trade and Industry prohibits the entry of SMEs in the retail sector via prequalification criteria. Specifically, foreign firms wishing to establish a commercial presence in the Philippines must (a) have a net worth of at least \$200 million; (b) have at least five retailing branches or franchises in operation anywhere around the world;⁴⁴ and (c) have been engaged in the retailing business for at least five years. Indonesia also maintains regulations that impair the ability of retail SMEs to establish a commercial presence: mini-markets smaller than 400 square meters, community stores, convenience stores, and other small retailers are closed to foreign investment.⁴⁵

Conversely, laws and regulations that require in-country commercial presence, or specify the exact legal form of such presence, could present problems for SMEs that lack the resources or expertise to set up operations in another country. In Korea, for example, firms or individuals intending to offer architecture services are required to establish a local office.⁴⁶ Similarly, in Bahrain, a commercial presence is required to offer legal and certain other professional services.⁴⁷ In Hong Kong, foreign law firms seeking to practice

⁴¹ The Japan Architectural Education and Information Center. <http://www.jaeic.or.jp/k-seidozenpan-e.htm>; Perkins, *International Practice of Architects*, 2008, 266.

⁴² WTO, *Trade Policy Review: Brazil*, 2009, 142. The approval process is lengthy, with multiple approvals required.

⁴³ WTO, *Trade Policy Review: India*, April 18, 2007, 147.

⁴⁴ Republic Act 8762 of 2000. The Department of Trade and Industry's requirement pertaining to the number of worldwide branches or franchises can be waived if the retailer maintains at least one branch or franchise with a capitalization of at least \$25 million.

⁴⁵ Philippa Dee, "Benchmarking and Assessing Indonesia's Regulation of Services," September 2008, 22. This law also applies to supermarkets smaller than 1200 square meters and department stores smaller than 2000 square meters.

⁴⁶ Republic of Korea, "Business Services: Architectural," 2006.

⁴⁷ U.S.-Bahrain Free Trade Agreement, Schedule of Bahrain, Annex I.

both foreign and domestic law are allowed to do so only by establishing associations with local law firms.⁴⁸

Restrictions on competition

Restrictions on the way services are delivered in many countries could impair the ability of SMEs to export services abroad, often because complying with such restrictions imposes additional administrative burdens and costs. Such restrictions are particularly prevalent in the audiovisual services industry and potentially impose a disproportionate impact on small, independent producers of movie and television content. Of particular concern to small producers are dubbing requirements and various types of quotas applied to foreign film and television content.⁴⁹

Some countries stipulate that film dubbing be performed in-country, requiring film distributors to use local laboratories and language specialists. In-country dubbing requirements increase the expenses (and reduce the scale economies) of small distributors that would otherwise dub for all countries at a central location. France and Spain, among other countries, maintain dubbing requirements.⁵⁰ Similarly, the Catalan regional government in Spain recently proposed regulations requiring films released in more than 15 prints within the region to have 50 percent of such prints dubbed into Catalan. If enacted, such regulations would likely impede the release of independent films there because, depending on the size of the release, independent film producers and their local distributors would find it difficult to recoup the costs of additional dubbing.⁵¹

Screen quotas reduce export opportunities and revenues by lowering the number of slots available for theatrical exhibition and are an important barrier to foreign film and television producers.⁵² They are likely to squeeze out small, independent film producers, as foreign film distributors often prefer to fill their quota with big-budget Hollywood films, assuming that such films will be more profitable.⁵³ In Canada, for example, the Canadian Radio-television and Telecommunications Commission (CRTC) requires Canadian-produced television programming to represent at least 60 percent of total television programming per broadcast day. Similarly, the government of France requires television programming to consist of 60 percent European content, of which 40 percent must be of French origin.⁵⁴ In Poland, too, broadcasters are required to dedicate 33 percent of quarterly broadcasting time to programming originally produced in the Polish language.⁵⁵

⁴⁸ WTO, *Trade Policy Review-Hong Kong, China*, 2006, 102. Foreign law firms may be associated with overseas law firms established in Hong Kong if at least one partner of the Hong Kong firm is also a partner of the overseas firm.

⁴⁹ Independent Film and Television Alliance, written submission to the USITC, March 26, 2010.

⁵⁰ Independent Film and Television Alliance, written submission to the USITC, March 26, 2010.

⁵¹ Industry representative, email message to USITC staff, July 14, 2010.

⁵² Independent Film and Television Alliance, written submission to the USITC, March 26, 2010.

⁵³ Industry representative, e-mail message to USITC staff, August 23, 2010.

⁵⁴ Industry representative, e-mail message to USITC staff, July 14, 2010.

⁵⁵ Industry representative, e-mail message to USITC staff, July 14, 2010.

APPENDIX A
Request Letter

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 9:10
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 Notices

4. Right-of-Way N-51242 for water storage tanks, road, water pipeline, and ancillary facility purposes granted to the City of Fernley, its successors or assigns, pursuant to the Act of October 21, 1976 (43 U.S.C. 1761);

5. Right-of-Way N-58193 for road and buried utility purposes granted to DB Fernley Investments, Ltd, its successors or assigns, pursuant to the Act of October 21, 1976 (43 U.S.C. 1761);

6. Rights-of-Way N-63393 and Nev-060169 for gas pipeline purposes granted to Paiute Pipeline Company, its successors or assigns, pursuant to the Act of February 25, 1920 (30 U.S.C. 185);

7. Right-of-Way N-73706 for communication purposes granted to Nevada Bell, its successors or assigns, pursuant to the Act of October 21, 1976 (43 U.S.C. 1761);

8. Right-of-Way N-75056 for gas pipeline purposes granted to Southwest Gas Corporation, its successors or assigns, pursuant to the Act of February 25, 1920 (30 U.S.C. 185);

9. Right-of-Way N-84710 for gas pipeline purposes granted to DB Fernley Investments, Ltd, its successors or assigns, pursuant to the Act of February 25, 1920 (30 U.S.C. 185). Holders of rights-of-way N-51242, N-58193, N-63393, and N-84710 have submitted applications to exercise term extension and conversion to easement opportunities. The land conveyance will be subject to these modifications.

10. The purchaser/patentee, by accepting patent, agrees to indemnify, defend, and hold the United States harmless from any costs, damages, claims, causes of action, penalties, fines, liabilities, and judgments of any kind arising from the past, present, or future acts or omissions of the patentee, its employees, agents, contractors, or lessees, or a third party arising out of, or in connection with, the patentee's use and/or occupancy of the patented real property. This indemnification and hold harmless agreement includes, but is not limited to, acts and omissions of the patentee, its employees, agents, contractors, or lessees, or third party arising out of or in connection with the use and/or occupancy of the patented real property resulting in:

(a) Violations of Federal, State, and local laws and regulations that are now, or in the future become, applicable to the real property;

(b) Judgments, claims, or demands of any kind assessed against the United States;

(c) Costs, expenses, or damages of any kind incurred by the United States;

(d) Releases or threatened releases of solid or hazardous waste(s) and/or

hazardous substance(s), as defined by Federal or State environmental laws, off, on, into, or under land, property, and other interests of the United States;

(e) Other activities by which solid or hazardous substances or wastes, as defined by Federal and State environmental laws are generated, released, stored, used, or otherwise disposed of on the patented real property, and any cleanup response, remedial action, or other actions related in any manner to said solid or hazardous substances or wastes; or

(f) Natural resource damages as defined by Federal and State law. This covenant shall be construed as running with the patented real property and may be enforced by the United States in a court of competent jurisdiction.

11. Pursuant to the requirements established by Section 120(h) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9620 *et seq.*), as amended by the Superfund Amendments and Reauthorization Act of 1988, (100 Stat. 1670), notice is hereby given that the above-described land has been examined and no evidence was found to indicate that any hazardous substances have been stored for 1 year or more, nor had any hazardous substances been disposed of or released on the subject property.

Encumbrances of record, appearing in the BLM public files for the parcel proposed for sale, are available during normal business hours at the BLM Carson City District Office.

No warranty of any kind, expressed or implied, is given by the United States as to the title, physical condition, or potential uses of the parcel of land proposed for sale, and the conveyance of any such parcel will not be on a contingency basis. It is the buyer's responsibility to be aware of all applicable Federal, State, or local government laws, regulations, or policies that may affect the subject lands or its future uses. It is also the buyer's responsibility to be aware of existing or prospective uses of nearby properties. Any land lacking access from a public road and highway will be conveyed as such, and future access acquisition will be the responsibility of the buyer.

Federal law requires that bidders must be

(1) United States citizens 18 years of age or older;

(2) A corporation subject to the laws of any State or of the United States;

(3) An entity including, but not limited to, associations or partnerships capable of acquiring and owning real

property, or interests therein, under the laws of the State of Nevada; or

(4) A State, State instrumentality, or political subdivision authorized to acquire and own real property.

U.S. citizenship is evidenced by presenting a birth certificate, passport, or naturalization papers. Certification of bidder qualification must accompany the deposit.

Only written comments submitted by postal service or overnight mail will be considered properly filed. Electronic mail, facsimile or telephone comments will not be considered as properly filed.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Any adverse comments regarding the proposed sale will be reviewed by the BLM Nevada State Director, who may sustain, vacate, or modify this realty action. In the absence of any adverse comments, this realty action will become the final determination of the Department of the Interior.

(Authority: 43 CFR 2711)

Linda J. Kelly,

Field Manager, Sierra Front Field Office.

[FR Doc. E9-28721 Filed 11-30-09; 8:45 am]

BILLING CODE 4310-HC-P

INTERNATIONAL TRADE COMMISSION

[Inv. No. 332-509]

Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms

AGENCY: United States International Trade Commission.

ACTION: Institution of investigation and scheduling of hearing.

SUMMARY: Following receipt of a request on October 6, 2009, from the United States Trade Representative (USTR) under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)), the Commission instituted investigation No. 332-509, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms*, for the purpose of preparing the

second in a series of three reports requested by the USTR relating to small and medium-sized enterprises.

DATES:

January 26, 2010: Deadline for filing requests to appear at the public hearing.

January 28, 2010: Deadline for filing pre-hearing briefs and statements.

February 9, 2010: Public hearing (Washington, DC).

February 23, 2010: Deadline for filing post-hearing briefs and statements.

March 26, 2010: Deadline for filing written submissions.

July 6, 2010: Transmittal of Commission report to the USTR.

ADDRESSES: All Commission offices, including the Commission's hearing rooms, are located in the United States International Trade Commission Building, 500 E Street, SW., Washington, DC. All written submissions should be addressed to the Secretary, United States International Trade Commission, 500 E Street, SW., Washington, DC 20436. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://www.usitc.gov/secretary/edis.htm>.

FOR FURTHER INFORMATION CONTACT:

Project Leaders Laura Bloodgood (202-708-4726 or laura.bloodgood@usitc.gov) or Justino De La Cruz (202-205-3252 or justino.delacruz@usitc.gov) for information specific to this investigation. For information on the legal aspects of this investigation, contact William Gearhart of the Commission's Office of the General Counsel (202-205-3091 or william.gearhart@usitc.gov). The media should contact Margaret O'Laughlin, Office of External Relations (202-205-1819 or margaret.olaughlin@usitc.gov). Hearing-impaired individuals may obtain information on this matter by contacting the Commission's TDD terminal at 202-205-1810. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

Background: In his letter the USTR requested that the Commission provide three reports during the next 12 months relating to small and medium-sized enterprises (SMEs). In this notice the Commission is instituting the second of three investigations under section 332(g) for the purpose of preparing the second report, which is to be transmitted to the USTR by July 6, 2010. The Commission published notice of institution of the

first investigation, investigation No. 332-508, in the **Federal Register** of October 28, 2009 (74 FR 55581). As requested, in the second report (investigation No. 332-509) the Commission will:

(1) Assist in analyzing the performance of U.S. SME firms in exporting compared to SMEs exporting in other leading economies. As one way of comparing the performance of U.S. SMEs to those in other countries, the Commission will compare the exporting activity of SMEs in the United States and the European Union (EU), and analyze the distinctions between U.S. and EU firms in terms of sectoral composition, firm characteristics, and exporting behavior.

(2) Identify barriers to exporting noted by U.S. SMEs and strategies used by SMEs to overcome special constraints and reduce trade costs.

(3) Identify the benefits to SMEs from increased export opportunities, including free trade agreements and other trading arrangements.

To best aid the Commission in gathering information for the report, the Commission is seeking information in response to the following questions:

- What are the most significant constraints that U.S. SMEs face in their efforts to export?
- If SMEs have been successful in overcoming those constraints, what strategies have they adopted?
- What particular benefits do SMEs believe they have received from increased export opportunities including those from free trade agreements and other trading arrangements; which trade agreements or other arrangements have been most beneficial?

The USTR requested that the Commission deliver the second report by July 6, 2010. The Commission shortly expects to institute a third investigation, investigation No. 332-510, *Small and Medium-Sized Enterprises:*

Characteristics and Performance, for the purpose of preparing the third report. In that report the Commission will, among other things, examine U.S. SMEs engaged in providing services, including the characteristics of firms that produce tradable services, growth in services exports, and the differences between SME and large services exporters. It will also examine U.S. goods and services exports by SMEs and identify trade barriers that may disproportionately affect SME export performance, as well as possible linkages between exporting and SME performance. In addition, the report will identify how data gaps might be overcome to enhance our understanding of SMEs in service sector

exports. The USTR requested that the Commission transmit this third report by October 6, 2010.

Public Hearing: The Commission will hold a joint public hearing in connection with this investigation and investigation No. 332-510 at the U.S. International Trade Commission Building, 500 E Street, SW., Washington, DC, beginning at 9:30 a.m. on Wednesday, February 9, 2010 (and continuing on February 10, 2010, if needed). Requests to appear at the public hearing should be filed with the Secretary no later than 5:15 p.m., January 26, 2010, in accordance with the requirements in the "Submissions" section below. Persons wishing to appear should indicate in their request to appear whether they plan to provide testimony with respect to investigation No. 332-509, investigation No. 332-510, or both investigations. All pre-hearing briefs and statements should be filed not later than 5:15 p.m., January 28, 2010; and all post-hearing briefs and statements responding to matters raised at the hearing should be filed not later than 5:15 p.m., February 23, 2010. In the event that, as of the close of business on January 26, 2010, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or non-participant may call the Office of the Secretary (202-205-2000) after January 26, 2010, for information concerning whether the hearing will be held. The Commission is also considering holding additional hearings in Portland, Oregon and St. Louis, Missouri. Notice of the time, date, and place of those hearings would be published at a later date.

Written Submissions: In lieu of or in addition to participating in the hearing, interested parties are invited to file written submissions concerning this investigation. All written submissions should be addressed to the Secretary, and all such submissions (other than pre- and post-hearing briefs and statements) should be received not later than 5:15 p.m., March 26, 2010. All written submissions must conform with the provisions of section 201.8 of the Commission's Rules of Practice and Procedure (19 CFR 201.8). Section 201.8 requires that a signed original (or a copy so designated) and fourteen (14) copies of each document be filed. In the event that confidential treatment of a document is requested, at least four (4) additional copies must be filed, in which the confidential information must be deleted (see the following paragraph for further information regarding confidential business information). The Commission's rules

authorize filing submissions with the Secretary by facsimile or electronic means only to the extent permitted by section 201.8 of the rules (see Handbook for Electronic Filing Procedures, http://www.usitc.gov/secretary/fed_reg_notices/rules/documents/handbook_on_electronic_filing.pdf). Persons with questions regarding electronic filing should contact the Office of the Secretary (202–205–2000).

Any submissions that contain confidential business information must also conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the "confidential" or "non-confidential" version, and that the confidential business information be clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available for inspection by interested parties.

In his request letter, the USTR stated that his office intends to make the Commission's reports available to the public in their entirety, and asked that the Commission not include any confidential business information or national security classified information in the reports that the Commission transmits to his office. Any confidential business information received by the Commission in this investigation and used in preparing this report will not be published in a manner that would reveal the operations of the firm supplying the information.

By order of the Commission.

Issued: November 25, 2009.

William R. Bishop,

Acting Secretary to the Commission.

[FR Doc. E9–28764 Filed 11–30–09; 8:45 am]

BILLING CODE P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–644]

In the Matter of Certain Composite Wear Components and Products Containing Same; Notice of Issuance of Limited Exclusion Order and Cease and Desist Order; Termination of Investigation

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: The United States International Trade Commission hereby

provides notice that it has determined to issue a limited exclusion order and cease and desist order and terminate the investigation.

FOR FURTHER INFORMATION CONTACT: Michael K. Haldenstein, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 205–3041. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 205–2000. General information concerning the Commission may also be obtained by accessing its Internet server at <http://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

SUPPLEMENTARY INFORMATION: This investigation was instituted on April 25, 2008, based on a complaint filed by Magotteaux International S/A and Magotteaux, Inc. (collectively, "Magotteaux"). The complaint, as supplemented, alleged violations of section 337 of the Tariff Act of 1930 (19 U.S.C. 1337) in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain composite wear components and products containing the same that infringe claims 12–13 and 16–21 of U.S. Patent No. RE 39,998 ("the '998 patent"). The complaint named Fonderie Acciaierie Rioale S.P.A. ("FAR"), AIA Engineering Ltd., and Vega Industries (collectively, "AIAE Respondents") as respondents. FAR was subsequently terminated from the investigation on the basis of a settlement agreement, leaving the AIAE Respondents as the only remaining respondents.

On May 8, 2009, the ALJ issued an ID finding the AIAE Respondents in default pursuant to Commission Rules 210.16(a)(2) and 210.17, 19 CFR 210.16(a)(2) and 210.17. On July 7, 2009, the Commission determined not to review the ID and indicated that, in addition to the ALJ's finding of violation pursuant to Rule 210.17, the Commission presumes the facts alleged in the complaint to be true with respect to the AIAE Respondents. The Commission also determined to waive Commission Rule 210.42(a)(ii), which,

unless the Commission orders otherwise, requires that the ALJ issue a recommended determination on remedy and bonding in conjunction with any final initial determination concerning violation of section 337. The Commission encouraged the parties to the investigation, interested government agencies, and any other interested parties to file written submissions on the issues of remedy, the public interest, and bonding. The parties to the investigation and the IA filed submissions and response submissions concerning remedy, the public interest, and bonding on July 22, 2009, and July 30, 2009, respectively. No other parties filed submissions.

Having examined the record in this investigation, including the submissions on remedy, the public interest, and bonding and responses thereto, the Commission has determined that the appropriate form of relief is a limited exclusion order and a cease and desist order.

The limited exclusion order prohibits the unlicensed entry for consumption of composite wear components and products containing same that are covered by one or more of claims 12–13 and 16–21 of the '998 patent and that are manufactured abroad by or on behalf of, or are imported by or on behalf of, AIA Engineering Limited or Vega Industries or any of their affiliated companies, parents, subsidiaries, or other related business entities, or their successors or assigns.

The cease and desist order covers products that infringe claims 12–13 and 16–21 of the '998 patent and is directed to defaulting domestic respondent Vega Industries and any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority owned business entities, successors, and assigns.

The Commission has also determined that the public interest factors enumerated in 19 U.S.C. 1337(d) and (f) do not preclude issuance of the aforementioned remedial orders, and that the bond during the Presidential period of review shall be set at 100 percent of the entered value for any covered composite wear components and products containing same.

The authority for the Commission's determinations is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in sections 210.49–210.50 of the Commission's Rules of Practice and Procedure (19 CFR 210.49–210.50).

By order of the Commission.

maximum of five minutes. If reasonable accommodation is required, please contact the BLM's Prineville District at (541) 416-6889 as soon as possible.

FOR FURTHER INFORMATION CONTACT: Christina Lilienthal, Public Affairs Specialist, 3050 NE Third, Prineville, OR 97754, (541) 416-6889 or e-mail: christina_lilienthal@blm.gov.

Dated: January 29, 2010.

Deborah J. Henderson-Norton,

District Manager, Prineville District Office.

[FR Doc. 2010-2426 Filed 2-3-10; 8:45 am]

BILLING CODE 4310-33-P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337-TA-665]

In the Matter of: Certain Semiconductor Integrated Circuits and Products Containing Same; Notice of Commission Determination To Review in Part a Final Initial Determination Finding No Violation of Section 337 and on Review To Take No Position on One Issue; Termination of the Investigation With a Finding of No Violation

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to review in part the final initial determination ("ID") issued by the presiding administrative law judge ("ALJ") on October 14, 2009, finding no violation of section 337 of the Tariff Act of 1930, 19 U.S.C. 1337, in this investigation. On review, the Commission has determined to take no position on one issue, and to terminate this investigation with a finding of no violation.

FOR FURTHER INFORMATION CONTACT: Sidney A. Rosenzweig, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 708-2532. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this investigation may be viewed on the Commission's

electronic docket (EDIS) at <http://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted Inv. No. 337-TA-665 on December 24, 2008, based on a complaint filed by Qimonda AG of Munich, Germany ("Qimonda"). 73 FR 79165 (Dec. 24, 2008). The complaint alleged a violation of section 337 in the importation, sale for importation, and sale within the United States after importation of certain semiconductor integrated circuits and products containing same by reason of infringement of various claims of U.S. Patent Nos. 5,213,670 ("the '670 patent"); 5,646,434 ("the '434 patent"); 5,851,899 ("the '899 patent"); 6,495,918 ("the '918 patent"); 6,593,240 ("the '240 patent"); 6,714,055 ("the '055 patent"); and 6,103,456 ("the '456 patent"). The complaint further alleged that there exists a domestic industry with respect to each of the asserted patents. The complaint named the following respondents: LSI Corporation of Milpitas, California ("LSI"); Seagate Technology of the Cayman Islands; Seagate Technology (US) Holdings Inc. of Scotts Valley, California; Seagate Memory Products (US) Corporation of Scotts Valley, California; and Seagate (US) LLC of Scotts Valley, California (collectively "Seagate"). Qimonda accuses of infringement certain LSI integrated circuits, as well as certain Seagate hard disk drives that contain the accused LSI integrated circuits.

The ALJ conducted an evidentiary hearing from June 1-9, 2009. Prior to the hearing, Qimonda tacitly withdrew three of the asserted patents: The '055 patent, the '240 patent, and the '456 patent. Qimonda did not present evidence regarding those patents at the hearing, and did not include any analysis of those patents in its post-hearing briefing.

On October 14, 2009, the ALJ issued his final ID. The ID formally withdrew the '055 patent, the '240 patent, and the '456 patent from the investigation. The ALJ found that based on his claim constructions, Qimonda had not demonstrated that it practices any of the patents in suit. Accordingly, the ALJ ruled that an industry does not exist in the United States that exploits any of the four remaining asserted patents, as required by 19 U.S.C. 1337(a)(2). The ALJ ruled that certain LSI products infringe certain claims of the '918 patent, but that no accused products infringe any of the other asserted

patents. The ALJ ruled that all of the asserted claims of the '918 patent, and some of the asserted claims of the '434 patent, are invalid under 35 U.S.C. 102, but that the asserted claims of the '670 and '899 patents are not invalid.

On October 27, 2009, Qimonda filed a petition for review of the ID. Qimonda did not petition for review of the ALJ's finding of no violation of section 337 as to the '670 patent. Thus, only three patents—the '434, '899, and '918 patents—remain in suit. On November 5, 2009, the Respondents and IA filed responses to Qimonda's petition.

Having examined the record of this investigation, including the ALJ's final ID, the petition for review, and the responses thereto, the Commission has determined to review the final ID in part. Specifically, the Commission has determined to review and to take no position on whether U.S. Patent No. 6,424,051 to Shinogi anticipates, under 35 U.S.C. 102, any of the asserted claims of the '918 patent. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1422-23 (Fed. Cir. 1984).

The Commission has determined not to review the remainder of the ID. Accordingly, the Commission has terminated this investigation with a finding of no violation.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in sections 210.42-46 of the Commission's Rules of Practice and Procedure (19 CFR 210.42-46).

By order of the Commission.

Issued: January 29, 2010.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. 2010-2319 Filed 2-3-10; 8:45 am]

BILLING CODE 7020-08-P

INTERNATIONAL TRADE COMMISSION

[Inv. No. 332-509; Inv. No. 332-510]

Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms and Small and Medium-Sized Enterprises: Characteristics and Performance

AGENCY: United States International Trade Commission.

ACTION: Notice of time and place of additional public hearings in St. Louis, MO, and Portland, OR, and reaffirming of time and place of Washington, DC hearing.

SUMMARY: The Commission will hold a public hearing on these investigations in St. Louis, MO, beginning at 9:30 a.m. on March 10, 2010 at the Hilton St. Louis at the Ballpark, and in Portland, OR, beginning at 9:30 a.m. on March 12, 2010 at the Holiday Inn Portland Airport. As previously announced, the Commission will also hold a public hearing on these investigations in Courtroom A at the U.S. International Trade Commission Building, 500 E Street, SW., Washington, DC, beginning at 9:30 a.m. on Tuesday, February 9, 2010 (and continuing on February 10, 2010, if needed).

ADDRESSES: All written correspondence should be addressed to the Secretary, United States International Trade Commission, 500 E Street, SW., Washington, DC 20436. The public record for these investigations may be viewed on the Commission's electronic docket (EDIS) at <http://www.usitc.gov/secretary/edis.htm>.

FOR FURTHER INFORMATION CONTACT: Project Leaders Justino De La Cruz (202-205-3252 or justino.delacruz@usitc.gov) or Laura Bloodgood (202-708-4726 or laura.bloodgood@usitc.gov) for information specific to these investigations. For information on the legal aspects of these investigations, contact William Gearhart of the Commission's Office of the General Counsel (202-205-3091 or william.gearhart@usitc.gov). The media should contact Margaret O'Laughlin, Office of External Relations (202-205-1819 or margaret.olaughlin@usitc.gov). Hearing-impaired individuals may obtain information on this matter by contacting the Commission's TDD terminal at 202-205-1810. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

Background Information: The hearings relate to the second and third of a series of three investigations that the Commission is conducting under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) at the request of the United States Trade Representative (USTR). The Commission received the request for the investigations on October 6, 2009. The Commission delivered its report to the USTR on the first investigation, No. 332-508, *Small and Medium-Sized Enterprises: Overview of Participation in U.S. Exports*, on January 12, 2010, and it is available to the public at www.usitc.gov. The

Commission is scheduled to deliver its reports to the USTR on the second and third investigations, investigation No. 332-509, *Small and Medium-Sized Enterprises: U.S. and EU Export Activities, and Barriers and Opportunities Experienced by U.S. Firms*, and investigation No. 332-510, *Small and Medium-Sized Enterprises: Characteristics and Performance*, by July 6, 2010, and October 6, 2010, respectively. Notices announcing institution of the three investigations were published in the **Federal Registers** of October 28, 2009 (74 FR 55581); December 1, 2009 (74 FR 62812); and December 11, 2009 (74 F.R. 65787). The second and third notices also announced the Washington, DC hearing and the intent to hold additional hearings in St. Louis, MO and Portland, OR.

Public Hearings: The times and places of the three hearings and deadlines for filing requests to appear and any pre- or post-hearing briefs or statements or summaries of testimony are as follows: *Washington, DC:*

The hearing will be held in Courtroom A at the U.S. International Trade Commission Building, 500 E Street, SW., Washington, DC, beginning at 9:30 a.m. on Tuesday, February 9, 2010 (and continuing on February 10, 2010, if needed).

January 26, 2010: Deadline for filing requests to appear.

January 28, 2010: Deadline for filing pre-hearing briefs, statements, or summaries of testimony.

February 9, 2010: Public hearing (Washington, DC).

February 10, 2010: Public hearing, second day if needed.

February 23, 2010: Deadline for filing post-hearing briefs or statements.

St. Louis, MO:

The hearing will be held at the Hilton St. Louis at the Ballpark, One South Broadway, St. Louis, MO 63102, beginning at 9:30 a.m. local time on Wednesday, March 10, 2010.

February 24, 2010: Deadline for filing requests to appear.

February 26, 2010: Deadline for filing pre-hearing briefs, statements, or summaries of testimony.

March 10, 2010: Public hearing (St. Louis, MO).

March 26, 2010: Deadline for filing post-hearing briefs or statements.

Portland, OR:

The hearing will be held at the Holiday Inn Portland Airport, 8439 NE Columbia Boulevard, Portland, OR 97220, beginning at 9:30 a.m. local time on Friday, March 12, 2010.

February 26, 2010: Deadline for filing requests to appear.

March 2, 2010: Deadline for filing pre-hearing briefs, statements, or summaries of testimony.

March 12, 2010: Public hearing (Portland, OR).

March 26, 2010: Deadline for filing post-hearing briefs or statements.

The above hearings will be open to the public. Accordingly, persons testifying should not include confidential business information in their testimony. Any person desiring to submit confidential business information to the Commission in these investigations should do so in writing in accordance with the procedures set out in the "Written Submissions" section below.

To assist the Commission in the preparation of the two reports, the Commission is particularly interested in obtaining information and views on the following:

- The most significant constraints that U.S. SMEs face in their efforts to export.
- The strategies that SMEs have adopted to address or overcome those constraints.
- The benefits to SMEs of increased export opportunities from free trade agreements or other trading arrangements.
- The U.S. free trade agreements or other trading arrangements that have been most beneficial to SMEs that export.
- The characteristics of SMEs that export services.
- How exporting affects SME business performance.
- The extent to which U.S. SMEs have global operations.
- How SMEs based in the United States differ in their exporting activities from SMEs based in the European Union and other leading economies.

In the event that as of the close of business on the deadline for filing requests to appear no witnesses have filed requests to appear at a hearing, that hearing will be canceled. Any person interested in attending a hearing as an observer or non-participant may call the Office of the Secretary (202-205-2000) after the deadline for filing requests to appear for information concerning whether that hearing will be held.

Notice of Appearance: Written requests to appear at the Commission hearings must be filed with the Secretary to the Commission in Washington, DC by 5:15 p.m. Eastern Time of the filing deadline for the hearing at which the person wishes to appear. The request, which may be in

the form of a letter and which should be on company or other appropriate stationery, should identify the hearing at which the person wishes to appear, the investigation to which their testimony pertains (it could be both investigations), their name, title, and company or other organizational affiliation (if any), address, telephone number, e-mail address, and industry or main line of business of the company if any they are representing. Requests to appear must be made by post mail or delivered in person (see "ADDRESSES"). The Commission will also accept requests to appear filed by e-mail to SMEhearings@usitc.gov, or through Laura Bloodgood at laura.bloodgood@usitc.gov. The Commission does not accept requests filed by fax.

Pre- and Post-Hearing Briefs And Statements, Summaries: Participants are encouraged to provide a pre-hearing brief or statement or, in lieu thereof, may provide a one-page summary of the testimony they plan to present. Such summaries will be placed in the public record and therefore should not include any confidential business information. Any confidential business information included in a pre-hearing brief or statement should be submitted in accordance with the procedures set forth below under "Written Submissions." Post-hearing briefs and statements would generally be for the purpose of responding to matters raised at the hearing, including questions asked by the Commissioners or testimony presented by other interested parties.

Written Submissions: In lieu of or in addition to participating in the hearing, interested parties are invited to file written submissions concerning these investigations. All written submissions should be addressed to the Secretary to the Commission, and all such submissions (other than pre- and post-hearing statements) should be received not later than 5:15 p.m. Eastern Time, March 26, 2010. One signed original (or a copy so designated) and fourteen (14) copies of each document must be filed. In the event that confidential treatment of a document is requested, at least four (4) additional copies must be filed, in which the confidential information must be deleted (see below for further information regarding confidential business information). Written submissions may be filed by post mail or delivered in person (see ADDRESSES), or filed using the Commission's electronic filing procedure described below.

To use the Commission's electronic filing procedure, filers must first be

registered users of the Commission's Electronic Document Information System (EDIS), accessible from the USITC Web site (<http://www.usitc.gov/secretary/edis.htm>). The Commission's rules for electronic filing are available in its *Handbook on Electronic Filing Procedures* (http://www.usitc.gov/secretary/fed_reg_notices/rules/handbook_on_electronic_filing.pdf). All written submissions must conform with the provisions of section 201.8 of the Commission's Rules of Practice and Procedure (19 CFR 201.8). Persons with questions regarding electronic filing and EDIS should contact the Office of the Secretary (202-205-2000).

Any submissions that contain confidential business information must also conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the "confidential" or "non-confidential" version, and that the confidential business information be clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available for inspection by interested parties.

In his request letter, the USTR stated that his office intends to make the Commission's reports available to the public in their entirety, and asked that the Commission not include any confidential business information or national security classified information in the reports that the Commission transmits to his office. Any confidential business information received by the Commission in these investigations and used in preparing this report will not be published in a manner that would reveal the operations of the firm supplying the information.

By order of the Commission.

Issued: January 29, 2010.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. 2010-2260 Filed 2-3-10; 8:45 am]

BILLING CODE 7020-02-P

DEPARTMENT OF JUSTICE

Notice of Lodging of Modification of Consent Decree Under the Comprehensive Environmental Response, Compensation and Liability Act

Notice is hereby given that on January 28, 2010, a proposed Amended Consent Decree in *United States v. Nassau*

Metals Corporation, Inc., Civil Action No. 3: 96-CV-562, D.J. Ref. 90-11-3-1057A was lodged with the United States District Court for the Middle District of Pennsylvania.

In this action the United States sought reimbursement of response costs incurred in connection with the release or threatened release of hazardous substances at the C&D Recycling Superfund Site, Luzerne County, Pennsylvania (the "Site"). The Consent Decree obligates the Settling Defendant to reimburse \$753,222 of the United States' past response costs paid in connection with the Site, and to pay future response costs to be incurred by the United States at the Site as well.

The Department of Justice will receive for a period of thirty (30) days from the date of this publication comments relating to the Consent Decree. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, and either e-mailed to pubcomment-ees.enrd@usdoj.gov or mailed to P.O. Box 7611, U.S. Department of Justice, Washington, DC 20044-7611, and should refer to *United States v. Nassau Metals Corporation, Inc.*, Civil Action No. 3: 96-CV-562, D.J. Ref. 90-11-3-1057A.

The Consent Decree may be examined at the Office of the United States Attorney, Middle District of Pennsylvania, 228 Walnut Street, Suite 220, Harrisburg, PA 17154, and at U.S. EPA Region 3. During the public comment period, the Consent Decree may also be examined on the following Department of Justice Web site, <http://www.usdoj.gov/enrd/ConsentDecrees.html>. A copy of the Consent Decree may also be obtained by mail from the Consent Decree Library, P.O. Box 7611, U.S. Department of Justice, Washington, DC 20044-7611 or by faxing or e-mailing a request to Tonia Fleetwood (tonia.fleetwood@usdoj.gov), fax no. (202) 514-0097, phone confirmation number (202) 514-1547. In requesting a copy from the Consent Decree Library, please enclose a check in the amount of \$3.50 (@ 25 cents per page reproduction cost) payable to the U.S. Treasury or, if by e-mail or fax, forward a check in that amount to the Consent Decree Library at the stated address.

Maureen Katz,

Assistant Chief, Environmental Enforcement Section, Environment and Natural Resources Division.

[FR Doc. 2010-2261 Filed 2-3-10; 8:45 am]

BILLING CODE 4410-15-P

analysis of impacts on the human environment, which we included in the draft comprehensive conservation plan and environmental assessment (Draft CCP/EA). The CCP will guide us in managing and administering Tensas River NWR for the next 15 years. Alternative C is the foundation for the CCP.

The compatibility determinations for wildlife observation and photography, environmental education and interpretation, fishing, field trials, boating, bottomland hardwood forest management, trapping, all-terrain vehicle use, cooperative farming, research studies, horse/mule special use, and fire management are available in the CCP.

Background

The National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd–668ee) (Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997, requires us to develop a CCP for each national wildlife refuge. The purpose for developing a CCP is to provide refuge managers with a 15-year plan for achieving refuge purposes and contributing toward the mission of the National Wildlife Refuge System, consistent with sound principles of fish and wildlife management, conservation, legal mandates, and our policies. In addition to outlining broad management direction on conserving wildlife and their habitats, CCPs identify wildlife-dependent recreational opportunities available to the public, including opportunities for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. We will review and update the CCP at least every 15 years in accordance with the Administration Act.

Comments

Approximately 200 copies of the Draft CCP/EA were made available for a 30-day public review period as announced in the **Federal Register** on February 4, 2009 (74 FR 6053). Ten respondents, consisting of the Service, the Louisiana Department of Wildlife and Fisheries, the Louisiana Department of Environmental Quality, and local citizens, submitted written comments by mail or e-mail.

Selected Alternative

After considering the comments we received, and based on the professional judgment of the planning team, we selected Alternative C to implement the CCP. The primary focus of the CCP is to optimize the biological potential of

historical habitats by utilizing management actions which emphasize natural ecological processes to foster habitat functions and wildlife populations. We will enhance the biological program by inventorying and monitoring so that adaptive management can be implemented primarily for migratory birds, but other species of wildlife will benefit as well.

We will manage bottomland hardwood forests based on an inventory that defines current conditions and that can be conducted in a logical and feasible manner. Bottomlands will be managed to increase opening of the canopy cover and to increase structural and vegetation diversity. Water control structures and pumping capability will be improved to enhance moist-soil and cropland management for the benefit of wintering waterfowl. Invasive species of plants will be mapped and protocols for control will be established with the addition of a forester. Partnerships will continue to be fostered for several biological programs, hunting regulations, law enforcement issues, and research projects.

Forest management, reforestation, and resource protection at Tensas River NWR will be intensified. We will provide a full-time law enforcement officer, an equipment operator, a maintenance mechanic, and a wildlife technician. We will develop and begin to implement a Cultural Resources Management Plan.

Within 3 years, we will develop a Visitor Services Plan to be used in expanding public use facilities and opportunities on the refuge. This step-down management plan will provide overall long-term direction and guidance in developing and running a larger public use program on the refuge. We will increase opportunities for visitors by improving and/or adding facilities, such as photo blinds, observation sites, and trails, as well as improving access and roads.

The CCP will increase bottomland hardwood forest habitat restoration and management, improve general refuge and visitor center access, meet the recovery goals of the threatened Louisiana black bear, integrate management with regional watershed/ecosystem plans, improve resident and migratory wildlife species quality and abundance, and improve opportunities for wildlife-dependent public use.

Authority

This notice is published under the authority of the National Wildlife Refuge System Improvement Act of 1997, Public Law 105–57.

Dated: July 20, 2009.

Cynthia K. Dohner,

Acting Regional Director.

[FR Doc. E9–29530 Filed 12–10–09; 8:45 am]

BILLING CODE 4310–55–P

INTERNATIONAL TRADE COMMISSION

[Inv. No. 332–510]

Small and Medium-Sized Enterprises: Characteristics and Performance

AGENCY: United States International Trade Commission.

ACTION: Institution of investigation and scheduling of hearing.

SUMMARY: Following receipt of a request on October 6, 2009, from the United States Trade Representative (USTR) under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)), the Commission instituted investigation No. 332–510, *Small and Medium-Sized Enterprises: Characteristics and Performance*, to prepare the third in a series of three reports requested by the USTR relating to small and medium-sized enterprises.

DATES: January 26, 2010: Deadline for filing requests to appear at the public hearing.

January 28, 2010: Deadline for filing pre-hearing briefs and statements.

February 9, 2010: Public hearing (Washington, DC).

February 23, 2010: Deadline for filing post-hearing briefs and statements.

May 28, 2010: Deadline for filing written submissions.

October 6, 2010: Transmittal of Commission report to the USTR.

ADDRESSES: All Commission offices, including the Commission's hearing rooms, are located in the United States International Trade Commission Building, 500 E Street, SW., Washington, DC. All written submissions should be addressed to the Secretary, United States International Trade Commission, 500 E Street, SW., Washington, DC 20436. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://www.usitc.gov/secretary/edis.htm>.

FOR FURTHER INFORMATION CONTACT: Project Leaders Laura Bloodgood (202–708–4726 or laura.bloodgood@usitc.gov) or William Deese (202–205–2626 or william.deese@usitc.gov) for information specific to this investigation. For information on the legal aspects of this investigation, contact William Gearhart of the Commission's Office of the General

Counsel (202-205-3091 or william.gearhart@usitc.gov). The media should contact Margaret O'Laughlin, Office of External Relations (202-205-1819 or margaret.olaughlin@usitc.gov). Hearing-impaired individuals may obtain information on this matter by contacting the Commission's TDD terminal at 202-205-1810. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

Background: In his letter the USTR requested, under the authority of section 332(g) of the Tariff Act of 1930, that the Commission provide three reports during the next 12 months relating to small and medium-sized enterprises (SMEs). In this notice the Commission is instituting the third of three investigations under section 332(g) for the purpose of preparing the third report, which is to be transmitted to the USTR by October 6, 2010. The Commission published notices of institution of the first investigation, investigation No. 332-508, in the **Federal Register** of October 28, 2009 (74 FR 55581) and the second investigation, investigation No. 332-509, in the **Federal Register** of December 1, 2009 (74 FR 62812).

As requested, in the third report the Commission will, to the extent possible:

1. 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;
2. Identify how data gaps might be overcome to further enhance our understanding of SMEs in services sector exports;
3. For both goods and services exports, identify trade barriers (nontariff barriers and tariffs) that may disproportionately affect SME export performance, as well as possible linkages between exporting and SME performance; and
4. 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 USTR requested that the Commission deliver the second report by October 6, 2010.

Public Hearing: The Commission will hold a joint public hearing in connection with this investigation and investigation No. 332-509 at the U.S.

International Trade Commission Building, 500 E Street, SW., Washington, DC, beginning at 9:30 a.m. on Tuesday, February 9, 2010 (and continuing on February 10, 2010, if needed). Requests to appear at the public hearing should be filed with the Secretary no later than 5:15 p.m., January 26, 2010, in accordance with the requirements in the "Submissions" section below. Persons wishing to appear should indicate in their request to appear whether they plan to provide testimony with respect to investigation No. 332-509, investigation No. 332-510, or both investigations. All pre-hearing briefs and statements should be filed not later than 5:15 p.m., January 28, 2010; and all post-hearing briefs and statements responding to matters raised at the hearing should be filed not later than 5:15 p.m., February 23, 2010. In the event that, as of the close of business on January 26, 2010, no witnesses are scheduled to appear at the hearing, the hearing will be canceled. Any person interested in attending the hearing as an observer or non-participant may call the Office of the Secretary (202-205-2000) after January 26, 2010, for information concerning whether the hearing will be held. The Commission is also considering holding additional hearings in Portland, Oregon and St. Louis, Missouri. Notice of the time, date, and place of those hearings will be published at a later date.

Written Submissions: In lieu of or in addition to participating in the hearing, interested parties are invited to file written submissions concerning this investigation. All written submissions should be addressed to the Secretary, and all such submissions (other than pre- and post-hearing briefs and statements) should be received not later than 5:15 p.m., May 28, 2010. All written submissions must conform with the provisions of section 201.8 of the Commission's Rules of Practice and Procedure (19 CFR 201.8). Section 201.8 requires that a signed original (or a copy so designated) and fourteen (14) copies of each document be filed. In the event that confidential treatment of a document is requested, at least four (4) additional copies must be filed, in which the confidential information must be deleted (see the following paragraph for further information regarding confidential business information). The Commission's rules authorize filing submissions with the Secretary by facsimile or electronic means only to the extent permitted by section 201.8 of the rules (see Handbook for Electronic Filing Procedures, <http://www.usitc.gov/secretary/>

[fed_reg_notices/rules/documents/handbook_on_electronic_filing.pdf](#)). Persons with questions regarding electronic filing should contact the Office of the Secretary (202-205-2000).

Any submissions that contain confidential business information must also conform with the requirements of section 201.6 of the Commission's Rules of Practice and Procedure (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the "confidential" or "non-confidential" version, and that the confidential business information be clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available for inspection by interested parties.

In his request letter, the USTR stated that his office intends to make the Commission's reports available to the public in their entirety, and asked that the Commission not include any confidential business information or national security classified information in the reports that the Commission transmits to his office. Any confidential business information received by the Commission in this investigation and used in preparing this report will not be published in a manner that would reveal the operations of the firm supplying the information.

By order of the Commission.

Issued: December 7, 2009.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. E9-29518 Filed 12-10-09; 8:45 am]

BILLING CODE 7020-02-P

DEPARTMENT OF JUSTICE

Drug Enforcement Administration

Importer of Controlled Substances; Notice of Application

Pursuant to 21 U.S.C. 958(i), the Attorney General shall, prior to issuing a registration under this Section to a bulk manufacturer of a controlled substance in schedule I or II, and prior to issuing a regulation under 21 U.S.C. 952(a)(2), authorizing the importation of such a substance, provide manufacturers holding registrations for the bulk manufacture of the substance an opportunity for a hearing.

Therefore, in accordance with 21 CFR 1301.34(a), this is notice that on October 20, 2009, Tocris Cookson, Inc., 16144 Westwoods Business Park, Ellisville, Missouri 63021-4500, made application

INTERNATIONAL TRADE COMMISSION

Agency Form Submitted for OMB Review

AGENCY: United States International Trade Commission.

ACTION: In accordance with the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35), the Commission has submitted a request for approval of a questionnaire to the Office of Management and Budget for review.

Purpose of Information Collection:

The forms are for use by the Commission in connection with investigation No. 332–510, *Small and Medium-Sized Enterprises: Characteristics and Performance*, instituted under the authority of section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)). This investigation was requested by the U.S. Trade Representative (USTR). The Commission expects to deliver the results of its investigation to the USTR by October 6, 2010.

Summary of Proposal

1. Number of forms submitted: 1.
2. Title of form: Business Firm Questionnaire.
3. Type of request: New.
4. Frequency of use: Industry questionnaire, single data gathering, scheduled for 2010.
5. Description of respondents: U.S. firms in the services and manufacturing sectors.
6. Estimated number of respondents: 9000.
7. Estimated total number of hours to complete the form per respondent: 2 hours.
8. Information obtained from the form that qualifies as confidential business information will be so treated by the Commission and not disclosed in a manner that would reveal the individual operations of a firm.

Additional Information or Comment:

Copies of the forms and supporting documents may be obtained from project leaders William Deese (william.deese@usitc.gov or 202–205–2626) or Erland Herfindahl (erland.herfindahl@usitc.gov or 202–205–2374). Comments about the proposal should be directed to the Office of Management and Budget, Office of Information and Regulatory Affairs, Room 10102 (Docket Library), Washington, DC 20503, ATTENTION: Docket Librarian. All comments should be specific, indicating which part of the questionnaire is objectionable, describing the concern in detail, and including specific suggested revision or language changes. Copies of any comments should be provided to Steve McLaughlin, Chief Information Officer, U.S. International Trade Commission, 500 E Street, SW., Washington, DC

20436, who is the Commission's designated Senior Official under the Paperwork Reduction Act.

Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Secretary at 202–205–2000. Hearing impaired individuals are advised that information on this matter can be obtained by contacting our TTD terminal (telephone no. 202–205–1810). Also, general information about the Commission can be obtained from its internet site (<http://www.usitc.gov>).

By order of the Commission.

Issued: January 27, 2010.

Marilyn Abbott,

Secretary to the Commission.

[FR Doc. 2010–2210 Filed 2–5–10; 8:45 am]

BILLING CODE 7020–02–P

DEPARTMENT OF JUSTICE

Notice of Lodging of Consent Decree Under the Comprehensive Environmental Response, Compensation and Liability Act

Notice is hereby given that on January 27, 2010, a proposed Consent Decree in *United States et al. v. Chevron U.S.A. Inc.*, Civil Action No. 10–cv–00375–EMC was lodged with the United States District Court for the Northern District of California.

The Consent Decree settles claims for natural resource damages under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 *et seq.*, and certain state law claims, that arose in connection with historic discharges of hazardous substances into Castro Cove from a refinery owned by Chevron U.S.A. Inc. which is located in Richmond, California. Under the Consent Decree, the defendant will pay \$2,850,000 jointly to the state and federal natural resource trustees for natural resource damages and will pay the natural resource trustees for any unreimbursed assessment costs incurred by the State and Federal natural resource trustees.

The Department of Justice will receive for a period of thirty (30) days from the date of this publication comments relating to the Proposed Consent Decree. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, and either e-mailed to pubcomment-ees.enrd@usdoj.gov or mailed to U.S. Department of Justice, P.O. Box 7611, Washington, DC 20044–7611, and should refer to *United States*

et al. v. Chevron U.S.A. Inc., D.J. Ref. # 90–11–3–09726.

During the public comment period, the Consent Decree may be examined on the following Department of Justice Web site, http://www.usdoj.gov/enrd/Consent_Decrees.html. A copy of the Consent Decree may also be obtained by mail from the Consent Decree Library, P.O. Box 7611, U.S. Department of Justice, Washington, DC 20044–7611 or by faxing or e-mailing a request to Tonia Fleetwood (tonia.fleetwood@usdoj.gov), fax no. (202) 514–0097, phone confirmation number (202) 514–1547. In requesting a copy from the Consent Decree Library, please enclose a check in the amount of \$5.00 (25 cents per page reproduction cost) payable to the U.S. Treasury or, if by e-mail or fax, forward a check in that amount to the Consent Decree Library at the stated address.

Maureen Katz,

Assistant Chief, Environmental Enforcement Section, Environment and Natural Resources Division.

[FR Doc. 2010–2567 Filed 2–5–10; 8:45 am]

BILLING CODE 4410–15–P

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

[Docket No. OSHA–2009–0024]

Information Collection Requirements for the Variance Regulations; Submission for Office of Management and Budget's (OMB) Approval of Information Collection (Paperwork) Requirements

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Request for public comment.

SUMMARY: OSHA solicits comments concerning its proposal to obtain OMB approval for the information collection requirements contained in Sections 6(b)6(A), 6(b)6(B), 6(b)6(C), 6(d), and 16 of the Occupational Safety and Health Act of 1970, and 29 CFR 1905.10, 1905.11, and 1905.12. These statutory and regulatory provisions specify the requirements for submitting applications to OSHA for temporary, experimental, permanent, and national defense variances.

DATES: Comments must be submitted (postmarked, transmitted, or received) by April 9, 2010.

ADDRESSES: Submit comments as follows:

- *Electronically:* Submit comments and attachments electronically at

APPENDIX C

List of Industries Covered in Datasets

TABLE C.1 Services industries included in Census cross-border dataset

Services industry	2002 NAICS code
Newspaper, periodical, book, and directory publishers	5111
Software publishers	5112
Motion picture and video production	51211
Motion picture and video distribution	51212
Postproduction services and other motion picture and video industries	51219
Sound recording industries	5122
Radio and television broadcasting	5151
Cable and other subscription programming	5152
Internet publishing and broadcasting	5161
Wired telecommunications carriers	5171
Wireless telecommunications carriers (except satellite)	5172
Telecommunications resellers	5173
Satellite telecommunications	5174
Cable and other program distribution	5175
Other telecommunications	5179
Internet service providers and web search portals	5181
Data processing, hosting, and related services	5182
Other information services	5191
National commercial banks (banking)	5221101
State commercial banks (banking)	5221102
Savings institutions (federally chartered)	5221201
Savings institutions (not federally chartered)	5221203
Securities and commodity contracts intermediation and brokerage	5231
Investment banking and securities dealing	52311
Securities brokerage	52312
Commodity contracts dealing	52313
Commodity contracts brokerage	52314
Securities and commodity exchanges	523210
Miscellaneous intermediation	523910
Portfolio management	523920
Investment advice	523930
Commercial and industrial machinery and equipment rental and leasing	5324
Lessors of nonfinancial intangible assets (except copyrighted works)	533
Legal services	5411
Accounting, tax preparation, bookkeeping, and payroll services	5412
Architectural, engineering, and related services	5413
Specialized design services	5414
Computer systems design and related services	5415
Management, scientific, and technical consulting services	5416
Scientific research and development services	5417
Advertising and related services	5418
Other professional, scientific, and technical services	5419
Office administrative services	5611
Facilities support services	5612
Employment services	5613

TABLE C.1 Services industries included in Census cross-border dataset—*Continued*

Services industry	2002 NAICS code
Business support services	5614
Travel arrangement and reservation services	5615
Investigation and security services	5616
Services to buildings and dwellings	5617
Other support services	5619
Waste collection	5621
Waste treatment and disposal	5622
Remediation and other waste management services	5629
Performing arts companies	7111
Electronic and precision equipment repair and maintenance	8112
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	8113
Personal and household goods repair and maintenance	8114

TABLE C.2 Industries included in USITC questionnaire

Services industry	2007 NAICS code
Support activities for mining	2131
Electric power generation, transmission and distribution	2211
Natural gas distribution	2212
Nonresidential building construction	2362
Utility system construction	2371
Other heavy and civil engineering construction	2379
Motor vehicle and motor vehicle parts and supplies merchant wholesalers	4231
Furniture and home furnishing merchant wholesalers	4232
Lumber and other construction materials merchant wholesalers	4233
Professional and commercial equipment and supplies merchant wholesalers	4234
Metal and mineral (except petroleum) merchant wholesalers	4235
Electrical and electronic goods merchant wholesalers	4236
Hardware, and plumbing and heating equipment and supplies merchant wholesalers	4237
Machinery, equipment, and supplies merchant wholesalers	4238
Miscellaneous durable goods merchant wholesalers	4239
Paper and paper product merchant wholesalers	4241
Drugs and druggists' sundries merchant wholesalers	4242
Apparel, piece goods, and notions merchant wholesalers	4243
Grocery and related product merchant wholesalers	4244
Farm product raw material merchant wholesalers	4245
Chemical and allied products merchant wholesalers	4246
Petroleum and petroleum products merchant wholesalers	4247
Beer, wine, and distilled alcoholic beverage merchant wholesalers	4248
Miscellaneous nondurable goods merchant wholesalers	4249
Wholesale electronic markets and agents and brokers	4251
Automobile dealers	4411
Other motor vehicle dealers	4412
Electronics and appliance stores	4431
Electronic shopping and mail-order houses	4541
Scheduled air transportation	4811
Nonscheduled air transportation	4812
Rail transportation	4821
Deep sea, coastal, and Great Lakes water transportation	4831
Inland water transportation	4832
General freight trucking	4841
Charter bus industry	4855
Pipeline transportation of natural gas	4862
Support activities for air transportation	4881
Support activities for water transportation	4883
Freight transportation arrangement	4885
Couriers and express delivery services	4921
Newspaper, periodical, book, and directory publishers	5111
Software publishers	5112
Motion picture and video industries	5121
Sound recording industries	5122

TABLE C.2 Industries included in USITC questionnaire—*Continued*

	2007 NAICS code
Services industry	
Radio and television broadcasting	5151
Cable and other subscription programming	5152
Wired telecommunications carriers	5171
Wireless telecommunications carriers (except satellite)	5172
Satellite telecommunications	5174
Data processing, hosting, and related services	5182
Nondepository credit intermediation	5222
Activities related to credit intermediation	5223
Securities and commodity contracts intermediation and brokerage	5231
Securities and commodity exchanges	5232
Other financial investment activities	5239
Insurance carriers	5241
Other investment pools and funds	5259
Lessors of real estate	5311
General rental centers	5323
Lessors of nonfinancial intangible assets (except copyrighted works)	5331
Architectural, engineering, and related services	5413
Computer systems design and related services	5415
Management, scientific, and technical consulting services	5416
Scientific research and development services	5417
Advertising, public relations, and related services	5418
Management of companies and enterprises	5511
Office administrative services	5611
Facilities support services	5612
Employment services	5613
Travel arrangement and reservation services	5615
Investigation and security services	5616
Waste collection	5621
Junior colleges	6112
Colleges, universities, and professional schools	6113
Business schools and computer and management training	6114
Technical and trade schools	6115
Other schools and instruction	6116
Medical and diagnostic laboratories	6215
Manufacturing industry	
Animal foods	3111
Grain and oilseed milling products	3112
Sugar and confectionery products	3113
Fruit and vegetable preserves and specialty foods	3114
Dairy products	3115
Meat products and meat packaging products	3116
Seafood products prepared, canned and packaged	3117
Foods, n.e.s.o.i.	3119

TABLE C.2 Industries included in USITC questionnaire—*Continued*

Manufacturing industry	2007 NAICS code
Beverages	3121
Tobacco products	3122
Fibers, yarns, and threads	3131
Fabrics	3132
Finished and coated textile fabrics	3133
Textile furnishings	3141
Other textile products	3149
Knit apparel	3151
Apparel	3152
Apparel accessories	3159
Leather and hide tanning	3161
Footwear	3162
Other leather products	3169
Sawmill and wood products	3211
Veneer, plywood, and engineered wood products	3212
Other wood products	3219
Pulp, paper, and paperboard mill products	3221
Converted paper products	3222
Printed matter and related product, n.e.s.o.i.	3231
Petroleum and coal products	3241
Basic chemicals	3251
Resin, synthetic rubber, and artificial and synthetic fibers and filaments manufacturing	3252
Pesticides, fertilizers and other agricultural chemicals	3253
Pharmaceuticals and medicines	3254
Paints, coatings, and adhesives	3255
Soaps, cleaning compounds, and toilet preparations	3256
Other chemical products and preparations	3259
Plastics products	3261
Rubber products	3262
Clay and refractory products	3271
Glass and glass products	3272
Cement and concrete products	3273
Lime and gypsum products	3274
Other nonmetallic mineral products	3279
Iron and steel and ferroalloy	3311
Steel products from purchased steel	3312
Alumina and aluminum and processing	3313
Nonferrous metal (except aluminum) and processing	3314
Foundries	3315
Crowns, closures, seals and other packing accessories	3321
Cutlery and handtools	3322
Architectural and structural metals	3323
Boilers, tanks, and shipping containers	3324
Hardware	3325
Springs and wire products	3326
Bolts, nuts, screws, rivets, washers and other turned products	3327

TABLE C.2 Industries included in USITC questionnaire—*Continued*

	2007 NAICS code
Manufacturing industry	
Other fabricated metal products	3329
Agriculture and construction machinery	3331
Industrial machinery	3332
Commercial and service industry machinery	3333
Ventilation, heating, air-conditioning, and commercial refrigeration equipment	3334
Metalworking machinery	3335
Engines, turbines, and power transmission equipment	3336
Other general purpose machinery	3339
Computer equipment	3341
Communications equipment	3342
Audio and video equipment	3343
Semiconductors and other electronic components	3344
Navigational, measuring, electromedical, and control instruments	3345
Magnetic and optical media	3346
Electric lighting equipment	3351
Household appliances and miscellaneous machines, n.e.s.o.i.	3352
Electrical equipment	3353
Electrical equipment and components, n.e.s.o.i.	3359
Motor vehicles	3361
Motor vehicle bodies and trailers	3362
Motor vehicle parts	3363
Aerospace products and parts	3364
Railroad rolling stock	3365
Ships and boats	3366
Transportation equipment, n.e.s.o.i.	3369
Household and institutional furniture and kitchen cabinets	3371
Office furniture (including fixtures)	3372
Furniture related products, n.e.s.o.i.	3379
Medical equipment and supplies	3391
Miscellaneous manufactured commodities	3399

TABLE C.3 Industries included in BEA foreign affiliate dataset

Industries	2002 NAICS code
Mining and agriculture, forestry, fishing, and hunting	11 and 21
Manufacturing	31-33
Wholesale trade	42
Information	51
Finance (except depository institutions) and insurance	52
Professional, scientific, and technical services	54
Other services industries ^a	22; 23; 44; 45; 48; 49; 53; 55; 56; 62; 72; and 81

^a“Other industries” consists of the following NAICS sectors: utilities, construction; retail trade; transportation and warehousing; real estate and rental and leasing; management of companies and enterprises; administration, support, and waste management; health care and social assistance; accomodation and food services; and miscellaneous services.

TABLE C.4 Industries included in Census datasets on goods exports by firm size and related-party exports

Industries	2002 NAICS code
Oilseeds and grains	1111
Vegetables and melons	1112
Fruits and tree nuts	1113
Mushrooms, nursery and related products	1114
Other agricultural products	1119
Cattle	1121
Swine	1122
Poultry and eggs	1123
Sheep, goats and fine animal hair	1124
Farmed fish and related products	1125
Other animals	1129
Forestry products	1132
Timber and logs	1133
Fish, fresh, chilled or frozen and other marine products	1141
Oil and gas	2111
Coal and petroleum gases	2121
Metal ores	2122
Nonmetallic minerals	2123
Animal foods	3111
Grain and oilseed milling products	3112
Sugar and confectionery products	3113
Fruit and vegetable preserves and specialty foods	3114
Dairy products	3115
Meat products and meat packaging products	3116
Seafood products prepared, canned and packaged	3117
Bakery and tortilla products	3118
Foods, nesoi	3119
Beverages	3121
Tobacco products	3122
Fibers, yarns, and threads	3131
Fabrics	3132
Finished and coated textile fabrics	3133
Textile furnishings	3141
Other textile products	3149
Knit apparel	3151
Apparel	3152
Apparel accessories	3159
Leather and hide tanning	3161
Footwear	3162
Other leather products	3169
Sawmill and wood products	3211
Veneer, plywood, and engineered wood products	3212
Other wood products	3219
Pulp, paper, and paperboard mill products	3221
Converted paper products	3222
Printed matter and related product, n.e.s.o.i.	3231

TABLE C.4 Industries included in Census datasets on goods exports by firm size and related-party exports—*Continued*

Industries	2002 NAICS code
Petroleum and coal products	3241
Basic chemicals	3251
Resin, synthetic rubber, and artificial and synthetic fibers & filaments manufacturing	3252
Pesticides, fertilizers and other agricultural chemicals	3253
Pharmaceuticals and medicines	3254
Paints, coatings, and adhesives	3255
Soaps, cleaning compounds, and toilet preparations	3256
Other chemical products and preparations	3259
Plastics products	3261
Rubber products	3262
Clay and refractory products	3271
Glass and glass products	3272
Cement and concrete products	3273
Lime and gypsum products	3274
Other nonmetallic mineral products	3279
Iron and steel and ferroalloy	3311
Steel products from purchased steel	3312
Alumina and aluminum and processing	3313
Nonferrous metal (except aluminum) and processing	3314
Foundries	3315
Crowns, closures, seals and other packing accessories	3321
Cutlery and handtools	3322
Architectural and structural metals	3323
Boilers, tanks, and shipping containers	3324
Hardware	3325
Springs and wire products	3326
Bolts, nuts, screws, rivets, washers and other turned products	3327
Other fabricated metal products	3329
Agriculture and construction machinery	3331
Industrial machinery	3332
Commercial and service industry machinery	3333
Ventilation, heating, air-conditioning, and commercial refrigeration equipment	3334
Metalworking machinery	3335
Engines, turbines, and power transmission equipment	3336
Other general purpose machinery	3339
Computer equipment	3341
Communications equipment	3342
Audio and video equipment	3343
Semiconductors and other electronic components	3344
Navigational, measuring, electromedical, and control instruments	3345
Magnetic and optical media	3346
Electric lighting equipment	3351
Household appliances and miscellaneous machines, n.e.s.o.i.	3352
Electrical equipment	3353
Electrical equipment and components, n.e.s.o.i.	3359
Motor vehicles	3361

TABLE C.4 Industries included in Census datasets on goods exports by firm size and related party exports—*Continued*

Industries	2002 NAICS code
Motor vehicle bodies and trailers	3362
Motor vehicle parts	3363
Aerospace products and parts	3364
Railroad rolling stock	3365
Ships and boats	3366
Transportation equipment, n.e.s.o.i.	3369
Household and institutional furniture and kitchen cabinets	3371
Office furniture (including fixtures)	3372
Furniture related products, n.e.s.o.i.	3379
Medical equipment and supplies	3391
Miscellaneous manufactured commodities	3399
Software, n.e.s.o.i.	5112
Waste and scrap	9100
Used or second-hand merchandise	9200
Goods returned to Canada	9800
Special classification provisions, n.e.s.o.i.	9900

APPENDIX D

Additional Chapters 3 and 4 Tables

TABLE D.1 Shares of revenue and exported services, subset of services industries, 2007

	Share of establishments ^a	Share of employees ^a	Share of total revenue ^a	Share of total export revenue ^a	Export revenue as a share of total establishment revenue	Export revenue as a share of total revenue for establishments reporting exported services
SME share of total						
a. All establishments	82.8	42.7	33.6	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	65.0	35.1	29.2	37.6	1.0	6.5
Classes of SMEs						
0-19 share of SME total						
a. All establishments	87.1	37.6	37.7	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	80.1	23.4	20.8	27.0	0.8	6.0
20-99 share of SME total						
a. All establishments	8.5	31.5	31.1	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	13.9	36.0	32.3	35.5	1.1	7.9
100-499 share of SME total						
a. All establishments	4.5	30.9	31.2	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	6.1	40.4	46.6	37.0	1.1	8.3

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

^aAdding large firm shares to SME shares would equal 100 percent; classes of SME shares add up to 100 percent.

^bNot applicable.

TABLE D.2 Shares of revenue and exported services, subset of services industries, 2002

	Share of establishments ^a	Share of employees ^a	Share of total revenue ^a	Share of total export revenue ^a	Export revenue as a share of total establishment revenue	Export revenue as a share of total revenue for establishments reporting exported services
SME share of total						
a. All establishments	83.4	43.5	34.3	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	70.8	32.5	23.9	37.3	0.7	4.6
Classes of SMEs						
0-19 share of SME total						
a. All establishments	86.6	37.7	39.2	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	77.6	21.7	20.7	28.0	0.6	5.4
20-99 share of SME total						
a. All establishments	8.8	31.6	31.3	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	15.4	35.7	32.7	30.0	0.6	5.8
100-499 share of SME total						
a. All establishments	4.6	30.7	29.5	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	6.9	41.7	45.2	41.1	0.9	7.9

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

^aAdding large firm shares to SME shares would equal 100 percent; classes of SME shares add up to 100 percent.

^bNot applicable.

TABLE D.3 Revenue from exported services, subset of services industries, 2002^a

	(1) Number of establishments	(2) Number of employees	(3) Total revenue (\$1,000)	(4) Export revenue from exported services (\$1,000)	(5) Export revenue as a share of all establishment revenue (percent) (4b / 3a)	(6) Export revenue as a share of total revenue for establishments reporting exported services (percent) (4b / 3b)
Less than 500 employees (SMEs)						
a. All establishments	1,280,672	10,136,141	1,142,185,778			
b. Establishments with receipts/revenue from exported services	<u>42,961</u>	<u>636,970</u>	127,077,940	24,525,111		
Share of total (%)	3.4	6.3	11.1			
Export/revenue ratio					2.1	19.3
500 or more employees (large companies)						
a. All establishments	254,672	13,183,617	2,187,961,391			
b. Establishments with receipts/revenue from exported services	17,755	1,324,217	404,027,698	41,165,744		
Share of total (%)	7.0	10.0	18.5			
Export/revenue ratio					1.9	10.2
Sum of SMEs and large companies						
a. All establishments	1,535,344	23,319,758	3,330,147,169			
b. Establishments with receipts/revenue from exported services	60,716	1,961,187	531,105,638	65,690,855		
Share of total (%)	4.0	8.4	15.9			
Export/revenue ratio					2.0	12.4
Classes of SMEs^b						
0-19 employees						
a. All establishments	1,109,651	3,820,448	448,054,616			
b. Establishments with receipts/revenue from exported services	33,349	138,291	26,345,996	6,868,319		
Share of total (%)	3.0	3.6	5.9			
Export/revenue ratio					1.5	26.1
20-99 employees						
a. All establishments	112,656	3,199,103	357,128,880			
b. Establishments with receipts/revenue from exported services	6,630	227,388	41,566,697	7,362,601		
Share of total (%)	5.9	7.1	11.6			
Export/revenue ratio					2.1	17.7
100-499 employees						
a. All establishments	58,365	3,116,440	336,980,458			
b. Establishments with receipts/revenue from exported services	2,982	265,381	57,390,844	10,083,617		
Share of total (%)	5.1	8.5	17.0			
Export/revenue ratio					3.0	17.6

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

^aAn exported service is a product (e.g., service performed, license agreement) that is performed for, or sold or transferred to, a customer or client (individual, government, business establishment, etc.) located outside the United States (i.e., outside the 50 States, District of Columbia, U.S. Commonwealth Territories, or U.S. possessions). Included are products provided to unaffiliated and affiliated foreign firms (e.g., foreign parent firms, subsidiaries, branches). Excluded are products provided to domestic subsidiaries of foreign firms. Some industries in the information sector include exports of services and goods.

^bData for "Classes of SMEs" may not add to totals listed under "Less than 500 employees" due to the suppression of sectoral/industry data for some disaggregated classes of SMEs.

TABLE D.4 Growth of number of establishments and employees, subset of services industries, 2002 and 2007

	Number of establishments			Number of employees		
	2002	2007	Growth(%)	2002	2007	Growth(%)
Less than 500 employees (SMEs)						
a. All establishments	1,280,672	1,391,916	8.7	10,136,141	10,737,066	5.9
b. Establishments with receipts/revenue from exported services	42,961	52,035	21.1	636,970	712,765	11.9
500 or more employees (large companies)						
a. All establishments	254,672	288,577	13.3	13,183,617	14,400,930	9.2
b. Establishments with receipts/revenue from exported services	17,755	28,083	58.2	1,324,217	1,316,738	-0.6
Sum of SMEs and large						
a. All establishments	1,535,344	1,680,493	9.5	23,319,758	25,137,996	7.8
b. Establishments with receipts/revenue from exported services	60,716	80,118	32.0	1,961,187	2,029,503	3.5
Classes of SMEs						
0-19 employees						
a. All establishments	1,109,651	1,211,861	9.2	3,820,448	4,041,509	5.8
b. Establishments with receipts/revenue from exported services	33,349	41,662	24.9	138,291	166,669	20.5
20-99 employees						
a. All establishments	112,656	117,802	4.6	3,199,103	3,378,925	5.6
b. Establishments with receipts/revenue from exported services	6,630	7,222	8.9	227,388	256,318	12.7
100-499 employees						
a. All establishments	58,365	62,253	6.7	3,116,440	3,316,355	6.4
b. Establishments with receipts/revenue from exported services	2,982	3,151	5.7	265,381	288,183	8.6

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected subsectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

TABLE D.5 Growth of revenue and exported services, subset of services industries, 2002 and 2007

	Total revenue (\$1,000)		Growth(%)	Export revenue from exported services (\$1,000)		Growth(%)
	2002	2007		2002	2007	
Less than 500 employees (SMEs)						
a. All establishments	1,142,185,778	1,567,451,560	37.2			
b. Establishments with receipts/revenue from exported services	127,077,940	208,526,835	64.1	24,525,111	46,696,428	90.4
500 or more employees (large companies)						
a. All establishments	2,187,961,391	3,103,898,563	41.9			
b. Establishments with receipts/revenue from exported services	404,027,698	506,479,845	25.4	41,165,744	77,567,473	88.4
Sum of SMEs and large						
a. All establishments	3,330,147,169	4,671,350,123	40.3			
b. Establishments with receipts/revenue from exported services	531,105,638	715,006,680	34.6	65,690,855	124,263,901	89.2
Classes of SMEs						
0-19 employees						
a. All establishments	448,054,616	590,661,292	31.8			
b. Establishments with receipts/revenue from exported services	26,345,996	43,310,163	64.4	6,868,319	12,586,731	83.3
20-99 employees						
a. All establishments	357,128,880	487,750,274	36.6			
b. Establishments with receipts/revenue from exported services	41,566,697	67,378,938	62.1	7,362,601	16,565,029	125.0
100-499 employees						
a. All establishments	336,980,458	488,951,394	45.1			
b. Establishments with receipts/revenue from exported services	57,390,844	97,247,167	69.4	10,083,617	17,268,093	71.2

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS. The data include selected sub-sectors in the following NAICS sectors: 51 (information), 52 (finance and insurance), 53 (real estate and rental leasing), 54 (professional, scientific, and technical services), 56 (administrative and support and waste management and remediation services), 71 (arts, entertainment, and recreation), and 81 (other services (except public administration)).

TABLE D.6 Information services: Revenue from exported services, 2007^a

	(1) Number of establishments	(2) Number of employees	(3) Total revenue (\$1,000)	(4) Export revenue from exported services (\$1,000)	(5) Export revenue as a share of all establishment revenue (percent) (4b / 3a)	(6) Export revenue as a share of total revenue for establishments reporting exported services (percent) (4b / 3b)
Less than 500 employees (SMEs)						
a. All establishments	76,684	882,056	173,862,363			
b. Establishments with receipts/revenue from exported services	8,615	177,094	46,464,861	8,462,544		
Share of total (%)	11.2	20.1	26.7			
Export/revenue ratio					4.9	18.2
500 or more employees (large companies)						
a. All establishments	59,749	2,480,515	885,775,209			
b. Establishments with receipts/revenue from exported services	8,017	381,839	155,576,583	30,748,792		
Share of total (%)	13.4	15.4	17.6			
Export/revenue ratio					3.47	19.8
Sum of SMEs and large companies						
a. All establishments	136,433	3,362,571	1,059,637,572			
b. Establishments with receipts/revenue from exported services	16,632	558,933	202,041,444	39,211,336		
Share of total (%)	12.2	16.6	19.1			
Export/revenue ratio					3.7	19.4
Classes of SMEs						
0-19 employees						
a. All establishments	60,356	241,217	43,542,101			
b. Establishments with receipts/revenue from exported services	6,086	29,889	7,324,051	1,472,276		
Share of total (%)	10.1	12.4	16.8			
Export/revenue ratio					3.38	20.1
20-99 employees						
a. All establishments	10,597	314,596	57,597,800			
b. Establishments with receipts/revenue from exported services	1,722	64,352	15,023,872	2,858,347		
Share of total (%)	16.3	20.5	26.1			
Export/revenue ratio					5.0	19.0
100-499 employees						
a. All establishments	5,731	326,243	72,722,462			
b. Establishments with receipts/revenue from exported services	807	82,853	24,116,938	4,131,921		
Share of total (%)	14.1	25.4	33.2			
Export/revenue ratio					5.7	17.1

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS.

^aAn exported service is a product (e.g., service performed, license agreement) that is performed for, or sold or transferred to, a customer or client (individual, government, business establishment, etc.) located outside the United States (i.e., outside the 50 States, District of Columbia, U.S. Commonwealth Territories, or U.S. possessions). Included are products provided to unaffiliated and affiliated foreign firms (e.g., foreign parent firms, subsidiaries, branches). Excluded are products provided to domestic subsidiaries of foreign firms. Some industries in the information sector include exports of services and goods.

TABLE D.7 Information services: Shares of revenue and exported services, 2007

	Share of establishments ^a	Share of employees ^a	Share of total revenue ^a	Share of total export revenue ^a	Export revenue as a share of total establishment revenue	Export revenue as a share of total revenue for establishments reporting exported services
SME share of total						
a. All establishments	56.2	26.2	16.4	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	51.8	31.7	23.0	21.6	0.8	4.2
Classes of SMEs						
0-19 share of SME total						
a. All establishments	78.7	27.4	25.0	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	70.6	16.9	15.8	17.4	0.9	3.2
20-99 share of SME total						
a. All establishments	13.8	35.7	33.1	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	20.0	36.3	32.3	33.8	1.6	6.2
100-499 share of SME total						
a. All establishments	7.5	37.0	41.8	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	9.4	46.8	51.9	48.8	2.4	8.9

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS.

^aAdding large firm shares to SME shares would equal 100 percent; classes of SME shares add up to 100 percent.

^bNot app.

TABLE D.8 Professional, scientific and technical services: Revenue from exported services, 2007^a

	(1) Number of establishments	(2) Number of employees	(3) Total revenue (\$1,000)	(4) Export revenue from exported services (\$1,000)	(5) Export revenue as a share of all establishment revenue (percent) (4b / 3a)	(6) Export revenue as a share of total revenue for establishments reporting exported services (percent) (4b / 3b)
Less than 500 employees (SMEs)						
a. All establishments	801,243	4,794,860	722,387,061			
b. Establishments with receipts/revenue from exports services	<u>33,697</u>	<u>398,606</u>	89,541,569	18,818,232		
Share of total (%)	4.2	8.3	12.4			
Export/revenue ratio					2.6	21.0
500 or more employees (large companies)						
a. All establishments	49,232	2,945,150	509,567,136			
b. Establishments with receipts/revenue from exports services	2,852	413,794	111,538,111	19,164,141		
Share of total (%)	5.8	14.1	21.9			
Export/revenue ratio					3.76	17.2
Sum of SMEs and large companies						
a. All establishments	850,475	7,740,010	1,231,954,197			
b. Establishments with receipts/revenue from exports services	36,549	812,400	200,989,680	37,982,373		
Share of total (%)	4.3	10.5	16.3			
Export/revenue ratio					3.1	18.9
Classes of SMEs						
0-19 employees						
a. All establishments	730,849	2,310,199	338,388,815			
b. Establishments with receipts/revenue from exports services	27,886	103,648	23,386,543	5,891,225		
Share of total (%)	3.8	4.5	6.9			
Export/revenue ratio					1.74	25.2
20-99 employees						
a. All establishments	51,132	1,456,184	217,681,719			
b. Establishments with receipts/revenue from exports services	4,044	141,949	30,242,659	6,152,180		
Share of total (%)	7.9	9.8	13.9			
Export/revenue ratio					2.8	20.3
100-499 employees						
a. All establishments	19,262	1,028,477	166,316,527			
b. Establishments with receipts/revenue from exports services	1,767	153,009	35,822,367	6,774,827		
Share of total (%)	9.2	14.9	21.5			
Export/revenue ratio					4.1	18.9

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS.

^aAn exported service is a product (e.g., service performed, license agreement) that is performed for, or sold or transferred to, a customer or client (individual, government, business establishment, etc.) located outside the United States (i.e., outside the 50 States, District of Columbia, U.S. Commonwealth Territories, or U.S. possessions). Include products provided to unaffiliated and affiliated foreign firms (e.g., foreign parent firms, subsidiaries, branches). Exclude products provided to domestic subsidiaries of foreign firms.

TABLE D.9 Professional, scientific and technical services: Shares of revenue and exported services, 2007

	Share of establishments ^a	Share of employees ^a	Share of total revenue ^a	Share of total export revenue ^a	Export revenue as a share of total establishment revenue	Export revenue as a share of total revenue for establishments reporting exported services
SME share of total						
a. All establishments	94.2	62.0	58.6	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	92.2	49.1	44.5	49.5	1.5	9.4
Classes of SMEs						
0-19 share of SME total						
a. All establishments	91.2	48.2	46.8	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	82.8	26.0	26.1	31.3	0.8	6.6
20-99 share of SME total						
a. All establishments	6.4	30.4	30.1	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	12.0	35.6	33.8	32.7	0.9	6.9
100-499 share of SME total						
a. All establishments	2.4	21.5	23.0	(^b)	(^b)	(^b)
b. Establishments with receipts/revenue from exported services	5.2	38.4	40.1	36.0	0.9	7.6

Sources: USDOC, Census, Service Sector Statistics Division; and USITC staff calculations.

Note: Data are from the 2002 and 2007 Economic Census and are tabulated by 2002 NAICS.

^aAdding large firm shares to SME shares would equal 100 percent; classes of SME shares add up to 100 percent.

^bNot app.

TABLE D.10 Derivation of percentages reported in table 4.5

All variables below are derived using three variables reported in table 4.5: (1) U.S. exports of goods not associated with multinationals; (2) U.S. exports of goods by parents of multinationals to unaffiliated persons; (3) sales of affiliates to foreign persons.

Variable	Derived using variables listed above using the following formula:
Percentage of pure foreign sales through unaffiliated exports	$((1) + (2))/((1)+(2)+(3))$
Percentage of pure foreign sales through foreign affiliates	$(3)/((1)+(2)+(3))$
Percentage of pure foreign sales of multinationals through unaffiliated exports	$(2)/((2)+(3))$
Percentage of pure foreign sales of multinationals through foreign affiliates	$(3)/((2)+(3))$

Source: USDOC, BEA, International Investment Division; USITC calculations.

Percentages are approximate and subject to caveats.

APPENDIX E

Business Firm Questionnaire



BUSINESS FIRM QUESTIONNAIRE

UNITED STATES INTERNATIONAL TRADE COMMISSION
ATTENTION: SME Project Team
Office of Industries, Room 511
500 E Street, SW, Washington, DC 20436
FAX: 202-205-2217

The U.S. International Trade Commission, or Commission, (www.usitc.gov) has been requested by the Office of the U.S. Trade Representative (USTR) to report on competitive conditions affecting U.S. business interactions with foreign clients. The Commission designed this questionnaire to collect information to fulfill this request. By completing this questionnaire, you will provide valuable information concerning U.S. businesses and their ability to compete internationally. The Commission will report its findings to the USTR on October 6, 2010, and the USTR has indicated it intends to make this report available to the public. Questionnaire data used in the Commission's report will be aggregated and presented in such a manner that the individual operations or responses of any one responding firm cannot be identified.

**RESPONSE TO THIS QUESTIONNAIRE IS REQUIRED BY LAW.
READ ALL INSTRUCTIONS AND DEFINITIONS TO DETERMINE WHETHER THIS
QUESTIONNAIRE APPLIES TO YOUR FIRM.
THE COMPLETED QUESTIONNAIRE MUST BE RETURNED TO THE
COMMISSION NO LATER THAN APRIL 2, 2010.**

The information called for in this questionnaire is for use by the Commission in connection with its investigation No. 332-510, *Small and Medium-Sized Enterprises: Characteristics and Performance*, notice of which was published in the *Federal Register* of December 11, 2009. The information is requested under the authority of section 332(g) of the Tariff Act of 1930 (19 U.S.C. § 1332(g)). Completing the questionnaire is mandatory and failure to reply as directed can result in a subpoena or other order to compel the submission of records or information in your possession (19 U.S.C. § 1333(a)). If you need further information about this questionnaire, please contact one of the project leaders listed below:

William Deese (202-205-2626)
Erland Herfindahl (202-205-2374)

Please complete this questionnaire for your firm as a whole. If this is not possible, or is unreasonably burdensome, then individual business units or groups of business units within your firm can provide separate responses, but you must ensure that all of your firm's activities are reflected in questionnaire responses and that there is no double counting of such activities. If you have joint venture business units, these should, in general, provide their own responses, but contact one of the project leaders if you need further guidance.

This questionnaire can be downloaded from the Commission's Web site at:

<http://www.usitc.gov/documents/usitc.questionnaire.doc>

WHO MUST COMPLETE THIS QUESTIONNAIRE

Your firm must complete this questionnaire if any of items A, B, or C below applied at any time during 2005-2009.

- A. Manufactured goods: Your firm produced products in the United States.**

- B. Services: Your firm provided services from operations in the United States, or provided services through affiliates in foreign countries.**

- C. Intellectual property: Your firm had income from royalties, license fees, or other intellectual property-related sources related to the production of manufactured goods or the provision of services.**

If items A, B, or C apply to your firm, check the “Yes” box on page 3 and follow the instructions provided there.

If A, B, and C do not apply to your firm, check the “No” box on page 3 and follow the instructions provided there.

This questionnaire was reviewed by industry participants to ensure that data requests are sufficient, meaningful, and as limited as possible. Public reporting burden for this questionnaire is estimated to average 2 hours per response. Send comments regarding the accuracy of this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the address or fax number on the cover page.

FIRM INFORMATION

Firm name	_____		
Address	_____		
City	_____	State	_____ Zip code _____
Web site address	_____		
<p>Read the text in the "Who must complete this questionnaire" box on page 2. If items A, B, or C apply to your firm, check the "Yes" box below. Otherwise, check the "No" box.</p>			
<input type="checkbox"/> YES	<p>Read the instructions and definitions carefully, complete all parts of the questionnaire that apply to you, sign the certification, and return the entire questionnaire to the Commission at the address or fax number on the cover page, no later than April 2, 2010. See page 5 for other submission options.</p>		
<input type="checkbox"/> NO	<p>Sign the certificate below, and promptly return this page to the Commission at the address or fax number on the cover page. See page 5 for other submission options.</p>		

BUSINESS FIRM QUESTIONNAIRE CERTIFICATION

The undersigned certifies that the information herein supplied in response to this questionnaire is complete and correct to the best of his/her knowledge and belief and understands that the information submitted is subject to audit and verification by the Commission. Section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) provides that the Commission may not release information which the Commission considers to be confidential business information, unless the party submitting the confidential business information had notice, at the time of submission, that such information would be released by the Commission, or such party subsequently consents to the release of the information. The USTR, the requestor of this investigation, has requested that the Commission provide a nonconfidential (public) report. Consequently, the Commission will not release information gathered in this questionnaire in a form that reveals confidential business information of individual firms.

The undersigned acknowledges that information submitted in this questionnaire response and throughout this investigation may be used by the Commission, its employees, and contract personnel who are acting in the capacity of Commission employees, for developing or maintaining the records of this investigation or related proceedings for which this information is submitted, or in internal audits and in investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3. The undersigned understands that all contract personnel will sign nondisclosure agreements.

_____ Name and title of Authorized Official	_____ Date (MM/DD/YY)
_____ Signature of Authorized Official*	_____ Telephone (xxx-xxx-xxxx) _____ Fax (xxx-xxx-xxxx)

*If submitting an electronic version of this certificate to the Commission, check this box in lieu of a written signature to indicate that the authorized official listed has certified the information provided.

INSTRUCTIONS

This questionnaire is intended for firms that have manufacturing or service operations, or have intellectual property revenues. The Commission requires information from all such firms regardless of the number of employees they have or amount of their revenues.

This questionnaire is composed of 4 sections. Each section has a group of related questions. Not all sections apply to every firm. For example, section III must be completed only by firms that deal with foreign clients.

All information submitted on this questionnaire will be treated as confidential business information. In the Commission's report, information will be combined with other responses so that it will not reveal the operations of your firm. Further, this questionnaire does not request information that relates to sensitive issues such as specific business plans or trade secrets.

Keep a copy of your submission for your records.

IF THE INFORMATION REQUESTED IS NOT READILY AVAILABLE FROM YOUR RECORDS, CAREFUL ESTIMATES ARE ACCEPTABLE.

Use space provided in section IV at the end of the questionnaire if space provided for each question is not sufficient. Also include any other information you feel is relevant to the Commission's investigation in this section.

DEFINITIONS

1. Firm:

An individual proprietorship, partnership, joint venture, association, corporation (including any subsidiary corporation), business trust, cooperative, trustee in bankruptcy, or receiver under decree of any court.

2. Revenues:

Income generated from the sale or license of goods or services, including royalties, fees, or other intellectual property-related income, associated with the main operations of your firm before any costs or expenses are deducted. Revenue is usually shown as the top item in an income (profit and loss) statement from which all charges, costs, and expenses are subtracted to arrive at the net income of the firm.

3. Employees:

The number of people employed by your firm that were on your payroll on December 31 of each of the following years: 2005-2009. This includes paid full- and part-time employees in executive, production, management, sales, or administrative positions. Employees on sick leave, holidays, and vacations are also included.

A part-time employee is one that works less than 35 hours a week.

Do not include temporary staffing obtained from a staffing service; contractors, subcontractors, independent contractors; full or part time leased employees; and personnel related to purchased services, such as janitorial, guard or landscape services.

4. Intellectual property:

Refers to creations of the mind including inventions and discoveries, literary and artistic works, symbols and designs, and formulas and know-how that are potentially protectable under patent, copyright, trademark, trade secret, or contract law.

Intellectual property revenues include royalties, license fees, and all other income received from the sale or transfer, in whole or in part, of any of the rights associated with intellectual property.

5. Foreign client:

A client whose normal base of operation is not in one of the 50 states, Washington, D.C, or Puerto Rico.

6. Services:

Includes “cross border” and/or affiliate transactions. “Cross border” transactions occur when a firm provides services to clients in another country, with people, information, or money crossing national boundaries in the process. Affiliate transactions occur when a firm provides services to foreign clients through affiliates established in a foreign country.

Other definitions are shown in certain specific sections of this questionnaire.

ELECTRONIC COMPLETION METHOD AND SUBMISSION INSTRUCTIONS

Please consider completing this questionnaire electronically in Microsoft Word, following the instructions below.

Download the questionnaire from the Commission’s Web site at:

<http://www.usitc.gov/documents/usitc.questionnaire.doc>

Open the file in Microsoft Word for Windows. Contact one of the project leaders shown on the cover page if this file is incompatible with your firm’s computer operating system or version of Word.

Entry areas are indicated as gray boxes in this electronic version. These boxes turn black as they are selected. Enter the requested information for each question that applies to your firm. Use Tab key to advance from box to box. Use Shift and Tab keys, simultaneously, to go back to a previous box. Click on any box to go immediately to that box. Use scroll keys to navigate through areas with no entry boxes.

Other than in these boxes, you will not be able to add information to or change the questionnaire. Boxes will expand to accommodate responses.

Certain boxes require numeric information. If text is entered, it will be changed to a default numeric value after moving to the next entry box.

After you have completed the questionnaire electronically in Word, you have four submission options:

1. Attach the electronic version to an email message and send it to *jeremy.wise@usitc.gov*. Please note that submitting the questionnaire response by e-mail will subject your firm's confidential business information (CBI) to transmission over an unsecured environment and to possible disclosure to third parties. Any risk of disclosure of CBI during transmission is assumed by your firm and not the Commission. However, once the e-mail is received, the questionnaire response will be stored in the Commission's secured environment and will receive the safeguards described in the certification on page 3.
2. Use the Commission's secure file upload site. Type <https://dropbox.usitc.gov/> in your web browser, and press enter. Complete the requested information in the form that appears.
For the PIN entry box, please type: SME
Then click on the "Next" button. On the second page, click on the "Browse" button, navigate to your completed questionnaire file, and click on "Open." (the file path and name will appear in the box). Then click on "Submit."
3. Copy the electronic version onto removable computer media such as a CD and send by express mail service to the address listed below.
4. Print the completed questionnaire and send by express mail service to the address below:

UNITED STATES INTERNATIONAL TRADE COMMISSION
ATTENTION: SME Project Team
Office of Industries, Room 511
500 E Street, SW, Washington, DC 20436

If you wish to discuss any security concerns about submitting your completed questionnaire, please contact one of the project leaders shown on the cover page.

WRITTEN COMPLETION METHOD AND SUBMISSION INSTRUCTIONS

Download the questionnaire from the Commission's Web site at:

<http://www.usitc.gov/documents/usitc.questionnaire.doc>

Open the file in Microsoft Word and print the document. Contact one of the project leaders shown on the cover page if this file is incompatible with your firm's computer operating system or version of Word. Type or write in the requested information for each question that applies to your firm. Submit the completed form by express mail service to the Commission using the address below:

UNITED STATES INTERNATIONAL TRADE COMMISSION
ATTENTION: SME Project Team
Office of Industries, Room 511
500 E Street, SW, Washington, DC 20436

SECTION I. GENERAL QUESTIONS

I.1. Who at your firm should be contacted regarding the information provided in this questionnaire?

_____	_____
Name	Title
_____	_____
Telephone (xxx-xxx-xxxx)	E-mail address

I.2. Report below the actual number of hours required and the cost to your firm of completing this questionnaire, including all preparatory activities.

_____ Hours _____ Dollars

I.3. Is your firm owned in whole or part by any other firm(s)?

- Yes
- No

If yes, provide the following for the three leading owners, based on equity share:

Firm name	City, State (if domestic), and Country	Equity share (%)

I.4. Does your firm have an ownership share in any other firm(s)?

- Yes
- No

If yes, provide the following for the three leading firms you own, based on your equity share:

Firm name	City, State (if domestic), and Country	Equity share (%)

I.5. In what year was your firm established (4 digits)? Give the year that your manufacturing or service operations began, or when you started receiving intellectual property revenues. Disregard any ownership changes.

Year (YYYY)

I.6. Please provide your firm's revenues for the indicated years.

Revenues are income generated from the sale of goods or services, including royalties, license fees, or other intellectual property-related income associated with the main operations of your firm before any costs or expenses are deducted. Revenue is shown usually as the top item in an income (profit and loss) statement from which all charges, costs, and expenses are subtracted to arrive at the net income of the firm.

CAREFUL ESTIMATES ARE ACCEPTABLE. IF A VALUE IS ZERO, ENTER 0. IF A VALUE IS UNKNOWN, LEAVE ENTRY BLANK.

Year	Revenues in full figure dollars
2005	
2006	
2007	
2008	
2009	

I.7. Please provide the number of people employed by your firm for the indicated years.

Include employees that were on your payroll on December 31 for the years indicated below. Include paid full- and part-time employees, including executive, production, management, sales, and administrative personnel. Also include employees on sick leave, holidays, and vacations.

A part-time employee is one that works less than 35 hours a week.

Exclude temporary staffing obtained from a staffing service; contractors, subcontractors, independent contractors; full- or part-time leased employees; and personnel related to purchased services, such as janitorial, guard or landscape services.

CAREFUL ESTIMATES ARE ACCEPTABLE. IF A VALUE IS ZERO, ENTER 0. IF A VALUE IS UNKNOWN, LEAVE ENTRY BLANK.

Year	Full time (number)	Part-time (number)
2005		
2006		
2007		
2008		
2009		

I.8. For any year during 2005-09, did your firm purchase or obtain goods, services, or intellectual property from firms with less than 500 employees to produce goods, services, or intellectual property that were directly sold or licensed to foreign clients?

- Yes
- No
- Don't know

If yes, please report these purchases as a percentage of the value of your total purchases during this time.

<input type="checkbox"/>	Less than 5 percent
<input type="checkbox"/>	From 5 percent up to 15 percent
<input type="checkbox"/>	From 15 percent up to 50 percent
<input type="checkbox"/>	50 percent or greater

I.9. For any year during 2005-09, did your firm sell or license manufactured goods, services, or intellectual property to firms with more than 500 employees to produce goods, services, or intellectual property that were directly sold or licensed to foreign clients?

- Yes
- No
- Don't know

If yes, please report these sales as a percentage of the value of your total sales during this time.

<input type="checkbox"/>	Less than 5 percent
<input type="checkbox"/>	From 5 percent up to 15 percent
<input type="checkbox"/>	From 15 percent up to 50 percent
<input type="checkbox"/>	50 percent or greater

I.10. For any year during 2005-09, did your firm sell or license manufactured goods, services, or intellectual property to wholesalers or similar entities that sold or licensed your products in foreign markets?

- Yes
- No
- Don't know the final market

If yes, please report these sales as a percentage of the value of your total sales during this time.

<input type="checkbox"/>	Less than 5 percent
<input type="checkbox"/>	From 5 percent up to 15 percent
<input type="checkbox"/>	From 15 percent up to 50 percent
<input type="checkbox"/>	50 percent or greater

I.11. Please indicate the North American Industry Classification System (NAICS) 4-digit classification code for your top three lines of business in 2009. A list and definition of NAICS codes can be found at <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007>. For example, if your firm's top line of business in 2009 was college education services, you would enter 6113 for rank 1 in the space below.

Rank	NAICS code (4-digit)
1	
2	
3	

SECTION II. BUSINESS IMPEDIMENTS

II.1. During 2005-2009, did your firm sell, or consider selling, goods, services, or intellectual property to foreign clients?

- Yes Continue with this section below.
- No Proceed to section III.

II.2. For each impediment below, please indicate, from 1 to 5, the extent to which it has affected your existing sales, or potential sales, to foreign clients. If sales not impeded, check 1; if the impediment has had a major effect on sales to foreign clients in your primary foreign market, check 5. If you have not encountered the impediment in your business, check the “not encountered” box. **If you have no knowledge about the impediment, do not check a box.**

#	Impediment	Not encountered	Check one box per row to indicate severity of impediment on sales				
			No impediment	Moderate impediment			Major impediment
1	Obtaining financing	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2	Foreign regulations	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3	Difficulty locating sales prospects	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4	Foreign sales not sufficiently profitable	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5	Language or cultural barriers	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6	Insufficient intellectual property protection	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7	High tariffs	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8	Unable to find foreign partner firm	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
9	U.S. regulations	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
10	Difficulty establishing affiliates in foreign market	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
11	Visa issues	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
12	Customs procedures	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
13	Difficulty in receiving or processing payments for goods or services	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
14	Lack of trained staff to manage international business activities	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
15	U.S. taxation issues	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
16	Foreign taxation issues	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
17	Lack of government support programs	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
18	Preference for local goods or services in foreign market	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
19	Transportation/shipping costs	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
20	Other (specify below)	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
	Specify:						
21	Other (specify below)	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
	Specify:						
22	Other (specify below)	<input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
	Specify:						

II.3. Please indicate the three most significant impediments affecting your firm's ability to do business with existing or potential foreign clients. Use the impediment number in the first column of the table in question II.2. For example, if transportation costs present the most significant impediment, please enter the number 19 for rank 1 in the space below.

Rank	Put impediment number from question II.2 in this column
1	
2	
3	

SECTION III. FOREIGN CLIENT INFORMATION

III.1. During 2005-2009, did your firm sell or license manufactured goods, services or intellectual property to foreign clients?

- Yes Continue with this section below.
- No Proceed to section IV.

III.2. Please provide your revenues derived from selling or licensing manufactured goods, services, or intellectual property to foreign clients.

CAREFUL ESTIMATES ARE ACCEPTABLE. IF A VALUE IS ZERO, ENTER 0. IF A VALUE IS UNKNOWN, LEAVE ENTRY BLANK.

ANNUAL REVENUES SHOULD NOT EXCEED THE TOTAL REVENUES REPORTED IN QUESTION I.6.

Year	Revenue from sales to foreign clients in full figure dollars
2005	
2006	
2007	
2008	
2009	

III.3. Please provide your revenues derived from selling or licensing manufactured goods, services, or intellectual property to foreign clients in each of the following countries or regions.

CAREFUL ESTIMATES ARE ACCEPTABLE. IF A VALUE IS ZERO, ENTER 0. IF A VALUE IS UNKNOWN, LEAVE ENTRY BLANK.

THE SUM OF REVENUES FOR EACH YEAR SHOULD MATCH THE FIGURES REPORTED IN QUESTION III.3.

Year	Revenue from foreign clients in full figure dollars							
	Canada	Mexico	EU27	Other Europe ¹	China	Other Asia ²	Latin America (besides Mexico) ³	Other ⁴
2005								
2006								
2007								
2008								
2009								

¹ Including Russia.

² Including Middle Eastern, East Asian, and South Asian countries.

³ Including Central American and Caribbean countries.

⁴ Including Australia, New Zealand, African countries, and all other countries not provided for in the preceding columns.

III.4. Please indicate how your firm markets its manufactured goods, services, or intellectual property, as a share of total revenue. Please base your responses on 2009 data.

CAREFUL ESTIMATES ARE ACCEPTABLE. SHARE(S) SHOULD SUM TO 100 PERCENT.

Marketing method	Share of total revenue (percent)
Domestic markets	
Foreign markets:	
Physically or electronically shipped manufactured good or service to unrelated foreign client	
Foreign client traveled to the United States to purchase good or service from your firm	
Through affiliates (of any type, i.e., manufacturers, distributors, etc.) established by your firm in a foreign market	
Your firm's employees traveled to foreign market to deliver the good or service	
Provided intellectual property to firms in foreign markets	
Through licensed contracted foreign production with non-affiliated firms for products sold in countries other than the United States	
Other (Please specify: _____)	
Total (domestic and foreign market figures must sum to 100 percent)	100
If 2009 data are not available, please use the most recent data available, and indicate here the year your responses are based on.	

III.5. If your firm delivers part or all of its manufactured goods, services, or intellectual property through an affiliate in a foreign market, please check one box below that describes the affiliate. Check only one box.

- Sales office affiliate without production activities or core service provision
- Affiliate with production activities or core service provision
- Both of the above
- Other

III.6. Please indicate how your firm has attracted foreign clients. Rank in order of success, 1 being the most successful, 2 next, and so on. If unknown, leave spaces blank.

Method	Rank (1, 2, etc.)
Foreign client initiated contact with firm directly	
Business relationship extending more than 5 years in the past	
Trade shows in U.S. or foreign market	
Personal relationship with clients abroad	
Your firm's Web site	
Other marketing methods by your firm	
Assistance or information provided by a U.S. state or federal government agency	
Assistance or information provided by a private firm	
Other (Please specify: _____)	

III.7. Have your relationships with foreign clients spurred your firm to hire additional employees in the United States during 2005-2009?

- Yes Please complete this question.
- No Proceed to section IV.

CAREFUL ESTIMATES ARE ACCEPTABLE. IF A VALUE IS ZERO, ENTER 0. IF A VALUE IS UNKNOWN, LEAVE ENTRY BLANK.

Total number of additional full-time employees hired in the United States during 2005-2009 due to relationships with foreign clients	Total number of additional part-time employees hired in the United States during 2005-2009 due to relationships with foreign clients

SECTION IV. OTHER INFORMATION

IV.1. If you would like to elaborate on any of your responses, or provide any additional pertinent information, use the space below. Specify if the additional information applies to a specific question number. If information is general in nature, leave "Question no." column blank.

Question no.	Additional information

APPENDIX F
Description of USITC Questionnaire
Methodology

Description of USITC Questionnaire

Methodology

In his letter to the Chairman of the U.S. International Trade Commission, the U.S. Trade Representative requested that the Commission investigate the role of U.S. SMEs in trade using, among other sources, primary data collected through questionnaires. In order to comply with this request, the Commission developed a questionnaire to collect primary data on the operations of U.S. SMEs. The Commission field-tested its questionnaire with firms in December 2009 and submitted it to the Office of Management and Budget (OMB) for clearance in January 2010. After receiving OMB clearance in February 2010, the Commission sent the questionnaire to a sample of 9,000 U.S. firms.

Sample Population

The sample population was drawn from Orbis, a commercial database that consolidates firm-level statistical information. For comparison purposes, the Commission sent the questionnaire to both large firms and SMEs in the tradable services and manufacturing industries. Both firms with international clients and firms with only domestic clients were included in the sample. The sample population was stratified (divided into different classes of firms) by employment size categories, exporter or nonexporter status, and services or manufacturing sectors. Within each of the strata, the Commission employed a simple random sample without replacement technique.¹ Table F.1 summarizes the number of firms sampled in each stratum and the total number of firms in the Orbis database for each stratum.

In constructing its sample population, the Commission sought to exclude industries in which SMEs rarely conduct business with foreign clients or in which transactions with foreign clients are difficult for firms to quantify. For instance, most SME bakeries do not export because their products are perishable and have low value per weight. And while SME dry cleaners may conduct business with foreign clients by establishing affiliates abroad or by selling to foreign citizens who use their services while temporarily in the United States, the former is extremely rare and the later is difficult for firms to quantify. The Commission used information in the Orbis database on the percentage of SMEs by industry that identify their sales territory as including international customers to define which industries would be included in the sample population.²

The total number of firms in each stratum included in the Orbis dataset is not comparable with the total population of firms in similar employee and industry categories reported by the U.S. Census Bureau, because of differences in the methods used by Orbis and Census to categorize and consolidate firm-level data. For the U.S. economy as a whole, however, Census reported approximately 6 million employer firms and 21 million non-employer

¹ This process randomly selected a fixed number of firms in each stratum.

² Industries in which less than 0.2 percent of SMEs identified their sales territory as international were excluded from the sample population. Based on this criteria, all manufacturing industries were included in the sample, aside from bakeries and tortilla manufacturing (NAICS 3118). For a list of included service industries, please see appendix C.

TABLE F.1 Number of firms by stratum contained in Orbis database and number of firms sampled by USITC

	Non-exporting firms		Exporting firms		Exporters and non-exporters	
	Firms in Orbis	Firms sampled	Firms in Orbis	Firms sampled	Firms in Orbis	Firms sampled
SME Manf 0-19 employees	489,240	500	1,902	500		
SME Manf 20-99 employees	48,443	500	11,442	500		
SME Manf 100-499 employees	6,441	500	5,136	500		
Large Manf 500+ employees					2,886,365	1500
SME Serv 0-19 employees	2,878,640	500	7,725	500		
SME Serv 20-99 employees	141,377	500	13,421	500		
SME Serv 100-499 employees	19,502	500	3,861	500		
Large Serv 500+ employees					3,634,091	1500

Source: Orbis database.

firms in 2006.³ The Orbis database currently reports data on approximately 15 million U.S. firms, or roughly one-half of all U.S. firms.⁴ According to officials with Bureau van Dijk, the publisher of Orbis, the database contains more complete information regarding large publicly traded firms than small privately held firms.

Response Rate

Based on the Commission's legal authority under section 333(a) of the Tariff Act of 1930 (19 U.S.C. 1333(a)), the questionnaire was mandatory for all firms to complete. Besides the initial mailing, firms included in the sample received two follow-up mailings reminding them to complete the questionnaire. The Commission received 3,200 completed and timely questionnaires. In addition, 755 responses by firms that indicated that the questionnaire did not apply to them, and 569 questionnaires were returned as undeliverable by the U.S. Post Office.⁵ Table F.2 reports response rate by stratum.

Analysis of Questionnaire Responses

Once the Commission received completed questionnaires, they were reviewed by Commission staff, who ensured firms had properly reported all data. In cases where data were missing or appeared to be incorrect, staff contacted respondent firms to provide corrected data. In cases where individual firms were unable or unwilling to provide data,

³ Census, Nonemployer Statistics 2006; Census, Statistics of U.S. Businesses 2006. In its Statistics of U.S. Businesses dataset, which provides information on the number of firms by industry, Census defines a firm as a business organization consisting of one or more domestic establishments in the same state and industry that were specified under common ownership or control. Under this definition, a large enterprise that has multiple establishments engaged in different industries, in different states, may be counted as more than one firm. In Orbis, however, an enterprise would be counted as one firm regardless of how many states or industries it operates in.

⁴ Even for economy-wide statistics, a precise comparison of firm counts by Census and Orbis is not feasible due to differences in timing of reporting (Census publishes its firm counts for discrete years, while firm counts for Orbis are updated on a continual basis).

⁵ In certain cases firms may have been correct that the questionnaire did not apply to them, and in other cases firms mistakenly certified that the questionnaire did not apply to them, such as when firms incorrectly assumed that the questionnaire applied only to exporters, or when certain services firms, such as wholesalers, did not recognize that their firms qualified as services firms.

TABLE F.2 Number of respondents to USITC questionnaire

	Number of employees	Number of firms that responded
Exporting services firms	0-19	184
	20-99	173
	100-499	154
Non-exporting services firms	0-19	279
	20-99	201
	100-499	184
Large services firms	≥500	380
Exporting manufacturing firms	0-19	193
	20-99	274
	100-499	296
Non-exporting manufacturing firms	0-19	140
	20-99	167
	100-499	106
Large manufacturing firms	≥500	469
Total		3200

Source: Compiled from USITC questionnaire.

the Commission imputed data for total revenue and total employment to a limited extent, by using data in previous or subsequent years.

Weighting

Due to sampling design, the raw survey data are not self-weighted. As table F.1 shows, relative to Orbis population numbers, large firms were oversampled. Similarly, SMEs in general represent only two-thirds of surveyed firms, while they accounted for 99.9 percent of firms in the United States.⁶ Sampling weights, defined as the inverse probability of inclusion by stratum, were constructed to correct for this and make the sample more closely reflect the population.

Weights were also constructed to account for survey nonresponse. Two approaches were followed in making this adjustment. The first uses the inverse response rate by each of the 14 strata as the correction factor for nonresponse. The underlying assumption is that all firms within a given stratum have the same probability of responding to the survey, though this probability may vary across strata.

The second approach models survey response given some information available for both respondents and nonrespondents. In addition to the data on size, NAICS, and exporting status used to define strata, the geographic location of all surveyed firms is observed from the sampling frame. This information is used to regress a response indicator on a comprehensive set of indicator variables for sampling strata and U.S. states. Estimated

⁶ Census, Statistics of U.S. Businesses; Census, Nonemployer Statistics.

probabilities, or propensity scores, from this analysis were used to match firms into three equal-sized classes (low, medium, and high probability). This matching was done separately for six superstrata, in order to preserve counts at the superstrata and higher levels.⁷

Response probabilities from either approach were combined with the sampling weights in order to form final weights that account for both survey design and nonresponse. The estimation of the logistic regression model in the second approach suggests that, after controlling for stratum, response rates tend to vary for certain states, making the final weights from the propensity score approach the preferred weights. The preferred weighting scheme was used to generate statistics reported in this report. Nonetheless, the two sets of final weights were subject to various sensitivity checks and were found to yield comparable results.

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<http://www.census.gov/econ/nonemployer/index.html>.

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⁷ The super-strata were formed according to strata by aggregating the SME strata with 0–19 employees, 20–99 employees, and 100–499 employees into a single SME super-stratum.

APPENDIX G

Discussion of Firm Characteristics Based on Questionnaire Results

Introduction

This appendix uses data collected through a USITC questionnaire to discuss the primary characteristics of U.S. SMEs in the manufacturing and services sectors that export or sell their goods and services abroad through foreign affiliates. These characteristics include number of employees, revenue, the major country and regional markets for the firms' exports, and the major marketing methods used by SMEs. This information is presented from a comparative standpoint and notes the major differences between manufacturing and services SMEs, as well as between SMEs and large firms, vis-à-vis the characteristics mentioned above. This appendix examines important trends among exporting SMEs as identified in questionnaire responses and secondary research. It also presents data on firms' opinions on trade impediments and the results of some statistical tests concerning the responses by different groups to the questions on trade impediments.

There was a wide variation in the way firms responded to individual survey questions. In some cases, reporting firms did not respond, or left the answers blank, to certain questions. Because of these factors, many estimates derived from the statistical analyses of questionnaire responses include large standard errors. For this reason, when discussing the primary characteristics of exporting SMEs, it is difficult to make clear distinctions among certain classes of firms based on survey results.¹

Comparisons Related to Revenue and Employment in Exporting SMEs

In 2009, average revenues among SME exporters of services were slightly less than \$6.0 million (table G.1). By contrast, large services exporters recorded average revenues of \$142.3 million in 2009. Average revenues for exporting SMEs in the manufacturing sector were far lower in 2009 (\$3.9 million) than revenues for large manufacturers that exported (\$1.4 billion). SMEs that did not export in 2009, including both manufacturing and services firms, reported average revenues of \$6.6 million.

Exporting services SMEs experienced revenue growth of 19 percent during 2005–09, which was approximately the same as the revenue growth for large services firms that exported. Average revenues among SME manufacturers that exported during 2005–09 grew by 37 percent, compared to 6 percent for large manufacturers that exported. Differences in growth rates in both sectors were not statistically significant. Nonexporting SMEs experienced a 7 percent growth rate in average revenues over the same period.

From 2008 to 2009, average revenue decreased for manufacturers of all sizes whether or not they exported. SME and large service exporters both experienced revenue growth of 9 percent, but the trends for SME services firms were more

¹ Information in this appendix supplements data from Census and BEA presented in chapter 3, but does not represent official U.S. trade statistics. Tables in this appendix report standard errors, which provide an indication of the variability of the data in computing a particular statistic and can be used for tests of significance.

TABLE G.1 Primary characteristics of questionnaire respondents, 2009^a

	Average number of years in operation	Average revenues (\$1,000)	Average number of employees	Average growth in revenues 2007–08 (%)	Average growth in revenues 2008–09 (%)	Average growth in number of employees 2007–08 (%)	Average growth in number of employees 2008–09 (%)	Average growth in revenue 2005–09 (%)	Average growth in employment 2005–09 (%)
Exporting firms									
Services									
SMEs (employees<500)	15 (2.4)	5,952 (1,404)	11 (1.7)	6 (11.3)	9 (9.3)	-2 (4.0)	-4 (0.9)	19 (6.5)	0 (1.5)
Empl.<20	13 (2.5)	392 (131)	5 (1.5)	5 (12.4)	9 (12.1)	-3 (4.4)	-5 (1.3)	20 (7.0)	-1 (1.6)
Empl. 20–99	25 (3.5)	20,800 (1,771)	45 (3.8)	16 (7.0)	5 (6.2)	6 (5.0)	-3 (1.5)	16 (4.8)	6 (2.3)
Empl. 100–499	32 (2.3)	68,300 (10,200)	205 (14.8)	10 (2.4)	-9 (6.2)	3 (4.5)	-3 (1.4)	9 (2.3)	5 (2.2)
Large firms (employees≥500)	44 (3.9)	142,312 (118,445)	5,391 (2,654)	11 (4.8)	9 (5.2)	6 (1.3)	-3 (0.9)	19 (6.8)	9 (2.3)
Manufacturing									
SMEs (employees<500)	14 (3.1)	3,887(702)	14 (2.5)	11 (3.6)	-9 (3.1)	2.4 (7.3)	-9 (0.6)	37 (22.2)	9 (4.5)
Empl. <20	15 (3.3)	1,881(532)	5 (1.2)	24 (5.9)	-7 (5.8)	3 (8.6)	-7 (1.4)	96 (76.0)	10 (5.2)
Empl. 20–99	28 (2.7)	7,811 (998)	39 (2.4)	-1 (2.3)	-16 (3.7)	-2 (1.8)	-10 (1.1)	-4 (9.6)	4 (2.4)
Empl. 100–499	43 (3.2)	55,022 (5,969)	195 (11.7)	8 (2.3)	-6 (5.0)	6 (4.5)	-8 (1.0)	26 (11.5)	4 (1.5)
Large firms (employees≥500)	52 (2.3)	1,398,043 (254,440)	4,704 (764)	9 (1.7)	-12 (1.3)	0 (1.2)	-7 (0.6)	6 (0.9)	1 (0.7)
Nonexporting firms									
SMEs (employees<500)	20 (1.7)	6,569 (3,451)	13 (3)	6 (5.1)	-8 (5.2)	-1 (3.1)	-7 (0.6)	7 (3.2)	5 (2.0)

Source: Data compiled from responses to USITC questionnaire.

Note: Averages are calculated using sampling weights. For further discussion of sampling weights, see appendix F.

^aNumbers in parentheses denote standard deviations.

variable. Exporting services SMEs with 100 to 499 employees experienced a revenue decline in 2009 of 9 percent. Among manufacturers that exported, average revenue declined by 9 percent and 12 percent for SMEs and large firms, respectively. Non-exporting SMEs across all sectors experienced a decline in revenue from 2008 to 2009 of 8 percent.

Employment trends during recent years were also quite diverse. During 2005–09, exporting services SMEs experienced no net employment growth.

Exporting SME manufacturers experienced net employment growth of 9 percent (see table G.1). Employment growth in large services firms was notably higher (9 percent) than in services SMEs, whereas large manufacturing firms experienced lower employment growth (1 percent) than their SME counterparts (9 percent).

Characteristics of Foreign Client Sales² of Exporting SMEs

Foreign Client Revenue Trends

In general, manufacturing firms earned more revenue from foreign client sales, including both exports and foreign affiliate sales, than services firms during the subject period. In 2009, revenue from foreign client sales accounted for 23 percent of total firm revenue for manufacturing SMEs and 24 percent for large manufacturing firms. This was substantially more than the shares achieved by their SME and large services firm counterparts (table G.2).³ The foreign client revenue share of both services and manufacturing SMEs grew substantially (46 percent) during 2005–09, with the largest jump (89 percent) in foreign revenue share experienced by services SMEs with 100 to 499 employees.

Manufacturers' foreign client sales appeared more vulnerable to the effects of the global economic recession, however, than did those of services firms. Between 2008 and 2009, the foreign client revenues of services SMEs decreased by 4 percent, and of manufacturing SMEs, by 8 percent. Large services firms achieved a revenue increase of 20 percent in 2009, whereas large manufacturing firms experienced a revenue decrease of 7 percent. These numbers track findings of a 2009 World Bank study examining the effects of the global economic recession on services trade. The study found that, in general, U.S. services

² Foreign client sales are sales by U.S. firms to clients whose normal base of operation is not in one of the 50 U.S. states, Washington, DC, or Puerto Rico.

³ European Commission, *2003 Observatory of European SMEs*, 2003, 19. A study on internationalization by SMEs conducted by the European Commission in 2003 suggests a relationship between the export intensity of SMEs, measured as the share of firm revenue attributed to foreign client sales, and firm size. The study found that, generally, smaller SMEs have fewer opportunities than larger SMEs to enter foreign markets. However, among SMEs that are already engaged in international activities, export intensity varies only slightly between small and medium-sized firms. The study included firms in both the services and manufacturing sectors.

TABLE G.2 Exporting profile of questionnaire respondents, 2009^a

	Average revenues from exports	Export revenue as a share of total revenue	Growth in export revenue over previous year	Average annual growth in export revenue, 2005–09
	Thousand \$		(%)	
Services				
SMEs (employees<500)	869 (211)	19 (10)	-4 (12)	46 (17)
Empl. <20	548 (188)	20 (11)	-7 (13)	40 (23)
Empl. 20–99	2,471 (816)	16 (4)	34 (23)	55 (13)
Empl. 100–499	13,300 (5,756)	14 (3)	-5 (5)	89 (33)
Large firms (employees≥500)	142,300 (70,000)	9 (3)	20 (12)	65 (34)
Manufacturing				
SMEs (employees<500)	12 (292)	23 (6)	-8 (9)	46 (11)
Empl. <20	590 (340)	25 (6)	-15 (9)	38 (14)
Empl. 20–99	1,100 (245)	10 (2)	36 (20)	65 (24)
Empl. 100–499	6,818 (936)	13 (2)	35 (17)	70 (18)
Large firms (employees≥500)	571,800 (144,000)	24 (1)	-7 (4)	48 (20)

Source: Data compiled from responses to USITC questionnaire.

^aNumbers in parentheses denote standard deviations.

exports, as well as those from other countries, were less affected by the recession than exports of manufactured goods.⁴

Leading Foreign Markets

In 2009, the leading foreign markets by revenue share for U.S. services SMEs were Canada, Mexico, and the EU. Canada generated the single largest share of foreign client sales for U.S. services SME exporters within each employment category (table G.3). The EU stood second in terms of foreign revenue share among services SMEs with 20 to 99 employees and with 100 to 499 employees. For services SMEs with less than 20 employees, Mexico ranked second in terms of foreign revenue share and the EU, third. For large services firms, foreign revenue share was highest in the EU, followed by “other Europe” and Canada.⁵ Like services SMEs, manufacturing SMEs’ drew their highest share of foreign revenue from Canada; Canada was followed, however by “other Asia,” with the EU again coming in third. For large manufacturers, the three largest sources of foreign revenue were Canada, the European Union, and “other Asia,” with Mexico following closely behind.

Marketing Channels

Services SMEs, like manufacturing SMEs, earn a higher portion of foreign client revenues through cross-border exports (70 percent) than through any other channel of delivery (table G.4). The share of foreign revenues received through cross-border exports by services SMEs is greatest for firms with less than 20 employees (72 percent) and smallest for firms with 100 to 499 employees (45 percent). Overall, as services SMEs become larger, the share of foreign revenues accounted for by cross-border exports decreases, while the share accounted for by affiliate transactions generally increases. Indeed, among large services firms, affiliate transactions accounted for 63 percent of foreign revenues in 2009, compared to 17 percent for cross-border exports. Among SMEs in the manufacturing sector, the share of foreign

⁴ Borchert and Mattoo, “The Crisis-Resilience of Services Trade,” April 2009, 2–5.

⁵ The category “other Europe” includes Russia.

TABLE G.3 Primary foreign markets for questionnaire respondents: Market share by country or region, 2009^a (%)

	Canada	Mexico	EU27	Other Europe ^b	China	Other Asia ^c	Latin America ^d	Other ^e
Services								
SMEs (employees <500)	35 (12)	18 (12)	16 (8)	2 (1)	4 (2)	12 (6)	3 (1)	11 (7)
Empl. ≤20	35 (13)	20 (13)	15 (9)	2 (1)	4 (2)	12 (7)	2 (2)	11 (1)
Empl. 20–99	31 (7)	2 (1)	25 (7)	1 (1)	6 (4)	14 (5)	15 (8)	6 (4)
Empl. 100–499	28 (4)	9 (5)	27 (4)	4 (2)	2 (1)	18 (6)	4 (1)	8 (2)
Large firms (employees ≥500)	13 (7)	2 (1)	41 (7)	19 (8)	2 (1)	8 (3)	8 (1)	6 (3)
Manufacturing								
SMEs (employees <500)	31 (8)	5 (3)	20 (10)	8 (5)	3 (2)	24 (15)	8 (4)	2 (1)
Empl. <20	30 (9)	4 (3)	19 (11)	9 (5)	3 (3)	27 (17)	7 (5)	1 (1)
Empl. 20–99	34 (6)	8 (2)	25 (10)	1 (1)	4 (1)	9 (2)	11 (5)	8 (3)
Empl. 100–499	37 (4)	9 (3)	25 (6)	2 (1)	3 (1)	13 (3)	6 (2)	4 (1)
Large firms (employees ≥500)	30 (2)	11 (2)	24 (2)	3 (1)	6 (1)	14 (1)	6 (1)	6 (1)

Source: Data compiled from responses to USITC questionnaire.

^aNumbers in parentheses denote standard deviations. Data within rows do not add up to 100 percent because of rounding errors.

^bIncludes Russia.

^cIncludes Middle Eastern, East Asian, and South Asian countries.

^dIncludes Central American and Caribbean countries.

^eIncludes Australia, New Zealand, African countries, and other countries not included in the preceding columns.

TABLE G.4 Foreign client revenue share by method of delivery, 2009

	Physically or electronically shipped good or service	Foreign client traveled to the U.S.	Via affiliates	Employees traveled to foreign market	Provided intellectual property to firms in foreign markets	Licensed contracted foreign production with non-affiliated firms for products sold outside the U.S.	Other	Total foreign client revenue share
	---Percent---							
<i>Services firms</i>								
Empl.<20	72	6	8	6	0	0	9	100
Empl. 20–99	51	13	17	10	7	2	1	100
Empl. 100–499	45	9	15	22	2	1	5	100
Employees<500	70	6	8	7	1	0	8	100
Employees≥500	17	6	63	7	1	0	5	100
<i>Manufacturers</i>								
Empl.<20	72	0	23	1	0	0	3	100
Empl. 20–99	58	6	22	6	1	3	5	100
Empl. 100–499	57	4	22	5	1	9	1	100
Employees<500	71	1	23	2	0	1	3	100
Employees≥500	48	2	44	2	1	2	1	100

Source: Data compiled from responses to USITC questionnaire.

Note: Because some questionnaire respondents replied to only part of the question used to capture data for this table (i.e., they ranked some, but not all of the delivery methods identified above), no statistical analysis was performed on the data. In addition, the data presented in this table are not comparable to data on cross-border trade and affiliate transactions presented in chapter 4 of this report because of differences in coverage and methodologies used to capture and report data. For more detail regarding questionnaire methodology, see appendix C.

revenue attributed to cross-border exports also decreased with firm size. For large manufacturing firms, foreign revenues were almost evenly divided between cross-border exports (48 percent) and affiliate transactions (44 percent).

Perceptions of Trade Impediments

This section presents the results of statistical difference of proportions tests that were used to test whether the proportion of SMEs rating a given trade impediment as “more burdensome” (4 or 5) was statistically larger than the proportion of large firms doing so. These results were discussed in chapter 6 of this report. Table G.5 presents the results for manufacturers, and table G.6 presents the results for services firms. One-sided tests of whether the SME proportion was larger than that of large firms were performed. In cases where the result was highly significant (the SME proportion is greater), the chi-squared test statistic is large, and the p-value (which is an estimate of the probability of obtaining a test statistic this large) has been rounded off to 0. In cases where the large-firm proportion exceeded that of the SME, the p-values are 1.

Mann-Whitney tests were also performed on the ratings of impediments as an alternative means of analysis. This test uses rankings to compare the relative location of the entire distributions of SME and large firm responses and works well with ordinal discrete data, such as the 1–5 responses. If the distribution of SME responses is shifted to the right of (i.e., is greater than) the distribution of large-firm responses, there will be a large negative Mann-Whitney statistic.⁶ This would be the case if SMEs find the impediments to be more burdensome than large firms. The results are reported in table G.7. For manufacturing, the null hypothesis of no significant difference between responses of SMEs and large firms was not rejected for six impediments: difficulty locating sales, foreign regulations, foreign sales not sufficiently profitable, foreign taxation, preference for local goods, and U.S. taxation. In other words, the test cannot determine whether SMEs’ responses indicated a greater burden than large firms in these instances. The null hypothesis was rejected (implying that the distribution of SME responses is shifted to the right) for the other barriers reported by the manufacturing sector and for all of the barriers reported by the services sector. The results are broadly similar to the proportions of firms that responded with a 4 or 5; however, they are not identical.⁷

⁶ This is a one-tailed test, and firms that reported not encountering the impediment were not included.

⁷ Because the Mann-Whitney test is based on overall rankings, it would not be expected to provide identical results to the tests of proportions.

TABLE G.5 Results of difference of proportion tests between SME and large manufacturers rating impediments as a 4 or 5

	SME proportion	Large proportion	Chi-square	P-value
Customs procedures	27.25	9.12	219.6	0
Difficulty establishing affiliates in foreign markets	18.55	5.89	123.1	0
Difficulty in receiving or processing payments	33.25	6.75	427.5	0
Difficulty locating sales prospects	11.53	6.11	36.2	0
Foreign regulations	25.78	23.67	3.2	0.0377
Foreign sales not sufficiently profitable	8.51	12.59	27.0	1
Foreign taxation issues	3.85	16.95	544.0	1
High tariffs	35.58	13.73	256.5	0
Insufficient IP protection	6.81	13.93	83.8	1
Lack of government support programs	29.24	10.27	175.9	0
Lack of trained staff	15.62	7.20	70.7	0
Language/cultural barriers	17.82	4.12	173.0	0
Obtaining financing	32.02	14.84	133.6	0
Preference for local goods/services in foreign market	35.58	17.36	178.2	0
Transportation/shipping costs	38.40	27.90	66.6	0
U.S. regulations	40.21	9.34	526.0	0
U.S. taxation issues	1.87	7.95	235.0	1
Unable to find foreign partners	12.47	4.11	64.6	0
Visa issues	6.08	2.03	28.9	0

Source: USITC staff calculation from questionnaire data.

TABLE G.6 Results of difference of proportion tests between SME and large services firms rating impediments as a 4 or 5

	SME proportion	Large proportion	Chi-square	P-value
Customs procedures	17.25	6.72	62.8	0
Difficulty establishing affiliates in foreign markets	42.36	7.71	379.4	0
Difficulty in receiving or processing payments	41.64	9.47	401.7	0
Difficulty locating sales prospects	23.38	31.72	44.1	0
Foreign regulations	29.95	27.11	2.9	0.0442
Foreign sales not sufficiently profitable	43.07	12.82	431.0	1
Foreign taxation issues	53.11	14.42	553.4	1
High tariffs	30.13	10.88	115.4	0
Insufficient IP protection	53.3	5.11	580.1	1
Lack of government support programs	27.4	2.55	205.5	0
Lack of trained staff	19.69	9.81	71.5	0
Language/cultural barriers	34.27	7.11	320.7	0
Obtaining financing	43.33	8.3	394.5	0
Preference for local goods/services in foreign market	25.08	10.64	89.9	0
Transportation/shipping costs	29.03	9.26	150.3	0
U.S. regulations	25.56	11.18	93.4	0
U.S. taxation issues	42.68	9.98	391.4	1
Unable to find foreign partners	27.98	3.58	262.7	0
Visa issues	30.51	8.82	169.7	0

Source: USITC staff calculation from questionnaire data.

TABLE G.7 Test of whether SMEs rated impediments to trade higher than large firms

	Manufacturing		Services	
	Mann-Whitney	P-value	Mann-Whitney	P-value
Customs procedures	-22.5068	0	-12.8831	0
Difficulty establishing affiliates in foreign markets	-22.6787	0	-23.8881	0
Difficulty in receiving or processing payments	-10.3412	0	-21.6171	0
Difficulty locating sales prospects	1.2079	0.8864	-5.0956	0
Foreign regulations	13.8813	1.0000	-6.4947	0
Foreign sales not sufficiently profitable	-0.1650	0.4345	-13.7799	0
Foreign taxation issues	5.9352	1.0000	-21.3172	0
High tariffs	-13.2658	0	-12.9276	0
Insufficient IP protection	-6.1967	0	-26.1382	0
Lack of government support programs	-2.7492	0.0030	-23.2069	0
Lack of trained staff	-2.1025	0.0178	-6.5338	0
Language/cultural barriers	-13.2402	0.0000	-8.1571	0
Obtaining financing	-3.8472	0.0001	-23.4189	0
Preference for local goods/services in foreign market	4.9503	1.0000	-22.0046	0
Transportation/shipping costs	-11.3867	0	-19.8052	0
U.S. regulations	-18.3836	0	-11.1296	0
U.S. taxation issues	15.6875	1.0000	-12.7754	0
Unable to find foreign partners	-8.0572	0	-8.5608	0
Visa issues	-17.7163	0	-8.9873	0

Source: USITC staff calculation from questionnaire data.

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APPENDIX H
The Indirect Contribution of SMEs to U.S.
Exports: Conceptual Model and Estimation
Method

Data Requirements and Methodology for Indirect Exports Analysis

Official statistics on exports of SMEs underestimate the full contribution of SMEs toward exports. To properly estimate the value-added exports produced by SMEs, the Commission has constructed a model that separates the contribution of value added by SMEs to gross exports from the value added from other sources. The results are reported in Chapter 5, and the methodology is detailed in this appendix.

The analysis in this report extends the methodology of the input-output (IO) modeling literature to accommodate firms of different sizes. IO tables, compiled by the U.S. Bureau of Economic Analysis (BEA) based on U.S. Economic Census and administrative data, provide an estimate of how much of each product made in the economy is used as an intermediate input in each industry, along with the value contributed by factors of production such as labor and capital. The BEA publishes these data on a detailed industry basis, but does not provide them by firm size. In order to obtain SMEs' indirect exports, the Commission divided annual IO tables published by the BEA into SME- and large firm-specific accounts. The major innovation in this approach is to conduct this separation by partitioning out each element in the IO table into SME-specific and large firm-specific elements. This is done for both inputs and outputs so that each inter-industry transaction cell in the original table is split into four cells. Other studies in the literature have used a similar methodology to partition IO tables published by national statistical agencies into sub-accounts, such as splitting Chinese IO tables into processing and normal export accounts.¹

Estimating indirect exports by SMEs requires considerably more data disaggregated by firm size than are currently available. In principle, the following types of data, divided by firm size, are required: sales/receipts, payroll, employment, net taxes on production and imports, imports, use of intermediate inputs, and exports. Of these, good-quality sector-level production data are largely available from the Economic Census. Export data are unevenly covered, with certain sectors (such as manufacturing) covered comprehensively and several services sectors lacking any documented breakdown. No firm size-specific disaggregation is available for either import data or inter-industry transaction flows. As a result of these data gaps, this analysis relied on assumptions of some firm size-specific activities, thereby introducing additional uncertainty to the modeling exercise. A final issue was the level of aggregation: the BEA annual IO data are available for about 65 industries, whereas the export data available by firm size are generally more aggregated. The additional aggregation reduces the accuracy of estimates, particularly detailed industry-specific analysis.

Conceptual Model

Recent literature demonstrates that only a small percentage of SMEs directly participate in international trade (Bernard et al., 2007). However, SMEs may engage in such trade indirectly by providing intermediate goods and services to exporters of all sizes. IO models are often used to quantify the extent of this indirect engagement in international trade in terms of value-added creation and employment. This study extends the traditional IO model to separately track the IO coefficients of large firms and SMEs. A formal approach to estimate the data that are not available will be described in the next section.

¹ Koopman, Wang, and Wei, "How Much of Chinese Exports Is Really Made in China?" 2008.

The IO table makes explicit the value of intermediate goods and services used by each industry in the economy. Rows represent supply of goods and services, while columns represent their use. Superscripts L and S represent large firms and SMEs respectively; z_{ij}^{LL} represent the value of intermediate good i supplied by large firms and used by large firms in sector j . Similarly, z_{ij}^{LS} is the value of intermediate good i supplied by large firms and used by SMEs in sector j ; z_{ij}^{SL} , the value of intermediate good i supplied by SMEs and used by large firms in sector j ; and z_{ij}^{SS} , the value of intermediate good i supplied by SMEs and used by SMEs in sector j . Value added—the value added by factors of production—is divided by firm size: v_j^L represents the direct value added by large firms in industry j and v_j^S represents direct value added by SMEs in industry j .

The expanded IO table with separate accounts for SMEs is displayed in figure H.1. Capital letters indicate block matrices whose dimensions are noted along the rows and columns.

The direct IO coefficients for this expanded IO model can be written as:

$$A^{LL} = [a_{ij}^{LL}] = \left[\frac{z_{ij}^{LL}}{x_j^L} \right], A^{SL} = [a_{ij}^{SL}] = \left[\frac{z_{ij}^{SL}}{x_j^L} \right], A_v^L = [a_j^{vL}] = \left[\frac{v_j^L}{x_j^L} \right],$$

$$A^{LS} = [a_{ij}^{LS}] = \left[\frac{z_{ij}^{LS}}{x_j^S} \right], A^{SS} = [a_{ij}^{SS}] = \left[\frac{z_{ij}^{SS}}{x_j^S} \right], A_v^S = [a_j^{vS}] = \left[\frac{v_j^S}{x_j^S} \right],$$

where i represents a row and j represents a column. The elements x_j^L and x_j^S represent, respectively, large-firm and SME gross outputs in sector j . The matrices A^{LL} , A^{LS} , A^{SL} , and A^{SS} represent the direct IO coefficients, while A_v^L and A_v^S are row vectors representing value added of the production sectors. The expanded IO model can be formally described by the following system of equations:

$$\begin{bmatrix} X^L \\ X^S \end{bmatrix}' = \begin{bmatrix} A^{LL} & A^{LS} \\ A^{SL} & A^{SS} \end{bmatrix} \begin{bmatrix} X^L \\ X^S \end{bmatrix}' + \begin{bmatrix} Y^L \\ Y^S \end{bmatrix}, \quad (1)$$

$$uA^{LL} + uA^{SL} + A_v^L = u \quad (2)$$

$$uA^{LS} + uA^{SS} + A_v^S = u \quad (3)$$

FIGURE H.1: Input-output table with separate production account for SMEs

		Intermediate use				
			Production by large firms (L)	Production by SMEs(S)	Final use (C+I+G+E)	Total supply Gross output + total imports
		DIM	1,2,..., N	1,2,..., N	4	2
Intermediate Inputs	Production by large firms (L)	1 . . N	Z^{LL}	Z^{LS}	Y^L	$X^L + M^L$
	Production by SMEs(S)	1 . . N	Z^{SL}	Z^{SS}	Y^S	$X^S + M^S$
Value-added		3	V^L	V^S		
Gross output		1	X^L	X^S		

where u is a 1-by-N unit vector. Equations (2) and (3) are adding-up constraints for the IO coefficients. Rearranging (1) yields:

$$\begin{bmatrix} X^L \\ X^S \end{bmatrix} = \begin{bmatrix} I - A^{LL} & -A^{LS} \\ -A^{SL} & I - A^{SS} \end{bmatrix}^{-1} \begin{bmatrix} Y^L \\ Y^S \end{bmatrix} = \begin{bmatrix} B^{LL} & B^{LS} \\ B^{SL} & B^{SS} \end{bmatrix} \begin{bmatrix} Y^L \\ Y^S \end{bmatrix}, \quad (4)$$

Each block in B denotes the N-by-N block Leontief inverse matrix. The Leontief inverse matrix, or total requirements matrix, gives the amount of each firm size's gross output required for a one-unit increase in final demand (including exports) of each product by firm size. Y^L and Y^S are N-by-1 vectors that denote the use of final goods by consumers, the government, investment and exports from large firms and SMEs respectively.

Applying the algebra of the partitioned matrix inverse, the analytical solution for the Leontief inverse matrix can be expressed as:

$$\begin{bmatrix} B^{LL} & B^{LS} \\ B^{SL} & B^{SS} \end{bmatrix} = \begin{bmatrix} (I - A^{LL} - A^{LS}(I - A^{SS})^{-1}A^{SL})^{-1} & B^{LL}A^{LS}(I - A^{LL})^{-1} \\ (I - A^{SS})^{-1}A^{SL}B^{LL} & (I - A^{SS} - A^{SL}(I - A^{LL})^{-1}A^{LS})^{-1} \end{bmatrix} \quad (5)$$

Using (5), the value of total gross exports can be decomposed into its value-added sources by firm sizes. For example, the indirect value added produced by SMEs but embodied in large firms' exports can be computed as:

$$IV^S = A_v^S B^{SL} E_L' = A_v^S (I - A^{SS})^{-1} A^{SL} B^{LL} E_L' = A_v^S B^{SS} A^{SL} (I - A^{LL})^{-1} E_L' \quad (6)$$

where E_L is the row vector of exports by large firms. Value added is contributed by several factors of production, including capital, labor, and land. The individual contributions of each factor can also be estimated—for example, the payments to labor (and the number of jobs) supported by value added exported indirectly through large firms. Let L_j^k be total

employment of firm size k in sector j . Define $a_l^k = [a_{lj}^k] = \left[\frac{L_j^k}{x_j^k} \right]$ as the direct labor coefficients (the labor required per unit of output) for each firm size in sector j , A_l^k is a diagonal matrix of labor coefficients for firm size k . Substituting A_l^S for A_v^S in equation (6) yields an estimate for the indirect employment effect of large firms' exports on SMEs.

Estimation Method

Equation (6) allows the Commission to compute the indirect value-added and employment effects on SMEs of large firms' exports for each industry as well as on an aggregate basis. However, statistical agencies typically report only a traditional IO matrix A , and not the disaggregated block matrices A^{LL} , A^{LS} , A^{SL} and A^{SS} separately. Therefore, it is necessary to develop a method to estimate them based on available information. The method proposed is a quadratic programming model based on combining information disaggregated by firm size from the Economic Census and conventional IO tables (that do not contain information on firm size) from the BEA.

IO tables include data on sector-level total output, value added, imports, and exports. The Economic Census provides data on total sales/receipts and annual payroll data broken down by large firms and SMEs. SBA also publishes estimates of GDP by industry and business size on a 2-digit NAICS industry basis. Total sales/receipts data in the Economic Census were used to allocate gross output to each firm size within a sector, while annual payroll data from the Economic Census were used to split labor and non-labor components of the value added. For some industries, there are data on exports broken down by firm size. When such data are available, they are used to split the sector-level export data of the BEA annual IO tables. There are also data available on shares of imports by firm type in the Linked-Longitudinal Trade Transaction Database (LFTTD) analogous to the share of exports by firm types obtained from the Census Bureau. However, these data are confidential and could not be accessed in time to be used in this report. Instead, the imports by large firms and SMEs were treated as variables in the model rather than as known parameters.

The following data are observable from the standard IO table (not disaggregated by firm size):

x_i : gross output of sector i ;

z_{ij} : goods i used as intermediate inputs in sector j ;

v_j : value added in sector j ;

e_i : total exports of sector i goods;

m_i : total imports of sector i goods; and

y_i : total final demand excluding exports of goods i .

Using these data from the IO table to determine sector-level totals ensures that the balancing conditions in official IO accounts are always satisfied, and that the extended IO table with separate accounts that are split for large firms and SMEs can be aggregated back to the standard IO table. Data for x_i , v_j , and e_i are split by firm size based on information from the Economic Census; together with data for z_{ij} , m_i , and y_i from the BEA annual IO tables, they enter the programming model as constants.

It is necessary to estimate transactions $[z_{ij}^{LL}]$, $[z_{ij}^{LS}]$, $[z_{ij}^{SL}]$, and $[z_{ij}^{SS}]$, as well as sector-level domestic final demand $[y_j^L]$, and $[y_j^S]$, since such detailed firm size-specific information cannot be obtained from the Economic Census. This estimation is cast as a constrained optimization problem. Initial values are selected based on certain proportionality assumptions (discussed in the next section) and using the data available from the Economic Census and the BEA annual IO tables. However, these initial values are not guaranteed to satisfy various economic and statistical restrictions on the data. Using the notation previously defined, the programming model is specified by the objective function in equation (7), subject to the seven constraints given in equations (8) through (14). The initial values for the same variables in equation (7) are denoted with an additional zero. Variables without a zero (the z 's, y 's and m 's) are unknowns that are solved for by using the model. Symbols with a zero in equations (8) through (14) represent parameters in the model and are kept constant during the optimization process.

$$\begin{aligned} \text{Min } S = & \sum_{i=1}^K \sum_{j=1}^K \frac{(z_{ij}^{LL} - z0_{ij}^{LL})^2}{z0_{ij}^{LL}} + \sum_{i=1}^K \sum_{j=1}^K \frac{(z_{ij}^{LS} - z0_{ij}^{LS})^2}{z0_{ij}^{LS}} + \sum_{i=1}^K \sum_{j=1}^K \frac{(z_{ij}^{SL} - z0_{ij}^{SL})^2}{z_{ij}^{SL}} \\ & + \sum_{i=1}^K \sum_{j=1}^K \frac{(z_{ij}^{SS} - z0_{ij}^{SS})^2}{z0_{ij}^{SS}} + \sum_{j=1}^K \frac{(y_j^L - y0_j^L)^2}{y0_j^L} + \sum_{j=1}^K \frac{(y_j^S - y0_j^S)^2}{y0_j^S} \\ & + \sum_{j=1}^K \frac{(m_j^L - m0_j^L)^2}{m0_j^L} + \sum_{j=1}^K \frac{(m_j^S - m0_j^S)^2}{m0_j^S} \end{aligned} \quad (7)$$

$$\sum_{j=1}^K (z_{ij}^{LL} + z_{ij}^{LS}) + y_i^L + e0_i^L = x0_i^L + m_i^L \quad (8)$$

$$\sum_{j=1}^K (z_{ij}^{SL} + z_{ij}^{SS}) + y_i^S + e0_i^S = x0_i^S + m_i^S \quad (9)$$

$$\sum_{j=1}^K (z_{ij}^{LL} + z_{ij}^{SL}) + v0_j^L = x0_j^L \quad (10)$$

$$\sum_{i=1}^K (z_{ij}^{LS} + z_{ij}^{SS}) + v0_j^S = x0_j^S \quad (11)$$

$$z_{ij}^{LL} + z_{ij}^{LS} + z_{ij}^{SL} + z_{ij}^{SS} = z0_{ij} \quad (12)$$

$$y_i^L + y_i^S = y0_i \quad (13)$$

$$m_i^L + m_i^S = m0_i \quad (14)$$

These seven constraints have straightforward economic interpretations. Equations (8) and (9) are supply and use balancing (row sum) constraints for the expanded IO account. They state that total gross output by each type of firm in sector, i plus their respective imports, must equal the sum of their use of intermediate inputs, their exports, and their delivery to final domestic users in that sector. Equations (10) and (11) are production and cost balancing (column sum) constraints for the expanded IO account. They define the value of gross output by each type of firm in sector j as the sum of intermediate inputs and primary factors used in the production process. Equations (12) to (14) are a set of adding-up constraints to ensure that the solution from the model sums to official statistics in the BEA annual IO tables on sector-level inter-industry transactions, domestic final demand, and imports.

Data Sources and Model Variable Initialization

The model parameters and initial values of model variables are derived by combining industry level IO data from the most recent versions of the BEA annual IO tables with information on gross output, annual payroll, and employment from the 2002 and 2007 Economic Censuses.² There are 65 NAICS industries and 67 goods and services in the BEA annual make and use tables. They were first aggregated into 20 industries and 22 goods and services to match the sector classification of gross output (total sales or receipts), employment, and annual payroll information received from the Census Bureau. The aggregated version of the BEA annual make and use tables was converted into symmetric industry-by-industry IO tables based on the “fixed product sales structure” assumption (Model D).³ Each industry’s gross output in the resulting symmetric industry-by-industry IO table was split into large firms and SMEs based on their share of total sales or receipts, computed from the 2002 and 2007 Economic Censuses. The labor compensation and non-labor components of value added in the symmetric industry-by-industry IO tables (net taxes on production and imports and operating surplus) were allocated by firm size based on annual payroll data from the Economic Census. Total intermediate inputs by industry and firm types were obtained by subtracting total value added from the corresponding gross outputs.

Thus all the parameters $x0_j^k$ and $v0_j^k$ in the model, as well as each sector’s total intermediate inputs were obtained from reliable data sources, which constrain the model solution to a convex set. To allocate each sector’s total intermediate inputs ($x0_j^k - v0_j^k$) by firm size into transactions within and between the two firm size categories and within and between industries and initialize all the $z0_{ij}$ ’s, two additional assumptions are made:

(1) The splitting of each **use industry**’s total intermediate inputs into each firm size is based on their respective shares in total intermediate inputs. The shares are listed in column (5) of table H.1. For example, large firms used 81.5 percent of total manufacturing intermediate inputs in 2002; the remaining 18.5 percent was used by SMEs. These shares are derived from official data listed in table H.1. The inputs from all other sectors used in the manu-

² Updated versions of the BEA annual IO tables were released on May 25, 2010, as part of a comprehensive revision of the annual industry accounts. Statistics for all years were prepared for industries defined according to the 2002 NAICS.

³ Model D is one of the four basic transformation models used to convert supply and use tables into symmetric IO tables. Because one industry may produce multiple products, it assumes each product has its own specific sales structure, irrespective of the industry in which it is produced. Here “sales structure” means the proportions of a product sold to the respective intermediate and final users. It retains the links to the national accounts data and basic statistics, and requires fewer resources to compile than other models. The transformation of the values along the columns of the use matrix can be expressed as the pre-multiplication of the use matrix with a transformation matrix, which is the inverse of the product mix of an industry. Refer to Chapter 11, “Transformation of Supply and Use Tables to Symmetric Input-Output Tables” in Eurostat *Manual of Supply, Use and Input-Output Tables*, 2008 edition for technical details.

TABLE H.1 Data from Economic Census used to split the BEA annual Input-Output tables (%)

NAICS (1)	Description (2)	Gross output (3)		Value-added (4)		Inter. Inputs (5)		Exports (6)		Employment (1,000) (7)	
		Large	SMEs	Large	SMEs	Large	SMEs	Large	SMEs	Large	SMEs
2002											
11	Agriculture, forestry, fishing, and hunting	17.2	82.8	16.4	83.6	17.8	82.2	42.0	58.0	24	157
21	Mining	76.6	23.4	64.7	35.3	93.1	6.9	81.6	18.4	261	204
22	Utilities	85.1	14.9	88.0	12.0	81.3	18.7	47.6	52.4	538	111
23	Construction	20.5	79.5	18.0	82.0	23.1	76.9	80.2	19.8	946	5,361
31, 32, 33	Manufacturing	75.2	24.8	63.5	36.5	81.5	18.5	85.3	14.7	8,299	6,095
42	Wholesale trade	58.8	41.2	42.8	57.2	98.5	1.5	34.5	65.5	2,181	3,679
44, 45	Retail trade	52.4	47.6	51.0	49.0	56.2	43.8	43.8	56.2	8,459	6,361
48, 49^a	Transportation and warehousing	64.8	35.2	64.9	35.1	64.6	35.4	40.7	59.3	2,090	1,491
51	Information	83.6	16.4	77.4	22.6	90.3	9.7	83.4	16.6	2,632	904
52	Finance and insurance	82.8	17.2	72.5	27.5	96.6	3.4	29.1	70.9	4,451	1,963
53	Real estate and rental and leasing	37.3	62.7	33.3	66.7	47.5	52.5	19.0	81.0	630	1,387
54	Professional, scientific, and technical services	39.6	60.4	38.3	61.7	42.4	57.6	46.2	53.8	2,523	4,523
55	Management of companies and enterprises	84.6	15.4	90.3	9.7	72.5	27.5	78.6	21.4	2,536	377
56	Administrative and waste management services	54.0	46.0	59.8	40.2	43.1	56.9	38.3	61.7	5,014	3,286
61	Educational services	58.5	41.5	58.3	41.7	59.0	41.0	78.6	21.4	1,427	1,275
62	Health care and social assistance	55.4	44.6	53.5	46.5	58.3	41.7	78.6	21.4	7,755	7,145
71	Arts, entertainment, and recreation	36.0	64.0	30.3	69.7	45.1	54.9	2.0	98.0	608	1,193
72	Accommodation and food services	43.9	56.1	44.0	56.0	43.9	56.1	78.6	21.4	3,962	6,087
81	Other services, except government	15.9	84.1	17.1	82.9	14.1	85.9	32.3	67.7	750	4,670
	Total	61.2	38.8	54.4	45.6	66.7	33.3	69.5	30.5	56,034	56,366
2007											
11	Agriculture, forestry, fishing, and hunting	17.2	82.8	17.9	82.1	16.8	83.2	42.0	58.0	28	144
21	Mining	76.6	23.4	64.7	35.3	89.3	10.7	81.6	18.4	419	282
22	Utilities	82.9	17.1	86.9	13.1	76.9	23.1	47.6	52.4	512	110
23	Construction	21.6	78.4	18.8	81.2	24.4	75.6	80.2	19.8	1,077	6,190
31, 32, 33	Manufacturing	76.0	24.0	62.2	37.8	82.8	17.2	84.3	15.7	7,402	5,918
42	Wholesale trade	57.5	42.5	45.1	54.9	86.4	13.6	37.2	62.8	2,329	3,636
44, 45	Retail trade	56.6	43.4	55.1	44.9	60.4	39.6	43.8	56.2	9,621	6,139
48, 49^a	Transportation and warehousing	64.6	35.4	67.3	32.7	61.6	38.4	40.7	59.3	2,777	1,618
51	Information	83.5	16.5	77.9	22.1	89.6	10.4	78.4	21.6	2,522	877
52	Finance and insurance	81.6	18.4	72.7	27.3	90.7	9.3	63.4	36.6	4,414	2,135
53	Real estate and rental and leasing	40.7	59.3	35.7	64.3	51.8	48.2	52.8	47.2	721	1,503
54	Professional, scientific, and technical services	42.5	57.5	43.8	56.2	39.6	60.4	50.5	49.5	3,185	4,995
55	Management of companies and enterprises	85.1	14.9	91.2	8.8	73.9	26.1	78.6	21.4	2,738	384
56	Administrative and waste management services	54.2	45.8	62.6	37.4	38.6	61.4	36.6	63.4	6,259	3,724
61	Educational services	62.5	37.5	60.3	39.7	66.8	33.2	78.6	21.4	1,676	1,364
62	Health care and social assistance	57.5	42.5	56.2	43.8	59.5	40.5	78.6	21.4	8,808	7,990
71	Arts, entertainment, and recreation	39.0	61.0	32.7	67.3	48.3	51.7	23.3	76.7	695	1,313
72	Accommodation and food services	46.3	53.7	46.6	53.4	45.9	54.1	78.6	21.4	4,710	6,855
81	Other services, except government	16.7	83.3	18.8	81.2	13.3	86.7	38.4	61.6	843	4,677
	Total	61.7	38.3	56.1	43.9	66.9	33.1	71.6	28.4	60,737	59,867

Source: 2002 and 2007 Economic Census, special tabulation by U.S. Census Bureau, except intermediate inputs and exports.

^aExcept NAICS industry 491.

^bColumn (3) was computed from total sales or receipts; Column (4) was computed from annual payroll; Column (5) was computed based on the difference between gross output and value-added after splitting the symmetric industry-by-industry IO tables generated from the BEA annual make and use tables according to (3) and (4). In column (6), manufacturing and wholesale trade are based on USITC publication 4125; NAICS industries 51–54, 56, 71, and 81 are based on the Survey of U.S. Service Firms conducted by the U.S. Census Bureau. Other sector shares were based on the OECD Trade by Enterprise Characteristics Database (pre-release version).

facturing industry are then assumed to be split between large firms and SMEs in the same 81.5/18.5 proportion.

(2) The share of intermediate inputs from each **source industry** is determined by the proportion of each firm size's gross output share in the producing industry. For example, if SMEs produce 20 percent of the country's total electricity, then 20 percent of intermediate electricity input used by both large firms and SMEs will be provided by SMEs.

The splits generated by the application of these two assumptions can be written in mathematical notation as follows:

$$z0_{ij}^{LL} = \frac{x0_i^L (x0_j^L - v0_j^L)}{x0_i (x0_j - v0_j)} z0_{ij} \quad (15)$$

$$z0_{ij}^{LS} = \frac{x0_i^L (x0_j^L - v0_j^L)}{x0_i (x0_j - v0_j)} z0_{ij} \quad (16)$$

$$z0_{ij}^{SS} = \frac{x0_i^S (x0_j^S - v0_j^S)}{x0_i (x0_j - v0_j)} z0_{ij} \quad (17)$$

$$z0_{ij}^{SL} = \frac{x0_i^S (x0_j^L - v0_j^L)}{x0_i (x0_j - v0_j)} z0_{ij} \quad (18)$$

Total domestic demand (private consumption, government spending, fixed capital investment, and inventory changes) of sector i in the symmetric industry-by-industry IO tables was split into products produced by large firms and SMEs in a similar way:

$$y_i^L = x0_i^L - \frac{x0_i^L}{x0_i} \sum_{i=1}^N z0_{ij} - e0_i^L + m0_i^L \quad (19)$$

$$y_i^S = x0_i^S - \frac{x0_i^S}{x0_i} \sum_{i=1}^N z0_{ij} - e0_i^S + m0_i^S \quad (20)$$

The underlying assumption is that the supply of intermediate products for domestic use from each firm type in a particular sector is proportional to their gross output in that industry.

From equations (15) to (20), it is clear that the additional information needed to make the model fully initialized and operational is the relative proportion of large firms and SMEs in the nation's exports and imports at the sector level.

The figures for export share by large firms and SMEs for manufacturing and wholesale industries were obtained from "A Profile of U.S. Exporting Companies," 2002 and 2007, published by U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division.⁴ Data for seven additional service sectors (2002 NAICS 51–54, 56, 71, and 81) came from the U.S. Census. The remaining 10 sectors were split based on export data obtained from the OECD Trade by Enterprise Characteristics Database (pre-release version). Annual payroll,

⁴ These data were also presented in the Commission's January 2010 report on SMEs.

employment, and receipts data by firm size were obtained from the U.S. Census Bureau via the SBA Office of Advocacy.⁵ All data used in splitting the BEA annual IO tables are listed in table H.1. Parameters in table H.1 mainly used data from the 2002 and 2007 Economic Censuses, which are more reliable because of the large sample size; however, using annual payroll data only to split total value-added may underestimate SMEs' share.

Since it was not possible to obtain information on import shares by firm size, assumptions were made based on the available literature. Bernard et al. (2007) point out that there is a strong correlation (0.87) between sectors with high shares of importing firms and those with high shares of exporters: 41 percent of exporting firms are importers, while 79 percent of importers also export. Therefore, the model is initialized by assuming that the SME shares of imports are identical to the shares of exports in each sector. Imports by firm type are treated as variables, while exports are treated as parameters in the estimation model, so that the impact of such an assumption on the estimation results will be minimized by the optimization procedure.⁶

Because U.S. firms use many inputs from foreign suppliers, these foreign inputs subsequently become part of the value of U.S. gross exports. To avoid overestimating the contribution of SMEs to U.S. exports, imported content needs to be subtracted from the official gross exports statistics. Imported content (i.e., foreign value added) of U.S. gross exports is computed by adopting the measure proposed by Hummels, Ishii, and Yi in 2001.⁷

$$\text{Import content in gross exports} = uA^M(I - A^D)^{-1}, \quad (21)$$

where A^M and A^D are the imported and domestic IO coefficient matrices.

Two methods can be used to split the import matrix A^M from the symmetric industry-by-industry IO coefficient matrix A computed above: the proportionality method described by the National Research Council⁸ (2006), and converting the BEA annual imports use tables into symmetric industry-by-industry imports IO tables based on the fixed product sales structure assumption (Model D). The first method was used in generating the main results presented in Chapter 5. This method produced estimates of U.S. jobs supported by exports that were very similar to those recently reported by the U.S. Department of Commerce. The second method produced a higher estimate of imported value added and is used in the sensitivity analysis below.

It would be possible to split both A^M and A^D by firm type (large firm and SME) if reliable data on imports by firm types were to become available. Since the Commission does not have access to such data, this analysis applied the same A^M matrix to each type of firms. Thus the Commission assumed that both large firms and SMEs use the same proportion of imported intermediate inputs in their production process to derive the estimates reported in this report.

This quadratic programming model is implemented in GAMS (Brooke et al., 2005). The main results are presented in Chapter 5 of this report.

⁵ Data available at <http://www.sba.gov/advo/research/data.html#us>.

⁶ The imports only enter the estimation model in equations (19) and (20). Because of the large size of the U.S. economy, imports only make up a relative small portion of the total absorption (supply). For example, the import proportion was 7 percent in 2002 and 9 percent in 2007 based on the BEA annual use tables.

⁷ Hummels, Ishii, and Yi, "The Nature and Growth of Vertical Specialization," 2001.

⁸ National Research Council, "Analyzing the U.S. Content," 2006.

Sensitivity Analysis

As has been noted, gaps exist for firm size-specific data. In order to provide some indication about how these gaps affect model results, sensitivity analysis was performed on several key assumptions. Three sensitivity scenarios are examined below. The first scenario tests assumptions about the split of value added between large firms and SMEs. The second tests the assumptions about intermediate input flows across firm sizes. The third tests assumptions about imports. In each of the three cases, the results indicate that the model is not extremely sensitive to the assumption under examination.

Alternative Value-Added Assumption

The first sensitivity scenario examined the value-added parameter assumptions. The SBA commissioned a study in 2007 to estimate the small business share of GDP.⁹ The values reported in this study—in particular, the breakdown by firm size of the noncompensation component of value added—present an alternative to the value-added parameters used in the current study. The SBA estimates of SMEs' GDP shares are used to split data for v_j , by firm size and NAICS industry. The SBA estimates that SMEs account for a higher share of the non-labor component of value added, including taxes paid and profit earned, than calculated by the methodology presented in this report.¹⁰ Parameters in table H.2 are based on value-added shares for SMEs from the SBA report. The result, displayed in table H.2, is a 4 percentage point increase in the share of value-added exports by SMEs. In the new scenario, 45 percent of total value-added exports are attributable to SMEs compared with 41 percent in the original scenario. These results indicate that the model is robust to such parameter changes: despite a fairly substantial change to the underlying assumptions of the data, the results changed only slightly, and the overall message regarding the importance of SMEs in exports is unchanged.

This section compares in further detail the results of the value-added parameters estimated by the SBA with those obtained in our baseline analysis. The Commission decomposed U.S. gross exports by source of value added based on the model parameters listed in table H.1—the baseline parameter values; the estimation results are reported in table H.3. A further decomposition of SMEs' value-added exports is listed in table H.4. The analogous tables for the parameters listed in table H.2 which come from the SBA report, are reported in tables H.5 and H.6.

Alternative Intermediate Input Assumptions

The second sensitivity scenario checks the intermediate-inputs assumptions. The data for the IO tables are not collected by firm size, so the values for purchases and sales of intermediate inputs by firm size and sector are unknown. They therefore must be estimated, based on the shares of sector revenue by firm size at the aggregate level, which are known. These values are entered into the constrained optimization model as initial values. To test the sensitivity of the results to such an initialization, the Commission performed a sensitivity analysis. In order to do so, it was necessary to obtain sensible values for alternate assumptions. This was done

⁹ Kobe, *The Small Business Share of GDP, 1998–2004, 2007.*

¹⁰ The share of taxes and net capital income receipts are reversed. In the current study, the share of noncompensation components of GDP from SMEs is 43.9 percent, less than the share from large firms. In the SBA study, the SME share of taxes and net income are substantially higher, 55.3 percent. These results are driven by the assumption that noncorporate businesses are all small businesses.

TABLE H.2 Data from SBA: GDP by business size used to split the BEA annual Input-Output tables (%)

NAICS (1)	Description (2)	Gross output (3)		Value-added compensation to labor (4)		Value-added non labor component (5)		Inter. Inputs (6)		Exports (7)	
		Large	SMEs	Large	SMEs	Large	SMEs	Large	SMEs	Large	SMEs
2002											
11	Agriculture, forestry, fishing, and hunting	58.8	41.2	43.5	56.5	53.9	46.1	84.7	15.3	34.5	65.5
21	Mining	52.4	47.6	51.9	48.1	53.9	46.1	51.5	48.5	43.8	56.2
22	Utilities	64.8	35.2	65.9	34.1	44.9	55.1	71.4	28.6	40.7	59.3
23	Construction	83.6	16.4	77.7	22.3	81.4	18.6	87.8	12.2	83.4	16.6
31, 32, 33	Manufacturing	71.5	28.5	72.7	27.3	45.2	54.8	87.7	12.3	29.1	70.9
42	Wholesale trade	37.3	62.7	33.4	66.6	18.5	81.5	82.7	17.3	19.0	81.0
44, 45	Retail trade	39.6	60.4	38.2	61.8	11.5	88.5	61.9	38.1	46.2	53.8
48, 49 ^a	Transportation and warehousing	70.3	29.7	72.0	28.0	5.0	95.0	87.9	12.1	78.6	21.4
51	Information	54.0	46.0	60.3	39.7	25.2	74.8	58.0	42.0	38.3	61.7
52	Finance and insurance	58.5	41.5	58.5	41.5	48.4	51.6	60.6	39.4	78.6	21.4
53	Real estate and rental and leasing	55.4	44.6	48.9	51.1	26.0	74.0	71.6	28.4	78.6	21.4
54	Professional, scientific, and technical services	36.0	64.0	30.9	69.1	16.7	83.3	53.9	46.1	2.0	98.0
55	Management of companies and enterprises	43.9	56.1	44.6	55.4	38.1	61.9	46.0	54.0	78.6	21.4
56	Administrative and waste management services	15.9	84.1	17.2	82.8	9.9	90.1	17.8	82.2	32.3	67.7
61	Educational services	56.5	43.5	51.4	48.6	45.0	55.0	70.5	29.5	69.5	30.5
62	Health care and social assistance	58.8	41.2	43.5	56.5	53.9	46.1	84.7	15.3	34.5	65.5
71	Arts, entertainment, and recreation	52.4	47.6	51.9	48.1	53.9	46.1	51.5	48.5	43.8	56.2
72	Accommodation and food services	64.8	35.2	65.9	34.1	44.9	55.1	71.4	28.6	40.7	59.3
81	Other services, except government	83.6	16.4	77.7	22.3	81.4	18.6	87.8	12.2	83.4	16.6
	Total	71.5	28.5	72.7	27.3	45.2	54.8	87.7	12.3	29.1	70.9
2007											
11	Agriculture, forestry, fishing, and hunting	17.2	82.8	17.9	82.1	17.9	82.1	16.8	83.2	42.0	58.0
21	Mining	76.6	23.4	64.7	35.3	70.2	29.8	84.9	15.1	81.6	18.4
22	Utilities	82.9	17.1	86.9	13.1	74.0	26.0	91.8	8.2	47.6	52.4
23	Construction	21.6	78.4	18.8	81.2	9.2	90.8	27.4	72.6	80.2	19.8
31, 32, 33	Manufacturing	76.0	24.0	62.2	37.8	70.2	29.8	81.0	19.0	84.3	15.7
42	Wholesale trade	57.5	42.5	45.1	54.9	54.4	45.6	76.0	24.0	37.2	62.8
44, 45	Retail trade	56.6	43.4	55.1	44.9	54.4	45.6	61.1	38.9	43.8	56.2
48, 49 ^a	Transportation and warehousing	64.6	35.4	67.3	32.7	47.5	52.5	69.8	30.2	40.7	59.3
51	Information	83.5	16.5	77.9	22.1	84.8	15.2	85.1	14.9	78.4	21.6

See footnotes at end of table.

TABLE H.2 Data from SBA: GDP by business size used to split the BEA annual Input-Output tables (%)—*Continued*

NAICS	Description	Gross output		Value-added compensation to labor		Value-added Non labor component		Inter. Inputs		Exports	
52	Finance and insurance	70.3	29.7	72.7	27.3	43.1	56.9	81.7	18.3	63.4	36.6
53	Real estate and rental and leasing	40.7	59.3	35.7	64.3	18.3	81.7	88.3	11.7	52.8	47.2
54	Professional, scientific, and technical services	42.5	57.5	43.8	56.2	14.8	85.2	60.9	39.1	50.5	49.5
55	Management of companies and enterprises	66.0	34.0	62.4	37.6	4.0	96.0	88.8	11.2	78.6	21.4
56	Administrative and waste management services	54.2	45.8	62.6	37.4	26.4	73.6	55.8	44.2	36.6	63.4
61	Educational services	62.5	37.5	60.3	39.7	49.2	50.8	69.4	30.6	78.6	21.4
62	Health care and social assistance	57.5	42.5	56.2	43.8	27.1	72.9	67.3	32.7	78.6	21.4
71	Arts, entertainment, and recreation	39.0	61.0	32.7	67.3	17.8	82.2	57.9	42.1	23.3	76.7
72	Accommodation and food services	46.3	53.7	46.6	53.4	37.8	62.2	49.7	50.3	78.6	21.4
81	Other services, except government	16.7	83.3	18.8	81.2	10.0	90.0	18.2	81.8	38.4	61.6
	Total	57.5	42.5	52.9	47.1	44.7	55.3	70.7	29.3	71.6	28.4

Source: 2002 and 2007 Economic Census and SBA report "The Small Business Share of GDP, 1998-2004".

^aExcept NAICS industry 491.

^bAll shares in column (3) were computed from total sales or receipts data from the 2002 and 2007 Economic Census except NAICS industries 52 and 55; the 2002 shares in column (4) were taken from the SBA report except for NAICS industries 11, 21 and 3, and all 2007 shares were computed from annual payroll data from the Economic Census; the 2002 shares in column (5) were taken from the SBA report; 2007 shares were based on data from the latest year available (2004) in the same report; the missing industry (NAICS 11) was split based on annual payroll data from the Economic Census; column (6) shares were computed based on the difference between gross output and value-added after splitting the symmetric industry-by-industry IO tables generated from the BEA annual make and use tables according to the shares in columns (3), (4), and (5). In column (7), manufacturing and wholesale trade is based on USITC publication 4125; NAICS 51–54, 56, 71, and 81 are based on the Survey of U.S. Service Firms conducted by the U.S. Census Bureau. Other sector shares were based on the OECD Trade by Enterprise Characteristics Database (pre-release version).

There are inconsistencies between Economic Census receipts data and SBA value-added share data in NAICS industries 52 and 55: the differences between gross output and value-added becomes negative. Therefore, the average of the receipt share computed from the Economic Census and the GDP share from SBA report was used to split the gross output of these two NAICS industries in the IO tables.

TABLE H.3 Decomposition of U.S. gross exports by sources of value-added based on data from the Economic Census (millions of U.S. \$)

Sources	2002					2007				
	Large firms	SMEs	Government	Second. goods and rest of world adjust.	Total	Large firms	SMEs	Government	Second. goods and rest of world adjust.	Total
Total gross exports	560,618	246,109	2,751	97,177	906,656	961,920	382,301	4,595	152,528	1,501,344
Direct value-added in exports	201,872	167,357	1,726	0	370,955	347,608	240,587	2,808	0	591,004
Total value-added exports	443,185	356,639	9,655	0	809,478	774,447	559,708	14,662	0	1,348,816
Decomposition (1) ^a										
Total foreign value-added	75,513	60,767	736	0	137,016	158,094	114,258	1,396	0	273,748
Total domestic value-added	367,672	295,873	8,918	0	672,463	616,352	445,450	13,266	0	1,075,068
Indirect domestic value-added	165,800	128,516	7,192	0	301,508	268,744	204,863	10,458	0	484,064
Decomposition (2) ^b										
Total foreign value-added	46,193	37,173	399	0	83,765	109,732	79,305	874	0	189,911
Total domestic value-added	396,991	319,466	9,256	0	725,713	664,715	480,403	13,787	0	1,158,905
<i>Indirect Domestic value-added</i>	<i>195,119</i>	<i>152,110</i>	<i>7,529</i>	<i>0</i>	<i>354,758</i>	<i>317,107</i>	<i>239,815</i>	<i>10,979</i>	<i>0</i>	<i>567,901</i>

Source: USITC staff estimates based on BEA annual IO tables and parameters listed in table H.1.

^aAssumes the foreign content share of U.S. gross exports was 17.0% in 2002 and 20.4% in 2007.

^bAssumes the foreign content share of U.S. gross exports was 10.4% in 2002 and 14.2% in 2007.

TABLE H.4 Decomposition of SMEs' value-added exports based on data from the Economic Census (millions of U.S. dollars)

	Decomposition (1) ^a		Decomposition (2) ^b	
	2002	2007	2002	2007
Total domestic value-added	295,873	445,450	319,466	480,403
Direct value-added in exports	167,357	240,587	167,357	240,587
Indirect value-added in exports	128,516	204,863	152,110	239,815
SME value-added embodied in large firm exports	105,132	161,792	123,600	190,442
Rest of SMEs' indirect value-added exports	23,384	43,070	28,510	49,374
Large firm exports generated-employment for SMEs (1000)	1,329	1,669	1,441	1,804

Source: ITC staffs estimates based on BEA annual IO tables and parameters listed in table H.1.

^aAssumes the foreign content share of U.S. gross exports was 17.0% in 2002 and 20.4% in 2007.

^bAssumes the foreign content share of U.S. gross exports was 10.4% in 2002 and 14.2% in 2007.

TABLE H.5 Decomposition of U.S. gross exports by sources of value-added based on data from the SBA (millions of U.S. \$)

Sources	2002					2007				
	Large firms	SMEs	Government	Second goods and rest of world adjust	Total	Large firms	SMEs	Government	Second goods and rest of world adjust	Total
Total gross exports	560,618	246,109	2,751	97,177	906,656	961,920	382,301	4,595	152,528	1,501,344
Direct value-added in exports	200,487	171,027	1,726	0	373,241	336,063	248,327	2,808	0	587,198
Total value-added exports	424,165	375,705	9,608	0	809,478	732,167	601,942	14,708	0	1,348,816
Decomposition (1) ^a										
Total foreign value-added	72,272	64,015	733	0	137,020	149,463	122,879	1,400	0	273,743
Total domestic value-added	351,893	311,690	8,875	0	672,458	582,703	479,062	13,307	0	1,075,073
Total domestic value-added	151,406	140,663	7,149	0	299,218	246,640	230,735	10,499	0	487,875
Decomposition (2) ^b										
Total foreign value-added	44,211	39,160	397	0	83,768	103,741	85,289	877	0	189,908
Total domestic value-added	379,954	336,545	9,211	0	725,710	628,426	516,652	13,830	0	1,158,908
Indirect domestic value-added	179,467	165,518	7,485	0	352,470	292,362	268,325	11,022	0	571,710

Source: ITC staffs estimates based on BEA annual IO tables and parameters listed in table H.2.

^aAssume the foreign content share of U.S. gross exports was 17% in 2002 and 20.4% in 2007.

^bAssume the foreign content share of U.S. gross exports was 10.4% in 2002 and 14.2% in 2007.

TABLE H.6 Decomposition of SMEs' value-added exports based on data from the SBA (millions of U.S. \$)

	Decomposition (1) ^a		Decomposition (2) ^b	
	2002	2007	2002	2007
Total domestic value-added	295,873	445,450	319,466	480,403
Direct value-added in exports	171,027	248,327	171,027	248,327
Indirect value-added in exports	140,663	230,735	165,518	268,325
SME value-added embodied in large firm exports	114,587	161,792	181,672	213,841
Rest of SMEs' indirect value-added exports	26,076	49,063	30,802	54,484
Large firm exports generated-employment for SMEs (1000s)	1,345	1,696	1,458	1,833

Source: USITC staff estimates based on BEA annual IO tables and parameters listed in table H.2.

^aAssumes the foreign content share of U.S. gross exports was 17.0% in 2002 and 20.4% in 2007.

^bAssumes the foreign content share of U.S. gross exports was 10.4% in 2002 and 14.2% in 2007.

using questionnaire results. Firms were asked to report what share of their goods and services was sold to large firms that were eventually sold abroad. Both SMEs and large firms answered this question.

SME manufacturers reported selling about \$107 billion worth of goods sold to large firms.¹¹ By contrast, approximately \$561 billion worth of large manufacturers' sales were sold to other large firms. Taking these reported values as the basis for computing shares for all sales to large firms yields the result that approximately 15 percent of sales by manufacturing firms to large firms come from SMEs.¹² This is 10 percentage points lower than the 25 percent share assumed in the baseline analysis. For services, questionnaire respondents reported that approximately \$171 billion worth of sales were made by SMEs to large firms, while \$243 billion worth of sales were made by large firms to other large firms. This implied a share of SMEs sales to large firms of 40 percent,¹³ or 5 percentage points lower than the baseline scenario.

The sensitivity analysis was therefore conducted by selecting different sets of initial values of intermediate inputs: (1) a 10 percentage point decrease in the share of SME manufacturing sales to large firms, (2) a 5 percentage point decrease in the share of SME services sales to large firms, and (3) both changes from the first two scenarios.

As can be seen in the results table (table H.7), the modified initialization does not make a large difference. The SME share of total export value added decreases by 1.5 percentage points in the combined scenario, and less in the other scenarios. Within the bounds indicated by the questionnaire responses, the model demonstrates that the results obtained are fairly robust to changes in the initial share of sales allocated between SMEs and large firms.

¹¹ This sales value and those that follow in this paragraph are based on a survey question that asked respondents to provide an estimate of the share of sales their firm had made to large firms and SMEs. Respondents were asked to select one of a set of possible ranges (e.g., less than 5 percent, 5 to 15 percent). The midpoint of each range was paired with overall sales figures reported elsewhere in the questionnaire.

¹² For survey data, manufacturers are so defined if their self-reported primary NAICS category belonged to the manufacturing sector.

¹³ The survey results are used as an indication of the possible deviations from the assumptions surrounding the allocation of intermediate inputs by firm size. It should be noted that the survey results themselves are also subject to survey error and therefore do not necessarily indicate the true share values.

TABLE H.7 Sensitivity analysis of IO table

Source	Main results	Sensitivity		
		Manufacturing SME share reduced 10%	Services SME share reduced 5%	Manufacturing and Services
SME (share of total value)	41.5	40.5	40.9	40.0
Large	57.4	58.3	57.9	58.8
Government	1.2	1.2	1.2	1.2

Source: USITC staff calculations.

Alternative Imported Content Assumptions

There were no reliable data on firm size-specific imports by sector; the third sensitivity analysis addresses this by examining a key assumption surrounding the share of imported content used as intermediate inputs. As mentioned above, the value of imported content needs to be subtracted from official export statistics to accurately estimate the value contributed by U.S. SMEs. The results from the third sensitivity analysis are displayed in table H.8. The baseline method assumed proportionality of foreign imports (i.e., that foreign imports, once they have entered the U.S. economy, are treated identically to domestic products in terms of their purchase and sale across intermediate inputs, final demand, and export). The modified version uses information from the import use table published by BEA. In the modified version, total value-added exports (direct and indirect) were about 8 percent lower. In both cases, however, the share of SMEs of total exports remained unchanged at 41 percent.

Stability of the Model

The foregoing analysis indicates that the model is relatively stable with respect to changes in assumptions regarding its key parameters and initial values. It suggests that the key qualitative result—SMEs contribute a significant share of total value exported, and this share is greater than their share of gross exports—is unlikely to be reversed. On the other hand, the sensitivity analysis also indicates that there is uncertainty regarding the precise share of value-added SME exports and that the shares reported in this appendix and Chapter 5 should be seen as indicative. Finally, it should be cautioned that the sensitivity analysis is meant to be indicative of the possible variability of the results; it is not exhaustive, and the results cannot be taken to be firm bounds on the range of possible values.

TABLE H.8 Sensitivity analysis on import assumption, 2007

Source	Baseline		Modified Import Assumption	
	Value (billion \$)	Share (%)	Value (billion \$)	Share (%)
Total value	1,159	100	1,075	100
SME	480	41	445	41
Large	665	57	616	57
Government	14	1	13	1

Source: USITC staff calculations.

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