



INTERNATIONAL
TRADE
ADMINISTRATION

Jobs Supported by Exports 2013: Product and Industry

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December 11, 2015

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Jobs supported by exports were an estimated 11.4 million in 2013,¹ of which 6.9 million were jobs supported by the export of goods and 4.5 million were jobs supported by the export of services. The impact of exports on American jobs occurs throughout the supply chain. For example, jobs of some workers in the fabricated metal products industry are supported not only by the exports of that industry, but also by the export of products such as machinery and electronic products that use fabricated metal products as inputs in their production processes. Similarly, the export of fabricated metal products not only directly supports the jobs of some workers employed in the fabricated metal industry itself, but also indirectly supports the jobs of some workers in industries such as primary metals, wholesale trade and transportation that supply inputs to the production of fabricated metal products.

This report uses an input-output approach to evaluate the jobs supported by exports throughout the supply chain for the most recent year that industry data was available, 2013. In the first section, we look at the jobs supported *within* an industry across all products that are produced by or use the production of that industry as an input. In the second section, we look at the jobs supported by the export of a product across all industries that produce or supply inputs used in the production of the exported product.

We find that manufacturing industries have the highest share, 27 percent, of their employment supported by exports. We further find that although 61 percent of all export supported jobs are supported *by* the export of goods, almost 67 percent of all export supported jobs are jobs located *within* service industries. Finally, we find that for every job within manufacturing supported by the export of manufactured products there is an additional job supported in service industries by the export of those manufactured products.

Industry Jobs Supported by Exports

In this section, we look at the jobs *within* a given industry that are supported by the export of all goods and services. That is, we look at both the jobs within an industry that are supported directly by the export of the output of the industry and jobs within that industry that are supported indirectly by the export of all goods and services that are produced using that industry's output as an input into their production. Since the majority of people in the U.S. are

¹ Jobs supported by exports were an estimated 11.7 million in 2014. This report is based on the most recent industry level data available, 2013. In the services calculations, exports of construction and utilities are treated as services.

employed in industries that produce services, the share of total employment *within* an industry that is supported by exports tends to be lower for services industries. Two-thirds of the jobs supported by exports are jobs in services industries (nearly 7.7 million), which only represents 6 percent of services industry employment. In contrast, jobs supported by exports in manufacturing industries (3.2 million) represent 27 percent of manufacturing employment. Similarly, jobs supported by exports in agriculture related industries (nearly 0.5 million) represent 23 percent of agriculture employment (Table 1).

Table 1: Industry Jobs Supported by Exports, 2013

Industry	Industry Jobs Supported	Share of Industry Employment
Agriculture, forestry, fishing, and hunting	457,238	23%
Mining	124,668	15%
Manufacturing	3,210,237	27%
Services	7,650,504	6%

Source: ITA calculations from BEA data.

At a more disaggregated industry level, the top five industries that have the *largest number* of jobs within the industry supported by exports are all service industries. Professional and business services industry has the greatest number of jobs supported by exports (2.2 million), followed by wholesale and retail trade (nearly 1.6 million), with accommodation and food services, and transportation and warehousing both at 0.9 million (Table 2). See Table A-1 for a complete list of industries.

Table 2: Industries with the Largest Number of Export Supported Jobs, 2013

Industry	Industry Jobs Supported	Share of Industry Employment
Professional and business services	2,215,536	11%
Wholesale and retail trade	1,551,775	8%
Accommodation and food services	921,843	9%
Transportation and warehousing	919,299	20%
Finance and insurance	659,210	11%

Source: ITA calculations from BEA data.

In contrast, the five industries which have the *highest share* of employment within the industry supported by exports are all manufacturing industries. Aerospace and other transportation equipment has the largest share of employment supported by exports (46 percent), followed by computer and electronic products (43 percent), primary metals (40 percent), Machinery (35 percent) and Chemical products (34 percent) Table 3.

Table 3: Industries with the Largest Share of their Employment Supported by Exports, 2013

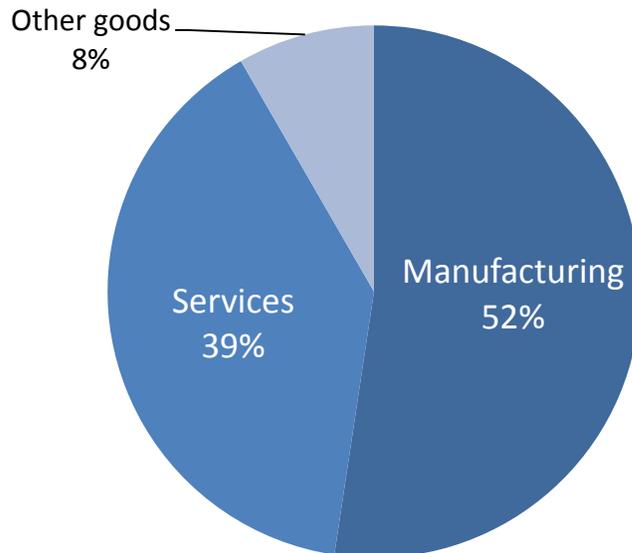
Industry	Industry Jobs Supported	Share of Industry Employment
Aerospace and other transportation equipment	314,948	46%
Computer and electronic products	449,308	43%
Primary metals	158,339	40%
Machinery	378,580	35%
Chemical products	269,205	34%

Source: ITA calculations from BEA data.

Jobs Supported by Product Exports

Jobs supported by the export of goods account for approximately 61 percent of the 11.4 million jobs, while the export of services account for the remaining 39 percent, (Figure 1). Jobs supported by the export of manufactured products account for the largest share of supported jobs at 52 percent, while the rest of goods exports accounted for 8 percent. The export of three products: professional and business services, accommodations and food services and machinery supported almost one out of every four jobs supported by exports in 2013 (2.7 million jobs or approximately 24 percent, Table 4).

Figure1: Jobs Supported by Product Exports , 2013



Source: ITA calculations from BEA data. Sum of shares does not add to total due to rounding.

Table 4: Shares of Total Jobs Supported by Specified Product Exports, 2013

Manufactured Products		Services		Other goods	
Machinery products	8%	Professional and business services	8%	Farms, forestry, hunting, etc.	4%
Chemical products	6%	Accommodation and food services	8%	Used and scrap	3%
Computer and electronic products	6%	Finance and insurance	5%	Mining	1%
Aerospace and other transportation equipment	6%	Wholesale and retail trade	5%		
Motor vehicles, bodies and trailers, and parts	5%	Transportation and warehousing	4%		
Food and beverage and tobacco products	4%	Information	4%		
Fabricated metal products	3%	Real estate, rental and leasing	3%		
Miscellaneous manufacturing	3%	Performing arts	2%		
Electrical equipment, appliances, and components	2%	Educational and health care	1%		
Petroleum and coal products	2%				
All other manufactured products	8%	All other services	*	All others	NA
Total manufactured	52%	Total services	39%	Total other goods	8%

*Total jobs supported for all remaining services are less than 1 percent. Individual shares may not sum to column totals due to rounding. Source: ITA calculations from BEA data.

Jobs Supported by Exports of Goods

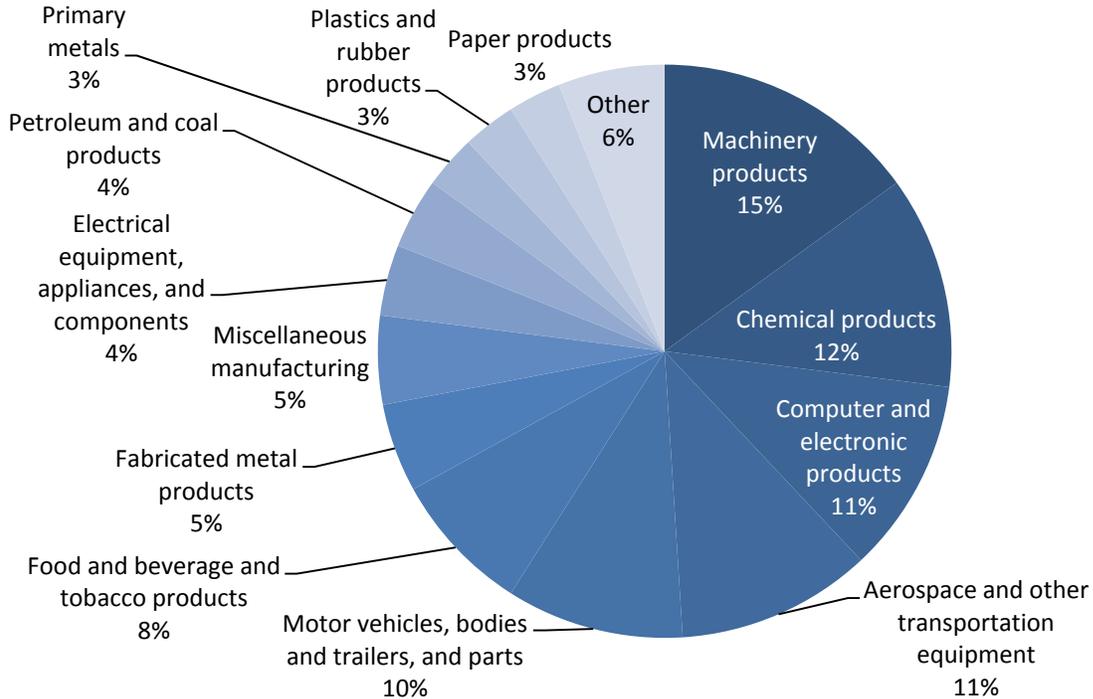
Exports of goods supported a total of 6.9 million jobs in 2013. More than 86 percent of the jobs supported by exports of goods exports were supported by the export of manufactured products, which supported almost 6.0 million jobs in 2013. Exports of machinery products supported the greatest number of jobs among manufactured products followed by chemical products; computer and electronic products; aerospace and other transportation equipment; and motor vehicles and parts, totaling 3.5 million jobs (Table 5). Combined, these five products accounted for 59 percent of the 6.0 million jobs supported by the export of manufactured products (Figure 2). In addition, almost 61 percent of those jobs (over 2.1 million) are indirect jobs located outside of the product's industry. See Table A-2 for a complete list of products.

Table 5: Top 5 Jobs Supporting Goods Exports, 2013

Exported Product	Total Jobs Supported	Direct Jobs Supported	Indirect Jobs Supported
Machinery products	892,245	330,739	561,506
Chemical products	741,312	213,350	527,961
Computer and electronic products	660,762	375,142	285,620
Aerospace and other transportation equipment	631,951	280,248	351,704
Motor vehicles, bodies and trailers, and parts	601,262	179,221	422,041

Source: ITA calculations from BEA data.

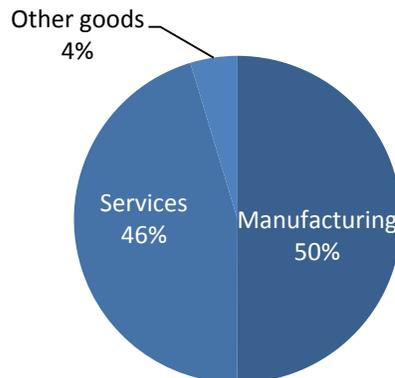
Figure 2: Share of Jobs Supported by the Export of Specified Manufactured Products, 2013



Source: ITA calculations from BEA data.

The location of jobs supported by the export of manufactured products is split evenly: one-half of the jobs supported are jobs located outside of manufacturing industries (Figure 3). Almost all of the jobs located outside of manufacturing that are supported by the export of manufactured products are jobs in the services sector. For every job in manufacturing supported by the export of manufactured products, there is nearly one additional job supported in the services sector. Four percent of the jobs supported by the exports of manufactured products are located in other goods producing industries.

Figure 3: Location of Jobs Supported by the Export of Manufactured Products, 2013



Source: ITA calculations from BEA data.

Jobs Supported by Exports of Services

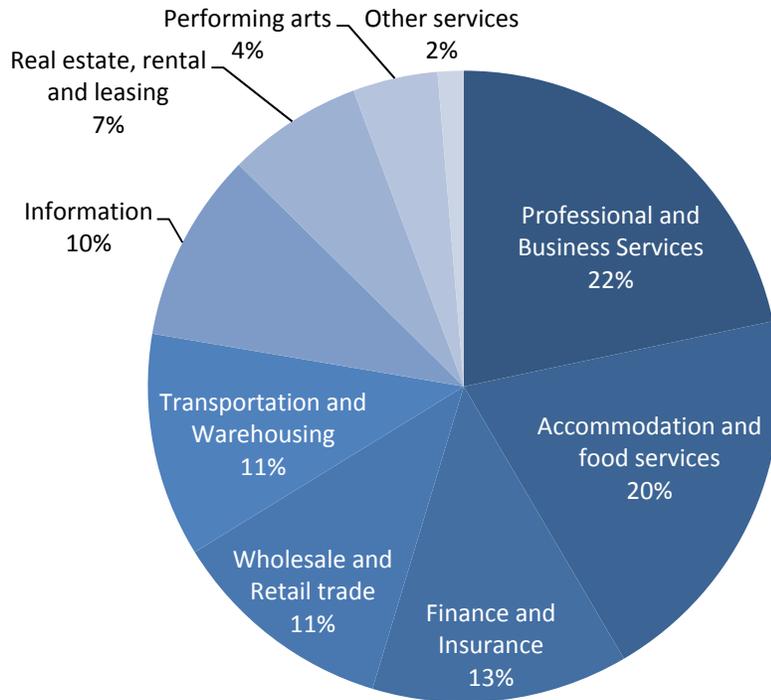
The export of services supported a total of 4.5 million jobs in 2013. The exports of services that supported the most jobs include: Professional and business services; accommodation and food services; finance and insurance; wholesale and retail trade; and transportation and warehousing, totaling 3.5 million jobs (Table 6). Combined, the top five jobs supporting services exports accounted for 77 percent of all jobs supported by services exports (Figure 4). However, only 24 percent of those jobs (0.8 million) are indirect jobs located outside of the product’s industry.

Table 6: Top 5 Jobs Supporting Services Exports, 2013

Exported Product	Total Jobs Supported	Direct Jobs Supported	Indirect Jobs Supported
Professional and business services	968,488	746,664	221,824
Accommodation and food services	887,107	717,793	169,314
Finance and insurance	586,096	399,985	186,112
Wholesale and retail trade	515,716	430,997	84,720
Transportation and warehousing	511,752	354,377	157,376

Source: ITA calculations from BEA data.

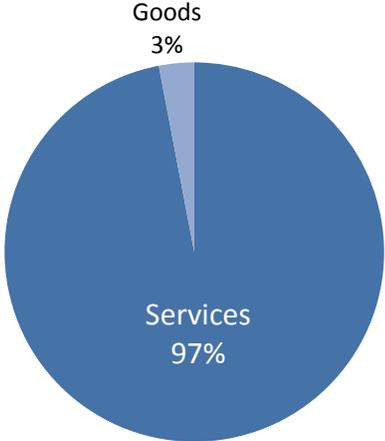
Figure 4: Share of Jobs Supported by Export of Specified Services, 2013



Source: ITA calculations from BEA data.

In contrast to manufacturing, jobs supported by the export of services are heavily concentrated in the service sector with almost all jobs (97 percent) being located in services industries. The remaining 3 percent of jobs supported by the export of services products are located in manufacturing and other goods industries (Figure 5).

Figure 5: Location of Jobs Supported by Services Exports, 2013



Source: ITA calculations from BEA data.

Data and Methodology

This study uses input-output analysis to measure the relationship between exports and jobs in 2013. As noted in Rasmussen and Johnson (2015),² we now use input-output data from the Bureau of Economic Analysis (BEA) as opposed to input-output data from the Bureau of Labor Statistics (BLS). BEA’s Annual Industry Accounts are updated more frequently than are the BLS input-output tables, which are themselves derived from data originally produced by BEA. In particular, in this study we used data from BEA’s Annual Industry Accounts (<http://www.bea.gov/industry/>) to produce a Domestic Total Requirements table for 2013. BEA data on persons engaged in production by industry from the National Income and Product Accounts were used to produce a 2013 Employment Requirements Table. The export data used in this analysis were taken from BEA’s Annual Industry Accounts and BEA’s Tourism Satellite Accounts (http://www.bea.gov/industry/tourism_data.htm).

² Chris Rasmussen and Martin Johnson (2015), “Jobs Supported by Exports in 2014: An Update.” U.S. Department of Commerce, International Trade Administration, Washington, DC.

Appendix Tables

Table A-1: Industry Jobs Supported by Exports, 2013

Industry	Total Industry Jobs Supported	Share of Industry Employment
Agriculture, forestry, fishing, and hunting	457,238	23%
Mining	124,668	15%
Utilities	32,268	6%
Construction	90,590	1%
Wood	57,154	16%
Nonmetallic minerals	68,663	18%
Primary metals	158,339	40%
Fabricated metals	402,444	28%
Machinery	378,580	35%
Computer and electronics	449,308	43%
Electrical equipment, appliances, and components	124,662	34%
Motor vehicles, bodies and trailers, and parts	198,218	24%
Aerospace and other transportation equipment	314,948	46%
Furniture and related	30,866	8%
Miscellaneous manufacturing	135,055	22%
Food, beverage and tobacco	179,495	11%
Textile mills and textile product mills	69,518	29%
Apparel, leather and related	29,001	16%
Paper	99,389	27%
Printing and related	61,732	13%
Petroleum and coal	24,340	22%
Chemicals	269,205	34%
Plastics and rubber	159,321	25%
Wholesale and retail trade	1,551,775	8%
Transportation and warehousing	919,299	20%
Information	329,456	12%
Finance and insurance	659,210	11%
Real estate, rental, and leasing	245,324	11%
Professional and business services	2,215,536	11%
Education, health care and social assistance	46,935	0%
Arts, entertainment, recreation	171,742	8%
Accommodation and food services	921,843	9%
Other services, except government	195,664	3%
Government	270,862	1%
Total	11,442,647	-

Source: ITA calculations from BEA data.

Table A-2: Jobs Supported by Product Exports, 2013

Exported Product	Total Jobs Supported	Direct Jobs Supported	Indirect Jobs Supported
Agriculture, forestry, fishing, and hunting	499,444	295,935	203,509
Mining	127,769	48,500	79,269
Utilities	7,437	2,153	5,284
Construction	1,000	689	312
Wood products	59,966	27,306	32,661
Nonmetallic mineral products	81,728	36,564	45,164
Primary metals	198,201	58,280	139,921
Fabricated Metal products	303,962	152,941	151,021
Machinery products	892,245	330,739	561,506
Computer and electronic products	660,762	375,142	285,620
Electrical equipment, appliances, and components	240,273	95,710	144,562
Motor vehicles, bodies and trailers, and parts	601,262	179,221	422,041
Aerospace and other transportation equipment	631,951	280,248	351,704
Furniture and related products	45,499	22,386	23,113
Miscellaneous manufacturing products	293,383	118,733	174,650
Food and beverage and tobacco products	495,709	149,368	346,341
Textile mills and textile product mills	90,535	42,584	47,951
Apparel, leather and allied products	63,724	27,249	36,475
Paper products	153,042	58,211	94,831
Printing and related support activities	23,752	13,929	9,823
Petroleum and coal products	236,416	16,731	219,685
Chemical products	741,312	213,350	527,961
Plastics and rubber products	179,834	80,462	99,372
Wholesale and retail trade	515,716	430,997	84,720
Transportation and warehousing	511,752	354,377	157,376
Information	434,396	219,007	215,388
Finance and insurance	586,096	399,985	186,112
Real estate, rental, and leasing	309,223	99,217	210,006
Professional and business services	968,488	746,664	221,824
Educational and health care	59,680	38,281	21,399
Arts, entertainment, recreation	194,016	132,101	61,915
Accommodation and food services	887,107	717,793	169,314
Other services, except government	17,686	14,451	3,235
Government	3,554	2,321	1,233
Scrap, used and secondhand goods	325,727	-	325,727
Total	11,442,647	5,781,625	5,661,022

Source: ITA calculations from BEA data.

Table A-3: Industry to NAICS Correspondence

Industry Name	Related 2007 NAICS Codes
Agriculture, forestry, fishing, and hunting	111, 112, 113, 114, 115
Mining	211, 212, 213
Utilities	221
Construction	23
Wood products	321
Nonmetallic mineral products	327
Primary metals	331
Fabricated metal products	332
Machinery	333
Computer and electronic products	334
Electrical equipment, appliances, and components	335
Motor vehicles, bodies and trailers, and parts	3361, 3362, 3363
Aerospace and other transportation equipment	3364, 3365, 3366, 3369
Furniture and related products	337
Miscellaneous manufacturing	339
Food, beverage and tobacco products	311, 312
Textile mills and textile product mills	313, 314
Apparel, leather and allied products	315, 316
Paper	322
Printing and related support activities	323
Petroleum and coal products	324
Chemical products	325
Plastics and rubber products	326
Wholesale and retail trade	42, 44,45
Transportation and warehousing	481,482,483,484,485, 486, 487, 448, 492, 493
Information	511, 512, 515, 517, 518, 519
Finance and insurance	521, 522, 523, 534, 525
Real estate, rental, and leasing	531, 532, 533
Professional and business services	541, 55, 561, 562
Education, health care and social assistance	611, 621, 622, 623, 624
Arts, entertainment, recreation	711, 712, 713
Accommodation and food services	721, 722
Other services, except government	811, 812, 813, 814
Government	n/a except for 491