

United States: 2012

Exports

2012 Economic Census

Transportation

2012 Commodity Flow Survey

Issued March 2015

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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the U.S. Code (Sections 131, 191, and 224) directs the U.S. Census Bureau to take the economic census every 5 years, ending in "2" and "7."

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the federal government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, ship, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

AVAILABILITY OF ADDITIONAL DATA

All results of the 2012 Economic Census are available on the American FactFinder Internet site <www.factfinder.census.gov>. The American FactFinder system at the Web site allows selective retrieval and downloading of the data. For more information, including a description of reports

being issued, see the Web site; write to the U.S. Census Bureau, Washington, DC 20233-8300; or call the Customer Services center at 1-800-923-8282 or 301-763-4636.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Census of Manufactures was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some service trades in 1933.

Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated, providing comparable census data across economic sectors and using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census report forms.

The range of industries covered in the economic censuses expanded between 1967 and 2007. The census of construction industries began on a regular basis in 1967; and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also, new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census

of agriculture collectively covered roughly 98 percent of all economic activity. In 2002, there was new coverage in the following four industries classified in the Agriculture, Forestry, and Fishing sector under the Standard Industrial Classification (SIC) system: landscape agricultural services, landscaping services, veterinary services, and pet care services.

Printed statistical reports from the 1997 and earlier economic censuses provide historical figures for the study of long-term time series and are available in some large libraries. CD-ROMs issued from the 1987, 1992, and 1997 Economic Censuses contain databases including all or nearly all data published in print, plus additional statistics, such as Zip Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about scope, coverage, and classification system for each economic census and related surveys is published in the “What’s New” section of the 2012 Economic Census Web site at <www.census.gov/econ/census/about/whats_new.html>. Data items and publications for each economic census and related surveys are published as part of the 2012 Economic Census on American FactFinder at <www.factfinder.census.gov>. More information on the methodology, procedures, and history of each economic census is published in the “Methodology” section of the 2012 Economic Census Web site at <www.census.gov/econ/census/help/methodology_disclosure/>.

2012 Commodity Flow Survey

GENERAL

The Commodity Flow Survey (CFS) is a joint effort by the Bureau of Transportation Statistics (BTS) and the U.S. Census Bureau, U.S. Department of Commerce. The survey is the primary source of national and state-level data on domestic freight shipments by establishments in mining, manufacturing, wholesale, auxiliaries, and selected retail and services trade industries located in the 50 states and the District of Columbia. Data are provided on the type, origin and destination, value, weight, modes of transportation, distance shipped, and ton-miles of commodities shipped. The CFS is conducted every 5 years as part of the economic census. It provides a modal picture of national freight flows and represents the only publicly available source of commodity flow data for the highway mode. The CFS was conducted in 1993, 1997, 2002, 2007, and most recently in 2012.

The CFS assesses the demand for transportation facilities and services, energy use, and safety risk and environmental concerns. CFS data are used by policy makers and transportation planners in various federal, state, and local agencies. Additionally, business owners, private researchers, and analysts use the CFS data for analyzing trends in the movement of goods, mapping spatial patterns of commodity and vehicle flows, forecasting demands for the movement of goods, and determining needs for associated infrastructure and equipment.

EXPORT

An export in the CFS is defined as shipment to a foreign country from the 50 states and Washington, DC. Shipments to U.S. possessions and territories are also treated as exports. Respondents to the CFS were asked to report the foreign city, country of destination, and mode of transport by which the shipment left the country. We also asked the respondent to report the U.S. port, airport, or border crossing of exit and report the “domestic mode” of transport used to reach the U.S. destination. Due to the exclusion of industries outside the scope of the CFS (see Industry Coverage), these data are not directly comparable to the 2012 merchandise trade exports published by the Department of Commerce.

Shipment characteristics including value, tons, and ton-miles are presented in summary form in this report. Ton-miles, which is defined as the shipment weight multiplied by the mileage traveled by the shipment, uses domestic mileage only for the calculation.

SCOPE

Industry Coverage

The 2012 CFS covers business establishments with paid employees that are located in the United States and

are classified using the 2007 North American Industry Classification System (NAICS) in mining, manufacturing, wholesale, and selected retail and services trade industries, namely, electronic shopping and mail-order houses, fuel dealers, and publishers. Additionally, the survey covers auxiliary establishments (i.e., warehouses and managing offices) of multiestablishment companies.

For the 2012 CFS, a targeted Advance Survey (precanvass) was conducted in 2011 to improve the quality of the data on the frame for certain industries or types of establishments. The groups included in this advance survey were:

Advance survey group	Number of establishments
Auxiliaries (NAICS 484, 4931, 551114)	34,985
Small electronic shopping and mail order establishments (NAICS 4541)	13,431
Small publishers (NAICS 5111)	11,804
Large establishments	39,608
Total	99,828

For the first three groups, the purpose was to identify those establishments that actually conduct shipping activities. In these groups, surveyed establishments that reported that they did not conduct any shipping activity were excluded from the eventual CFS sample universe. For large establishments the objective was to obtain an accurate measure of their shipping activity.

CFS Industries

In-scope industries for the 2012 CFS were selected based on the 2007 NAICS. Industries included in the 2007 and 2002 CFS were selected based on the 2002 and 1997 versions of the NAICS, respectively. The industries in the 1997 CFS and the 1993 CFS were selected based on the 1987 Standard Industrial Classification System (SIC) and, although attempts were made to maintain similar coverage among the SIC based surveys (1993 and 1997) and the NAICS based surveys (2002, 2007, and 2012), there have been some changes in industry coverage due to the conversion from SIC to NAICS. Most notably, coverage of the logging industry changed from an in-scope Manufacturing (SIC 2411) to the out-of-scope sector of Agriculture, Forestry, Fishing, and Hunting under NAICS 1133. Also, publishers were reclassified from Manufacturing (SIC 2711, 2721, 2731, 2741, and part of 2771) to Information (NAICS 5111 and 51223) and were excluded in the 2002 CFS. The 2007 and 2012 CFS, however, include publishers and retail fuel dealers.

The (2007) NAICS industries covered in the 2012 CFS are listed in the following table:

NAICS code	Description
212	Mining (except oil and gas)
311	Food manufacturing
312	Beverage and tobacco product manufacturing
313	Textile mills
314	Textile product mills
315	Apparel manufacturing
316	Leather and allied product manufacturing
321	Wood product manufacturing
322	Paper manufacturing
323 ¹	Printing and related support activities (except 323122)
324	Petroleum and coal products manufacturing
325	Chemical manufacturing
326	Plastics and rubber products manufacturing
327	Nonmetallic mineral product manufacturing
331	Primary metal manufacturing
332	Fabricated metal product manufacturing
333	Machinery manufacturing
334	Computer and electronic product manufacturing
335	Electrical equipment, appliance, and component manufacturing
336	Transportation equipment manufacturing
337	Furniture and related product manufacturing
339	Miscellaneous manufacturing
4231 ²	Motor vehicle and parts merchant wholesalers
4232 ²	Furniture and home furnishing merchant wholesalers
4233 ²	Lumber and other construction materials merchant wholesalers
4234 ²	Commercial equip. merchant wholesalers
4235 ²	Metal and mineral (except petroleum) merchant wholesalers
4236 ²	Electrical and electronic goods merchant wholesalers
4237 ²	Hardware and plumbing merchant wholesalers
4238 ²	Machinery, equipment, and supplies merchant wholesalers
4239 ²	Miscellaneous durable goods merchant wholesalers
4241 ²	Paper and paper products merchant wholesalers
4242 ²	Drugs and druggists' sundries merchant wholesalers
4243 ²	Apparel, piece goods, and notions merchant wholesalers
4244 ²	Grocery and related product merchant wholesalers
4245 ²	Farm product raw material merchant wholesalers
4246 ²	Chemical and allied products merchant wholesalers
4247 ²	Petroleum and petroleum products merchant wholesalers
4248 ²	Beer, wine, and distilled alcoholic beverage merchant wholesalers
4249 ²	Miscellaneous nondurable goods merchant wholesalers
4541	Electronic shopping and mail-order houses
45431	Fuel dealers
4841 ³	General freight trucking
4842 ³	Specialized freight trucking
4931 ³	Warehousing and storage
5111 ⁴	Newspaper, periodical, book, and directory publishers
551114 ⁵	Corporate, subsidiary, and regional managing offices

¹ Excludes Prepress Services (NAICS 323122). ² Wholesale establishments exclude manufacturers sale offices and own brand importers. ³ Includes only captive warehouses that provide storage and shipping support to a single company. Warehouses offering their services to the general public and other businesses are excluded. NAICS 4841 and 4842 are new industries to the 2012 CFS. For tabulation and publication purposes, NAICS 484 is grouped with NAICS 4931. ⁴ In 2007, NAICS 51223 Music Publishers was tabulated and published in NAICS 5111. However, for the 2012 cycle, NAICS 51223 was not sampled. ⁵ Includes only those establishments in NAICS 551114 with shipping activity. Notes: *Excluded industries:* Foreign establishments, establishments classified in transportation, construction, and most retail and services industries are excluded. Other industry areas that are not covered, but may have significant shipping activity, include agriculture and government. For agriculture, specifically, this means that the CFS does not cover shipments of agricultural products from the farm site to the processing centers or terminal elevators (most likely short-distance local movements), but does cover the shipments of these products from the initial processing centers or terminal elevators onward. *General exclusions:* Data for government-operated establishments are excluded from the CFS. These include public utilities, publicly operated bus and subway systems, public libraries, and government-owned hospitals. The CFS also excludes establishments or firms with no paid employees.

Shipment Coverage

The CFS captures data on shipments originating from select types of business establishments located in the 50 states and the District of Columbia. The CFS does not cover shipments originating from business establishments located in Puerto Rico and other U.S. possessions and territories. Likewise, shipments traversing the United States from a foreign location to another foreign location (e.g., from Canada to Mexico) are not included, nor are shipments from a foreign location to an initial U.S. location. However, imported products are included in the CFS from the point that they leave the importer's initial U.S. location for shipment to another location.

Shipments that are shipped through a foreign territory with both the origin and destination in the United States are included in the CFS data. The mileage calculated for these shipments exclude the foreign country segments (e.g., shipments from New York to Michigan through Canada do not include any mileage for Canada). Export shipments are included, with the domestic destination defined as the U.S. port, airport, or border crossing of exit from the United States. See the Mileage Calculation section for additional detail on how mileage estimates were developed.

Data Collection

Each establishment selected into the CFS sample was mailed a questionnaire for each of its four reporting weeks, that is, an establishment was sent a questionnaire once every quarter of 2012. For a given establishment, the respondent was asked to provide the following information about each of the establishment's reported shipments:

- Shipment ID number
- Shipment date (month, day)
- Shipment value
- Shipment weight in pounds
- Commodity code from Standard Classification of Transported Goods (SCTG) list
- Commodity description
- An indication of whether the shipment was temperature controlled
- United Nations or North American (UN/NA) number for hazardous material shipments
- U.S. destination (city, state, zip code)—or gateway for export shipment
- Modes of transport
- An indication of whether the shipment was an export
- City and country of destination for exports
- Export mode

By CFS definition, a shipment is a single movement of goods, commodities, or products from an establishment to a single customer or to another establishment owned or operated by the same company as the originating establishment (e.g., a warehouse, distribution center, or retail or wholesale outlet). Full or partial truckloads were counted as a single shipment only if all commodities on the truck were destined for the same location. For multiple deliveries on a route, the goods delivered at each stop were counted as one shipment. Interoffice memos, payroll checks, or business correspondence were not included in the CFS. Likewise, the CFS does not include shipments of refuse, scrap paper, waste, or recyclable materials unless the establishment was in the business of selling or providing these materials.

For a shipment that included more than one commodity, the respondent was instructed to report the commodity that made up the greatest percentage of the shipment's weight.

In addition, establishments were asked to provide information about the use and extent of rush delivery services.

Data Collection Method

The CFS survey was conducted through a mailout/mailback with an electronic reporting option. Each establishment selected into the 2012 CFS sample was mailed four questionnaires—one during each calendar quarter of the year 2012. The four questionnaires were the same for all reporting periods (see Appendix E for a copy of the questionnaire). The establishments were asked to provide shipment information about a sample of their individual outbound shipments during a prespecified one-week period in each calendar quarter. Each of the 4 weeks was in the same relative position of the calendar quarter. Respondents had the option of reporting electronically and were given log-in information on their mailed questionnaire.

Mileage Calculations

General

The distance traveled by each freight shipment reported by the respondents to the 2012 CFS was estimated by a software tool called GeoMiler that uses routing algorithms and an integrated, intermodal transportation network that has been developed and updated expressly for this purpose. Each shipment record contained the ZIP Codes of shipment origin and destination (O-D pair) and the mode or modal sequence required by the routing algorithm for distance estimation. Each record also contained information on type of commodity moved, its weight, dollar value, and hazardous materials (hazmat) status. For each export shipment, the U.S. port of exit (POE) was also identified, along with foreign destination country; a destination country of Canada/Mexico also required a Canadian/Mexican destination city.

Valid and accurate O-D pair ZIP Codes were essential elements needed for estimating the travel distance of any shipment. For shipments with missing or invalid geographic data elements, such data elements were imputed, if a reasonable correction appeared obtainable (e.g., if a specific destination city/state was provided, then a "reasonably reliable" destination ZIP Code was imputed for the shipment). Follow-up contact with respondents was required when the missing information could not be reasonably imputed.

GeoMiler—Software to Measure the Distance Traveled by Commodity Shipments

The CFS does not ask respondents to report the distance traveled for each shipment. Therefore, shipment mileage was calculated using GeoMiler, a routing tool developed by BTS specifically for CFS mileage calculations. GeoMiler used current Geographic Information System (GIS) technology and spatial multimodal network databases and integrated map-visualization features with route solvers to handle many alternative multimodal combinations. This tool used algorithms that found the quickest path over spatial representations of the U.S. highway, railway, waterway, and airway networks. For waterborne export shipments, GeoMiler used a waterborne commerce database from the U.S. Army Corps of Engineers (USACE) to route freight originating in the United States via the deep sea (ocean). For airborne export shipments, GeoMiler used an updated air export network from the BTS Office of Airline Information (OAI).

Methodological Changes to Mileage Calculation for the 2012 CFS

With a valid origin and destination Zip Code, GeoMiler will calculate the distance traveled (in miles) by mode for each shipment reported in the CFS. The following types of methodological changes to mileage processing were incorporated in 2012:

- A shipment with a respondent-provided mode of Parcel must weigh 150 pounds or less; in addition, a shipment with a respondent-provided mode of Air was not given a weight restriction.
- A mode of transportation was imputed whenever a respondent provided a mode of Other, or Unknown, or otherwise failed to provide a modal response (missing mode) for a shipment.
- Private truck is considered a "short-haul" mode; hence Private truck shipments were not routed more than 500 miles during shipment routing.

Air Versus Parcel Mode

According to the 2007 CFS Instruction Guide, an Air shipment was defined as a shipment that weighed 100 pounds or more. During mileage processing for the 2007 CFS,

an Air shipment was manually converted to Parcel if the weight of the shipment was less than 100 pounds.

However, airlines do not necessarily have minimum weight restrictions when transporting cargo. Hence, for the 2012 CFS, the definition of an Air shipment was changed. As a result, an Air shipment was acceptable as provided by the respondent, regardless of weight.

Furthermore, for the 2012 CFS, Parcel shipments conformed to the definition used by the parcel industry that a parcel is a shipment of 150 pounds or less. For shipments submitted by the respondent with mode of Parcel and a weight above 150 pounds, GeoMiler changed the mode to For-hire truck during mileage processing.

Routing a Shipment When Mode Is Other, Unknown, or Missing

On the survey form, respondents were given the following choices for mode of transport: Air, Highway (Private truck or For-hire truck), Rail, Waterway (Inland water or Deep sea), Parcel, Pipeline, Other mode (meaning none of the above), or Unknown.

During the 2007 CFS mileage processing, 2.4 percent of shipments had a respondent-provided mode of Unknown or Other, and an additional 2.1 percent had no reported mode at all. In these situations, the mode of transport was imputed. For 2012 CFS mileage processing, if the shipment weighed less than 80,000 pounds, it was routed via Highway mode as For-hire truck; if the shipment weighed 80,000 pounds or more, it was routed via Rail mode.

Private Truck Versus For-Hire Truck

Shipments via Private truck are generally “short-haul” in nature. Because of the number of shipments exceeding this norm in the 2007 CFS, Census Bureau analysts researched the Private truck shipments at or above 500 miles. In almost all cases, the mode should have been reported as For-hire truck instead of Private truck.

Consequently, for 2012 CFS GeoMiler mileage processing, Private truck was converted to For-hire truck if the shipment mileage was equal to or greater than 500 miles, regardless of the commodity being transported. The 2012 CFS preliminary data shows a decrease from 2007 in average miles per shipment for Private truck, with an average of 46 miles per shipment.

Mileage for Domestic Shipments

For a domestic shipment, the mileage was calculated between the centroid (center of a geographic area) of the

U.S. origin ZIP Code and the centroid of the destination ZIP Code. The route between an O-D pair was composed of a series of links, and an impedance factor was assigned to each link (impedance is defined as a function of distance and travel time). Given a mode or modal sequence, the role of GeoMiler was to find that “best path” route which minimized the total impedance of the links between the specified O-D pair.

The mileage for shipments within a ZIP Code (matching O-D pair) was calculated by means of a formula that approximated the longest distance within the boundaries of that ZIP Code.

For multimodal shipments (those shipments involving more than one mode, such as truck-rail shipments), spatial joins (intermodal transfer links) were added to the network database to connect the individual modal networks together for routing purposes. An intermodal terminals database and a number of terminal transfer models were developed at BTS to identify likely transfer points for freight. An algorithm was used to find the minimum impedance path between a shipment’s origin ZIP Code to the transfer point and then from the transfer point to the destination ZIP Code. Thus, for multimodal shipments, the cumulative length of the spatial joins, plus links on the path, was used for estimating distances.

To estimate highway mileage, GeoMiler considered the functional class of highway so that the “single best path” was the quickest path based on the likely use of interstate and other major roadways and not necessarily the shortest path. The “quickest path” algorithms in terms of travel time incorporated the following hierarchical functional class of highway:

1. Interstate route
2. U.S. route
3. State route
4. County or other local route

The model favored the selection of higher-order routes (interstate) rather than lower-order routes (state and county), which provided a more realistic path for freight movement via highway.

To estimate railway mileage, GeoMiler selected a “single best path” from those calibrated with route density information obtained from sampled rail waybills, assigned a specific railroad company at shipment origin, and considered ownership, trackage rights, and interlining (the

transfer from one railroad company's trackage network to that of another).

To estimate waterway mileage, GeoMiler selected a "single best path" from the USACE waterway network featuring dock-to-dock movements (from the dock nearest to origin, to the dock nearest to destination) by specific two-digit commodity codes for the Standard Classification of Transported Goods (SCTG).

To estimate domestic airway mileage, GeoMiler selected the "single best path" from the three airports closest to the origin ZIP Code to the three airports closest to the destination ZIP Code. Criteria for route selection were calibrated with air route information provided by the OAI at BTS. As in the past, to be acceptable, an airway routing must generate at least twice as many airway miles as highway miles (the ratio of air/truck miles should be at least 2 to 1) in order to reach the destination. Consequently, GeoMiler chose the most likely air route from those routes that were nonstop (direct) from airport facilities with higher cargo lifts (weight transported between two airports) based on the OAI air cargo data.

Mileage for Pipeline Shipments

For pipeline shipments, ton-miles and average miles per shipment are not shown in the data files. For most of these shipments, the respondents reported the shipment destination as a pipeline facility on the main pipeline network. Therefore, for the majority of these shipments, the resulting mileage represented only the access distance through feeder pipelines to the main pipeline network and not the actual distance through the main pipeline network. Pipeline shipments are included in the U.S. totals for ton-miles and average miles per shipment. For security purposes, there is no pipeline network available in the public domain with which to route petroleum-based products. Hence, any modal distance, either single or multi, involving pipeline was considered as solely pipeline mileage from origin ZIP Code to destination ZIP Code and calculated to equal great circle distance (GCD). GCD is defined as the shortest distance between two points on the earth's surface, taking into account the earth's curvature.

Mileage Routing in Alaska

Much of Alaska is inaccessible by any mode of transportation except "bush" airplanes. A "bush" airplane is a small aircraft that usually carries no more than four people, including the "bush" pilot. For the 2012 CFS, a network of mini airports, more extensive than that used previously in the 2007 CFS, was incorporated into intrastate travel

within Alaska to accommodate "short-hop" flights where no established roads existed, especially in cases where the respondent reported a mode of highway.

Mileage for Export Shipments

For all exports, GeoMiler determined a U.S. port of exit (POE): seaport, airport, or border crossing (in the case of highway exports to the border countries of Canada/Mexico). However, only the portion of mileage measured within U.S. borders was included as domestic mileage in the CFS estimates for export shipments. To find the POE, GeoMiler used foreign destination country, type of commodity being exported, port volume (tonnage), and domestic travel distances.

The mileage estimates for export shipments in the 2012 CFS included the total distance from the shipment origin up to the exit point on the U.S. territorial borders.

For waterway exports via inland waterways (e.g., the Mississippi River), the mileage calculation included the distance from an inland water POE (such as St. Louis) to a coastal POE (such as New Orleans), and this extra inland waterway mileage was included in the total domestic mileage for this shipment.

For waterway exports via the Great Lakes (Lakes Erie, Huron, Michigan, Ontario, Superior), the mileage calculation was continued from a Great Lakes POE (such as Chicago, Cleveland, Duluth) to the line of demarcation between the United States and Canada (drawn within each of the Great Lakes except Michigan), and this extra Great Lakes mileage was included in the total domestic mileage for this shipment.

For airway exports, the total domestic mileage included the mileage from the inland POE to a coastal point on the U.S. landmass (where the air flight path to a foreign country intersected with the U.S. territorial border).

Availability of Additional Transportation Data

Users of transportation data may be especially interested in the reports from the Service Annual Survey, which can be found on the Census Bureau's Web site at <www.census.gov/services>. This survey covers firms with paid employees that provide commercial motor freight transportation and public warehousing services. Data collected include operating revenue and operating revenue by source, percentage of motor carrier freight revenue by commodity type, size of shipments handled, length of haul, and vehicle fleet inventory.

Table 1a.

Export Shipment Characteristics by Export Mode of Transportation: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation	Value		Tons	
	2012 (million dollars)	Percent of total	2012 (thousands)	Percent of total
All modes	1,124,679	100.0	564,520	100.0
Truck ¹	231,178	20.6	69,570	12.3
For-hire truck	185,667	16.5	49,290	8.7
Private truck	45,511	4.0	20,280	3.6
Rail	47,673	4.2	57,762	10.2
Water	456,323	40.6	429,781	76.1
Air (includes truck and air)	366,820	32.6	3,729	0.7
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	20,013	1.8	201	Z
Other modes	0	0.0	0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 1b.

Export Shipment Characteristics by Export Mode of Transportation: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation	Value			Tons		
	2012 (million dollars)	2007 (million dollars)	Percent change	2012 (thousands)	2007 (thousands)	Percent change
All modes	1,124,679	873,409	28.8	564,520	479,578	17.7
Truck ¹	231,178	155,630	48.5	69,570	57,565	20.9
For-hire truck	185,667	X	X	49,290	X	X
Private truck	45,511	X	X	20,280	X	X
Rail	47,673	34,610	37.7	57,762	50,617	14.1
Water	456,323	306,191	49.0	429,781	348,035	23.5
Air (includes truck and air)	366,820	279,987	31.0	3,729	3,671	1.6
Pipeline ²	S	S	S	S	S	S
Parcel, U.S. Postal Service, or courier	20,013	57,293	-65.1	201	511	-60.7
Other modes	0	38,262	-100.0	0	18,002	-100.0

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 1c.

Export Shipment Characteristics by Export Mode of Transportation: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation	Value		Tons	
	2012	2007	2012	2007
All modes	100.0	100.0	100.0	100.0
Truck ¹	20.6	17.8	12.3	12.0
For-hire truck	16.5	X	8.7	X
Private truck	4.0	X	3.6	X
Rail	4.2	4.0	10.2	10.6
Water	40.6	35.1	76.1	72.6
Air (includes truck and air)	32.6	32.1	0.7	0.8
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	1.8	6.6	Z	0.1
Other modes	0.0	4.4	0.0	3.8

S Withheld because estimate did not meet publication standards.

X Not applicable.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 2a.

Export Shipment Characteristics by Domestic Mode of Transportation: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Domestic mode of transportation	Value		Tons		Ton-miles ¹	
	2012 (million dollars)	Percent of total	2012 (thousands)	Percent of total	2012 (millions)	Percent of total
All modes	1,124,679	100.0	564,520	100.0	274,934	100.0
Single modes	922,158	82.0	510,502	90.4	244,601	89.0
Truck ²	519,776	46.2	207,139	36.7	100,956	36.7
For-hire truck	463,217	41.2	154,541	27.4	94,889	34.5
Private truck	56,559	5.0	52,597	9.3	6,068	2.2
Rail	74,901	6.7	169,631	30.0	114,698	41.7
Water	63,699	5.7	123,554	21.9	23,289	8.5
Inland water	23,118	2.1	47,828	8.5	6,152	2.2
Deep sea	33,241	3.0	54,905	9.7	1,205	0.4
Multiple waterways	7,155	0.6	15,678	2.8	14,913	5.4
Air (includes truck and air)	258,179	23.0	3,261	0.6	3,482	1.3
Pipeline ³	5,603	0.5	6,917	1.2	S	S
Multiple modes	202,521	18.0	54,018	9.6	30,333	11.0
Parcel, U.S. Postal Service, or courier	131,438	11.7	692	0.1	782	0.3
Truck and rail	61,729	5.5	41,846	7.4	21,763	7.9
Truck and water	7,834	0.7	2,416	0.4	2,447	0.9
Rail and water	1,192	0.1	S	S	S	S
Other multiple modes	328	Z	2,414	0.4	1,666	0.6
Other modes	0	0.0	0	0.0	0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.² "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.³ Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 2b.

Export Shipment Characteristics by Domestic Mode of Transportation: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Domestic mode of transportation	Value			Tons			Ton-miles ¹		
	2012 (million dollars)	2007 (million dollars)	Percent change	2012 (thousands)	2007 (thousands)	Percent change	2012 (millions)	2007 (millions)	Percent change
All modes	1,124,679	873,409	28.8	564,520	479,578	17.7	274,934	230,154	19.5
Single modes	922,158	666,462	38.4	510,502	404,786	26.1	244,601	164,784	48.4
Truck ²	519,776	481,925	7.9	207,139	210,910	-1.8	100,956	78,673	28.3
For-hire truck	463,217	366,520	26.4	154,541	128,608	20.2	94,889	70,600	34.4
Private truck	56,559	115,405	-51.0	52,597	82,303	-36.1	6,068	8,073	-24.8
Rail	74,901	62,726	19.4	169,631	132,541	28.0	114,698	74,474	54.0
Water	63,699	20,832	205.8	123,554	58,013	113.0	23,289	10,664	118.4
Inland water	23,118	14,479	59.7	47,828	39,761	20.3	6,152	S	S
Deep sea	33,241	6,123	442.9	54,905	14,969	266.8	1,205	6,242	-80.7
Multiple waterways	7,155	X	X	15,678	X	X	14,913	X	X
Air (includes truck and air)	258,179	98,873	161.1	3,261	926	252.4	3,482	944	268.9
Pipeline ³	5,603	S	S	6,917	S	S	S	S	S
Multiple modes	202,521	178,808	13.3	54,018	54,319	-0.6	30,333	62,266	-51.3
Parcel, U.S. Postal Service, or courier	131,438	104,600	25.7	692	719	-3.7	782	656	19.4
Truck and rail	61,729	49,303	25.2	41,846	26,263	59.3	21,763	34,741	-37.4
Truck and water	7,834	18,146	-56.8	2,416	13,206	-81.7	2,447	19,575	-87.5
Rail and water	1,192	1,841	-35.3	S	S	S	S	3,225	S
Other multiple modes	328	4,917	-93.3	2,414	9,752	-75.2	1,666	4,070	-59.1
Other modes	0	28,139	-100.0	0	20,472	-100.0	0	3,103	-100.0

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.² "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.³ Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 2c.

Export Shipment Characteristics by Domestic Mode of Transportation: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Domestic mode of transportation	Value		Tons		Ton-miles ¹	
	2012	2007	2012	2007	2012	2007
All modes	100.0	100.0	100.0	100.0	100.0	100.0
Single modes	82.0	76.3	90.4	84.4	89.0	71.6
Truck ²	46.2	55.2	36.7	44.0	36.7	34.2
For-hire truck	41.2	42.0	27.4	26.8	34.5	30.7
Private truck	5.0	13.2	9.3	17.2	2.2	3.5
Rail	6.7	7.2	30.0	27.6	41.7	32.4
Water	5.7	2.4	21.9	12.1	8.5	4.6
Inland water	2.1	1.7	8.5	8.3	2.2	S
Deep sea	3.0	0.7	9.7	3.1	0.4	2.7
Multiple waterways	0.6	X	2.8	X	5.4	X
Air (includes truck and air)	23.0	11.3	0.6	0.2	1.3	0.4
Pipeline ³	0.5	S	1.2	S	S	S
Multiple modes	18.0	20.5	9.6	11.3	11.0	27.1
Parcel, U.S. Postal Service, or courier	11.7	12.0	0.1	0.1	0.3	0.3
Truck and rail	5.5	5.6	7.4	5.5	7.9	15.1
Truck and water	0.7	2.1	0.4	2.8	0.9	8.5
Rail and water	0.1	0.2	S	S	S	1.4
Other multiple modes	Z	0.6	0.4	2.0	0.6	1.8
Other modes	0.0	3.2	0.0	4.3	0.0	1.3

S Withheld because estimate did not meet publication standards.

X Not applicable.

Z Rounds to zero.

¹ Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.

² "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

³ Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 3a.

Export Shipment Characteristics by Country of Destination: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Country of destination	Value		Tons	
	2012 (million dollars)	Percent of total	2012 (thousands)	Percent of total
Total	1,124,679	100.0	564,520	100.0
Canada	227,601	20.2	88,722	15.7
Mexico	110,230	9.8	78,335	13.9
All other countries	786,848	70.0	397,463	70.4

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendices give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 3b.

Export Shipment Characteristics by Country of Destination: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Country of destination	Value			Tons		
	2012 (million dollars)	2007 (million dollars)	Percent change	2012 (thousands)	2007 (thousands)	Percent change
Total	1,124,679	873,409	28.8	564,520	479,578	17.7
Canada	227,601	197,503	15.2	88,722	101,198	-12.3
Mexico	110,230	81,719	34.9	78,335	68,327	14.6
All other countries	786,848	594,186	32.4	397,463	310,053	28.2

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendices give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 3c.

Export Shipment Characteristics by Country of Destination: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Country of destination	Value		Tons	
	2012	2007	2012	2007
Total	100.0	100.0	100.0	100.0
Canada	20.2	22.6	15.7	21.1
Mexico	9.8	9.4	13.9	14.2
All other countries	70.0	68.0	70.4	64.7

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendices give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 4a.

Export Shipment Characteristics by Export Mode of Transportation and Country of Destination: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation and country of destination	Value		Tons	
	2012 (million dollars)	Percent of total	2012 (thousands)	Percent of total
Total	1,124,679	100.0	564,520	100.0
CANADA				
All modes	227,601	100.0	88,722	100.0
Truck ¹	165,581	72.8	47,237	53.2
For-hire truck	131,658	57.8	35,870	40.4
Private truck	33,923	14.9	11,367	12.8
Rail	28,692	12.6	27,095	30.5
Water	3,858	1.7	14,028	15.8
Air (includes truck and air)	13,291	5.8	172	0.2
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	16,162	7.1	174	0.2
Other modes	0	0.0	0	0.0
MEXICO				
All modes	110,230	100.0	78,335	100.0
Truck ¹	65,597	59.5	22,333	28.5
For-hire truck	54,008	49.0	13,420	17.1
Private truck	11,588	10.5	8,913	11.4
Rail	18,980	17.2	30,667	39.1
Water	13,528	12.3	21,778	27.8
Air (includes truck and air)	5,617	5.1	70	0.1
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	3,851	3.5	26	Z
Other modes	0	0.0	0	0.0
ALL OTHER COUNTRIES				
All modes	786,848	100.0	397,463	100.0
Truck ³	0	0.0	0	0.0
For-hire truck	0	0.0	0	0.0
Private truck	0	0.0	0	0.0
Rail ³	0	0.0	0	0.0
Water	438,937	55.8	393,976	99.1
Air (includes truck and air)	347,911	44.2	3,487	0.9
Pipeline ³	0	0.0	0	0.0
Parcel, U.S. Postal Service, or courier	0	0.0	0	0.0
Other modes	0	0.0	0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

³ "Truck," "Rail," and "Pipeline" single-mode categories are not valid modes of transportation for export shipments to "All Other Countries."

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 4b.

Export Shipment Characteristics by Export Mode of Transportation and Country of Destination: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation and country of destination	Value			Tons		
	2012 (million dollars)	2007 (million dollars)	Percent change	2012 (thousands)	2007 (thousands)	Percent change
Total	1,124,679	873,409	28.8	564,520	479,578	17.7
CANADA						
All modes	227,601	197,503	15.2	88,722	101,198	-12.3
Truck ¹	165,581	114,194	45.0	47,237	42,550	11.0
For-hire truck	131,658	X	X	35,870	X	X
Private truck	33,923	X	X	11,367	X	X
Rail	28,692	23,310	23.1	27,095	29,847	-9.2
Water	3,858	5,683	-32.1	14,028	20,575	-31.8
Air (includes truck and air)	13,291	23,969	-44.5	172	108	59.2
Pipeline ²	S	S	S	S	S	S
Parcel, U.S. Postal Service, or courier	16,162	14,801	9.2	174	238	-26.6
Other modes	0	15,544	-100.0	0	7,880	-100.0
MEXICO						
All modes	110,230	81,719	34.9	78,335	68,327	14.6
Truck ¹	65,597	41,435	58.3	22,333	15,015	48.7
For-hire truck	54,008	X	X	13,420	X	X
Private truck	11,588	X	X	8,913	X	X
Rail	18,980	11,283	68.2	30,667	20,760	47.7
Water	13,528	8,527	58.6	21,778	24,891	-12.5
Air (includes truck and air)	5,617	3,987	40.9	70	51	37.7
Pipeline ²	S	S	S	S	S	S
Parcel, U.S. Postal Service, or courier	3,851	1,875	105.4	26	32	-18.0
Other modes	0	13,178	-100.0	0	6,401	-100.0
ALL OTHER COUNTRIES						
All modes	786,848	594,186	32.4	397,463	310,053	28.2
Truck ³	0	0	0.0	0	0	0.0
For-hire truck	0	0	0.0	0	0	0.0
Private truck	0	0	0.0	0	0	0.0
Rail ³	0	S	S	0	10	-100.0
Water	438,937	291,981	50.3	393,976	302,569	30.2
Air (includes truck and air)	347,911	252,031	38.0	3,487	3,513	-0.7
Pipeline ³	0	0	0.0	0	0	0.0
Parcel, U.S. Postal Service, or courier	0	40,617	-100.0	0	241	-100.0
Other modes	0	9,541	-100.0	0	3,720	-100.0

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

³ "Truck," "Rail," and "Pipeline" single-mode categories are not valid modes of transportation for export shipments to "All Other Countries."

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 4c.

Export Shipment Characteristics by Export Mode of Transportation and Country of Destination: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation and country of destination	Value		Tons	
	2012	2007	2012	2007
Total	100.0	100.0	100.0	100.0
CANADA				
All modes	100.0	100.0	100.0	100.0
Truck ¹	72.8	57.8	53.2	42.0
For-hire truck	57.8	X	40.4	X
Private truck	14.9	X	12.8	X
Rail	12.6	11.8	30.5	29.5
Water	1.7	2.9	15.8	20.3
Air (includes truck and air)	5.8	12.1	0.2	0.1
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	7.1	7.5	0.2	0.2
Other modes	0.0	7.9	0.0	7.8
MEXICO				
All modes	100.0	100.0	100.0	100.0
Truck ¹	59.5	50.7	28.5	22.0
For-hire truck	49.0	X	17.1	X
Private truck	10.5	X	11.4	X
Rail	17.2	13.8	39.1	30.4
Water	12.3	10.4	27.8	36.4
Air (includes truck and air)	5.1	4.9	0.1	0.1
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	3.5	2.3	Z	Z
Other modes	0.0	16.1	0.0	9.4
ALL OTHER COUNTRIES				
All modes	100.0	100.0	100.0	100.0
Truck ³	0.0	0.0	0.0	0.0
For-hire truck	0.0	0.0	0.0	0.0
Private truck	0.0	0.0	0.0	0.0
Rail ³	0.0	S	0.0	Z
Water	55.8	49.1	99.1	97.6
Air (includes truck and air)	44.2	42.4	0.9	1.1
Pipeline ³	0.0	0.0	0.0	0.0
Parcel, U.S. Postal Service, or courier	0.0	6.8	0.0	0.1
Other modes	0.0	1.6	0.0	1.2

S Withheld because estimate did not meet publication standards.

X Not applicable.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

³ "Truck," "Rail," and "Pipeline" single-mode categories are not valid modes of transportation for export shipments to "All Other Countries."

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 5a.

Export Shipment Characteristics by Two-Digit Commodity: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

SCTG code	Commodity description	Value		Tons	
		2012 (million dollars)	Percent of total	2012 (thousands)	Percent of total
	All commodities¹	1,124,679	100.0	564,520	100.0
01	Live animals and live fish	56	Z	S	S
02	Cereal grains (includes seed)	17,481	1.6	61,495	10.9
03	Agricultural products (excludes animal feed, cereal grains, and forage products)	35,411	3.1	40,820	7.2
04	Animal feed, eggs, honey, and other products of animal origin	8,249	0.7	10,496	1.9
05	Meat, poultry, fish, seafood, and their preparations	15,511	1.4	6,151	1.1
06	Milled grain products and preparations and bakery products	5,319	0.5	5,125	0.9
07-R ²	Other prepared foodstuffs and fats and oils	21,475	1.9	17,174	3.0
08-R ³	Alcoholic beverages, and Denatured Alcohol	3,818	0.3	1,423	0.3
09	Tobacco products	439	Z	39	Z
10	Monumental or building stone	81	Z	172	Z
11	Natural sands	496	Z	2,828	0.5
12	Gravel and crushed stone (excludes dolomite and slate)	39	Z	S	S
13	Other nonmetallic minerals, n.e.c.	1,516	0.1	5,813	1.0
14	Metallic ores and concentrates	9,414	0.8	20,767	3.7
15	Coal	4,140	0.4	62,808	11.1
17-R ⁴	Gasoline, aviation turbine fuel, and ethanol (includes kerosene, and fuel alcohols)	15,370	1.4	17,448	3.1
18-R ⁵	Fuel oils (includes diesel, Bunker C, and biodiesel)	32,625	2.9	41,164	7.3
19	Other coal and petroleum products, n.e.c.	18,033	1.6	54,017	9.6
20	Basic chemicals	32,751	2.9	15,170	2.7
21	Pharmaceutical products	42,511	3.8	492	0.1
22	Fertilizers	S	S	S	S
23	Chemical products and preparations, n.e.c.	33,071	2.9	6,621	1.2
24	Plastics and rubber	51,671	4.6	16,687	3.0
25	Logs and other wood in the rough	S	S	1,280	0.2
26	Wood products	4,771	0.4	8,215	1.5
27	Pulp, newsprint, paper, and paperboard	14,339	1.3	17,455	3.1
28	Paper or paperboard articles	3,695	0.3	3,317	0.6
29	Printed products	4,573	0.4	S	S
30	Textiles, leather, and articles of textiles or leather	25,755	2.3	4,036	0.7
31	Nonmetallic mineral products	8,893	0.8	8,476	1.5
32	Base metal in primary or semi finished forms and in finished basic shapes	26,937	2.4	12,490	2.2
33	Articles of base metal	22,121	2.0	5,189	0.9
34	Machinery	110,099	9.8	6,783	1.2
35	Electronic and other electrical equipment and components and office equipment	185,416	16.5	3,039	0.5
36	Motorized and other vehicles (including parts)	130,581	11.6	14,244	2.5
37	Transportation equipment, n.e.c.	59,904	5.3	659	0.1
38	Precision instruments and apparatus	69,555	6.2	899	0.2
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	4,817	0.4	541	0.1
40	Miscellaneous manufactured products	45,628	4.1	2,840	0.5
41	Waste and scrap	37,097	3.3	66,449	11.8
43	Mixed freight	15,855	1.4	3,649	0.6
99	Commodity unknown	0	0.0	0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ Estimates exclude shipments of crude petroleum (SCTG 16).² Prior to the 2012 CFS, oils and fats treated for use as biodiesel were included in Commodity Code 07. In the 2012 CFS, oils and fats treated for use as biodiesel moved to Commodity Code 18.³ Prior to the 2012 CFS, alcohols intended for use as fuel such as ethanol, although not specifically identified, were included in Commodity Code 08. In the 2012 CFS, ethanol moved to Commodity Code 17.⁴ Prior to the 2012 CFS, fuel alcohols such as ethanol were included in Commodity Code 08, although not specifically identified. Also, kerosene was included in Commodity Code 19. In the 2012 CFS, ethanol, fuel alcohols and kerosene moved to Commodity Code 17.⁵ Prior to the 2012 CFS, biodiesel, although not specifically identified, was included in Commodity Code 07. In the 2012 CFS, biodiesel moved to Commodity Code 18.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 5b.

Export Shipment Characteristics by Two-Digit Commodity: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

SCTG code	Commodity description	Value			Tons		
		2012 (million dollars)	2007 (million dollars)	Percent change	2012 (thousands)	2007 (thousands)	Percent change
	All commodities¹	1,124,679	873,409	28.8	564,520	479,578	17.7
01	Live animals and live fish	56	S	S	S	S	S
02	Cereal grains (includes seed)	17,481	19,782	-11.6	61,495	111,785	-45.0
03	Agricultural products (excludes animal feed, cereal grains, and forage products)	35,411	18,423	92.2	40,820	30,877	32.2
04	Animal feed, eggs, honey, and other products of animal origin	8,249	11,017	-25.1	10,496	17,799	-41.0
05	Meat, poultry, fish, seafood, and their preparations	15,511	10,591	46.4	6,151	5,239	17.4
06	Milled grain products and preparations and bakery products	5,319	4,178	27.3	5,125	4,591	11.6
07-R ²	Other prepared foodstuffs and fats and oils	21,475	15,659	X	17,174	12,496	X
08-R ³	Alcoholic beverages, and Denatured Alcohol	3,818	3,690	X	1,423	2,123	X
09	Tobacco products	439	273	60.8	39	12	212.0
10	Monumental or building stone	81	27	195.5	172	49	249.5
11	Natural sands	496	188	164.1	2,828	2,030	39.3
12	Gravel and crushed stone (excludes dolomite and slate)	39	46	-14.3	S	3,309	S
13	Other nonmetallic minerals, n.e.c.	1,516	1,735	-12.6	5,813	6,835	-15.0
14	Metallic ores and concentrates	9,414	9,016	4.4	20,767	4,805	332.2
15	Coal	4,140	2,809	47.4	62,808	46,920	33.9
17-R ⁴	Gasoline, aviation turbine fuel, and ethanol (includes kerosene, and fuel alcohols)	15,370	S	X	17,448	S	X
18-R ⁵	Fuel oils (includes diesel, Bunker C, and biodiesel)	32,625	4,542	X	41,164	S	X
19	Other coal and petroleum products, n.e.c.	18,033	13,501	33.6	54,017	28,430	90.0
20	Basic chemicals	32,751	35,251	-7.1	15,170	24,335	-37.7
21	Pharmaceutical products	42,511	28,195	50.8	492	598	-17.8
22	Fertilizers	S	1,715	S	S	7,220	S
23	Chemical products and preparations, n.e.c.	33,071	26,464	25.0	6,621	7,298	-9.3
24	Plastics and rubber	51,671	33,705	53.3	16,687	13,181	26.6
25	Logs and other wood in the rough	S	1,039	S	1,280	3,175	-59.7
26	Wood products	4,771	4,096	16.5	8,215	6,277	30.9
27	Pulp, newsprint, paper, and paperboard	14,339	10,481	36.8	17,455	13,883	25.7
28	Paper or paperboard articles	3,695	3,240	14.1	3,317	3,073	7.9
29	Printed products	4,573	3,713	23.2	S	1,293	S
30	Textiles, leather, and articles of textiles or leather	25,755	18,667	38.0	4,036	5,286	-23.6
31	Nonmetallic mineral products	8,893	7,562	17.6	8,476	6,274	35.1
32	Base metal in primary or semi finished forms and in finished basic shapes	26,937	29,751	-9.5	12,490	14,146	-11.7
33	Articles of base metal	22,121	22,346	-1.0	5,189	4,955	4.7
34	Machinery	110,099	86,480	27.3	6,783	7,162	-5.3
35	Electronic and other electrical equipment and components and office equipment	185,416	177,376	4.5	3,039	3,681	-17.4
36	Motorized and other vehicles (including parts)	130,581	86,317	51.3	14,244	11,543	23.4
37	Transportation equipment, n.e.c.	59,904	47,038	27.4	659	726	-9.3
38	Precision instruments and apparatus	69,555	57,368	21.2	899	626	43.6
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	4,817	3,264	47.6	541	498	8.6
40	Miscellaneous manufactured products	45,628	36,242	25.9	2,840	3,098	-8.3
41	Waste and scrap	37,097	21,456	72.9	66,449	44,062	50.8
43	Mixed freight	15,855	11,473	38.2	3,649	2,640	38.2
99	Commodity unknown	0	S	S	0	S	S

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ Estimates exclude shipments of crude petroleum (SCTG 16).² Prior to the 2012 CFS, oils and fats treated for use as biodiesel were included in Commodity Code 07. In the 2012 CFS, oils and fats treated for use as biodiesel moved to Commodity Code 18.³ Prior to the 2012 CFS, alcohols intended for use as fuel such as ethanol, although not specifically identified, were included in Commodity Code 08. In the 2012 CFS, ethanol moved to Commodity Code 17.⁴ Prior to the 2012 CFS, fuel alcohols such as ethanol were included in Commodity Code 08, although not specifically identified. Also, kerosene was included in Commodity Code 19. In the 2012 CFS, ethanol, fuel alcohols and kerosene moved to Commodity Code 17.⁵ Prior to the 2012 CFS, biodiesel, although not specifically identified, was included in Commodity Code 07. In the 2012 CFS, biodiesel moved to Commodity Code 18.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendices give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 5c.

Export Shipment Characteristics by Two-Digit Commodity: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey. Because of rounding, estimates may not be additive]

SCTG code	Commodity description	Value		Tons	
		2012	2007	2012	2007
	All commodities¹	100.0	100.0	100.0	100.0
01	Live animals and live fish	Z	S	S	S
02	Cereal grains (includes seed)	1.6	2.3	10.9	23.3
03	Agricultural products (excludes animal feed, cereal grains, and forage products)	3.1	2.1	7.2	6.4
04	Animal feed, eggs, honey, and other products of animal origin	0.7	1.3	1.9	3.7
05	Meat, poultry, fish, seafood, and their preparations	1.4	1.2	1.1	1.1
06	Milled grain products and preparations and bakery products	0.5	0.5	0.9	1.0
07-R ²	Other prepared foodstuffs and fats and oils	1.9	1.8	3.0	2.6
08-R ³	Alcoholic beverages, and Denatured Alcohol	0.3	0.4	0.3	0.4
09	Tobacco products	Z	Z	Z	Z
10	Monumental or building stone	Z	Z	Z	Z
11	Natural sands	Z	Z	0.5	0.4
12	Gravel and crushed stone (excludes dolomite and slate)	Z	Z	S	0.7
13	Other nonmetallic minerals, n.e.c.	0.1	0.2	1.0	1.4
14	Metallic ores and concentrates	0.8	1.0	3.7	1.0
15	Coal	0.4	0.3	11.1	9.8
17-R ⁴	Gasoline, aviation turbine fuel, and ethanol (includes kerosene, and fuel alcohols)	1.4	S	3.1	S
18-R ⁵	Fuel oils (includes diesel, Bunker C, and biodiesel)	2.9	0.5	7.3	S
19	Other coal and petroleum products, n.e.c.	1.6	1.5	9.6	5.9
20	Basic chemicals	2.9	4.0	2.7	5.1
21	Pharmaceutical products	3.8	3.2	0.1	0.1
22	Fertilizers	S	0.2	S	1.5
23	Chemical products and preparations, n.e.c.	2.9	3.0	1.2	1.5
24	Plastics and rubber	4.6	3.9	3.0	2.7
25	Logs and other wood in the rough	S	0.1	0.2	0.7
26	Wood products	0.4	0.5	1.5	1.3
27	Pulp, newsprint, paper, and paperboard	1.3	1.2	3.1	2.9
28	Paper or paperboard articles	0.3	0.4	0.6	0.6
29	Printed products	0.4	0.4	S	0.3
30	Textiles, leather, and articles of textiles or leather	2.3	2.1	0.7	1.1
31	Nonmetallic mineral products	0.8	0.9	1.5	1.3
32	Base metal in primary or semi finished forms and in finished basic shapes	2.4	3.4	2.2	2.9
33	Articles of base metal	2.0	2.6	0.9	1.0
34	Machinery	9.8	9.9	1.2	1.5
35	Electronic and other electrical equipment and components and office equipment	16.5	20.3	0.5	0.8
36	Motorized and other vehicles (including parts)	11.6	9.9	2.5	2.4
37	Transportation equipment, n.e.c.	5.3	5.4	0.1	0.2
38	Precision instruments and apparatus	6.2	6.6	0.2	0.1
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	0.4	0.4	0.1	0.1
40	Miscellaneous manufactured products	4.1	4.1	0.5	0.6
41	Waste and scrap	3.3	2.5	11.8	9.2
43	Mixed freight	1.4	1.3	0.6	0.6
99	Commodity unknown	0.0	S	0.0	S

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ Estimates exclude shipments of crude petroleum (SCTG 16).

² Prior to the 2012 CFS, oils and fats treated for use as biodiesel were included in Commodity Code 07. In the 2012 CFS, oils and fats treated for use as biodiesel moved to Commodity Code 18.

³ Prior to the 2012 CFS, alcohols intended for use as fuel such as ethanol, although not specifically identified, were included in Commodity Code 08. In the 2012 CFS, ethanol moved to Commodity Code 17.

⁴ Prior to the 2012 CFS, fuel alcohols such as ethanol were included in Commodity Code 08, although not specifically identified. Also, kerosene was included in Commodity Code 19. In the 2012 CFS, ethanol, fuel alcohols and kerosene moved to Commodity Code 17.

⁵ Prior to the 2012 CFS, biodiesel, although not specifically identified, was included in Commodity Code 07. In the 2012 CFS, biodiesel moved to Commodity Code 18.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 6.

Export Shipment Characteristics by Origin State: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Origin state	Value		Tons	
	2012 (million dollars)	Percent of total	2012 (thousands)	Percent of total
Total	1,124,679	100.0	564,520	100.0
Alabama	17,453	1.6	13,020	2.3
Alaska	3,246	0.3	5,255	0.9
Arizona	12,114	1.1	1,965	0.3
Arkansas	4,869	0.4	2,294	0.4
California	175,491	15.6	69,647	12.3
Colorado	11,476	1.0	2,983	0.5
Connecticut	12,052	1.1	S	S
Delaware	S	S	184	Z
District of Columbia	S	S	Z	Z
Florida	47,641	4.2	17,210	3.0
Georgia	26,479	2.4	12,147	2.2
Hawaii	604	0.1	214	Z
Idaho	3,904	0.3	930	0.2
Illinois	46,916	4.2	13,895	2.5
Indiana	21,424	1.9	4,287	0.8
Iowa	13,025	1.2	9,922	1.8
Kansas	18,139	1.6	3,032	0.5
Kentucky	22,924	2.0	3,939	0.7
Louisiana	53,087	4.7	80,660	14.3
Maine	1,957	0.2	2,420	0.4
Maryland	4,518	0.4	938	0.2
Massachusetts	26,292	2.3	2,172	0.4
Michigan	45,560	4.1	13,151	2.3
Minnesota	19,406	1.7	7,515	1.3
Mississippi	5,800	0.5	3,241	0.6
Missouri	10,128	0.9	4,468	0.8
Montana	1,448	0.1	12,279	2.2
Nebraska	5,507	0.5	3,964	0.7
Nevada	8,544	0.8	1,893	0.3
New Hampshire	3,011	0.3	S	S
New Jersey	23,850	2.1	14,424	2.6
New Mexico	S	S	495	0.1
New York	42,295	3.8	5,650	1.0
North Carolina	31,146	2.8	5,738	1.0
North Dakota	1,852	0.2	1,678	0.3
Ohio	41,785	3.7	9,987	1.8
Oklahoma	5,647	0.5	1,843	0.3
Oregon	32,512	2.9	10,338	1.8
Pennsylvania	33,613	3.0	8,601	1.5
Rhode Island	2,835	0.3	S	S
South Carolina	22,240	2.0	5,104	0.9
South Dakota	2,111	0.2	2,621	0.5
Tennessee	33,791	3.0	9,238	1.6
Texas	115,340	10.3	99,731	17.7
Utah	7,061	0.6	S	S
Vermont	2,804	0.2	898	0.2
Virginia	18,515	1.6	6,390	1.1
Washington	43,735	3.9	22,323	4.0
West Virginia	4,758	0.4	S	S
Wisconsin	21,597	1.9	7,339	1.3
Wyoming	773	0.1	4,331	0.8

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table 7.

Export Shipment Characteristics by NAICS¹: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

NAICS code	NAICS title	Value (million dollars)	Tons (thousands)	Ton-miles ² (millions)
	Total	1,124,679	564,520	274,934
212	Mining (except oil and gas)	16,131	94,056	66,286
31–33	Manufacturing	691,012	201,415	113,172
311	Food manufacturing	29,532	22,846	22,222
312	Beverage and tobacco product manufacturing	4,472	1,844	1,368
313	Textile mills	5,336	1,074	1,006
314	Textile product mills	1,161	183	190
315	Apparel manufacturing	746	42	25
316	Leather and allied product manufacturing	1,011	317	450
321	Wood product manufacturing	3,461	6,704	3,686
322	Paper manufacturing	14,912	15,042	8,453
323	Printing and related support activities	4,602	353	290
324	Petroleum and coal products manufacturing	53,272	65,007	7,101
325	Chemical manufacturing	109,467	42,198	27,733
326	Plastics and rubber products manufacturing	19,547	3,962	3,562
327	Nonmetallic mineral product manufacturing	8,451	6,771	5,219
331	Primary metal manufacturing	22,542	10,980	10,268
332	Fabricated metal product manufacturing	27,233	4,574	4,440
333	Machinery manufacturing	85,326	5,321	5,598
334	Computer and electronic product manufacturing	116,430	878	922
335	Electrical equipment, appliance, and component manufacturing	16,060	1,524	1,539
336	Transportation equipment manufacturing	146,571	10,782	8,181
337	Furniture and related product manufacturing	2,239	398	393
339	Miscellaneous manufacturing	18,640	614	527
42	Wholesale trade	340,918	251,565	89,802
423	Merchant wholesalers, durable goods	226,573	88,869	27,454
4231	Motor vehicle and motor vehicle parts and supplies merchant wholesalers	33,873	4,130	3,982
4232	Furniture and home furnishing merchant wholesalers	1,577	281	249
4233	Lumber and other construction materials merchant wholesalers	2,184	3,589	1,428
4234	Professional and commercial equipment and supplies merchant wholesalers	41,727	871	495
4235	Metal and mineral (except petroleum) merchant wholesalers	11,112	4,778	3,442
4236	Electrical and electronic goods merchant wholesalers	55,254	958	580
4237	Hardware, plumbing and heating equipment and supplies merchant wholesalers	2,690	325	335
4238	Machinery, equipment, and supplies merchant wholesalers	31,912	1,709	1,412
4239	Miscellaneous durable goods merchant wholesalers	46,243	72,229	15,531
424	Merchant wholesalers, nondurable goods	114,345	162,696	62,348
4241	Paper and paper product merchant wholesalers	1,553	1,310	317
4242	Drugs and druggists' sundries merchant wholesalers	9,081	240	S
4243	Apparel, piece goods, and notions merchant wholesalers	8,192	1,150	603
4244	Grocery and related product merchant wholesalers	19,004	8,134	4,894
4245	Farm product raw material merchant wholesalers	45,929	100,741	48,241
4246	Chemical and allied products merchant wholesalers	8,400	6,469	2,121
4247	Petroleum and petroleum products merchant wholesalers	13,699	S	2,829
4248	Beer, wine, and distilled alcoholic beverage merchant wholesalers	156	74	38
4249	Miscellaneous nondurable goods merchant wholesalers	8,329	5,743	3,081
4541	Electronic shopping and mail-order houses	14,784	341	497
45431	Fuel dealers	0	0	0
4931 ³	Warehousing and storage	35,526	11,981	2,181
5111	Newspaper, periodical, book, and directory publishers	1,403	111	91
551114	Corporate, subsidiary, and regional managing offices	24,905	5,050	2,904

S Withheld because estimate did not meet publication standards.

¹ NAICS codes shown are those covered in the Commodity Flow Survey.² Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.³ For tabulation and publication purposes, NAICS 484 is grouped with NAICS 4931.

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Appendix A.

Comparability With the 2007, 2002, 1997, and 1993 Commodity Flow Surveys

The following tables show a comparison of the commodity classification system, industry coverage, sample size, sample weeks, reported mode of transportation, and data items requested for each shipment among the 1993, 1997, 2002, 2007, and 2012 Commodity Flow Surveys (CFS).

Commodity Classification System

1993	1997, 2002, 2007, and 2012
Standard Transportation Commodity Code (STCC), developed by the Association of American Railroads (AAR)	Standard Classification of Transported Goods (SCTG)

Industry Coverage

1993 CFS and 1997 CFS	2002 CFS	2007 CFS	2012 CFS
Establishments classified based on the 1987 Standard Industrial Classification (SIC) system	Establishments classified based on the 1997 North American Industry Classification System (NAICS)	Establishments classified based on the 2002 NAICS	Establishments classified based on 2007 NAICS
Publishers were covered—classified in Manufacturing Division	Publishers were not covered—classified in information sector ¹	Publishers were covered—classified in information sector ¹	Publishers were covered—classified in Information Sector ¹
Logging covered—under Manufacturing Division	Logging not covered ²	Logging not covered ²	Logging not covered
Other Manufacturing (excluding Printing Trade Services [SIC 279])	Other manufacturing (excluding Prepress services [NAICS 323122])	Other manufacturing (excluding Prepress services [NAICS 323122])	Manufacturing (excluding Prepress Services [NAICS 323122])
Mining (except mining services [SICs 108, 124, 138, 148] and oil and gas extraction [SICs 131 and 132])	Mining (except support activities [NAICS 213] and oil and gas extraction [NAICS 211])	Mining (except support activities [NAICS 213] and oil and gas extraction [NAICS 211])	Mining (except support activities [NAICS 213] and oil and gas extraction [NAICS 211])
Wholesale (merchants and manufacturers' sales branches and government-owned liquor stores)	Wholesale (merchants and manufacturers' sales branches and government-owned liquor stores)	Wholesale (merchants and manufacturers' sales branches and government-owned liquor stores)	Wholesale (merchants and manufacturers' sales branches and own brand importers)
Retail—catalog and mail-order houses	Retail—electronic shopping and mail-order houses	Retail—electronic shopping and mail-order houses, fuel dealers	Retail—electronic shopping and mail-order houses, fuel dealers
Auxiliaries (managing offices, warehouses)	Auxiliaries (managing offices, warehouses)	Auxiliaries (managing offices, warehouses) ³	Auxiliaries (managing offices, warehouses and trucking) ³

¹ Under NAICS, publishers were reclassified from Manufacturing (SIC 2711, 2721, 2731, 2741, and part of 2771) to Information (NAICS 5111 and 51223) and were excluded in the 2002 CFS. In 2007, Music Publishers (NAICS 51223) was tabulated and published in Newspaper, Periodical, Book and Directory Publishers (NAICS 5111). However, for the 2012 cycle, NAICS 51223 was not sampled.

² Because of changes in the classification of establishments between SIC and NAICS, logging establishments (NAICS 1133), which were covered as part of Manufacturing in the 1993 and 1997 surveys, were not included in 2002 and 2007. Detailed information about NAICS classification can be found on the Census Bureau's NAICS Web site.

³ While included in all surveys, the procedures for identifying in-scope auxiliary establishments have changed over the years. For the 1997 CFS, a managing office was considered in-scope only if it had sales or end-of-year inventories in the 1992 Census. Research conducted prior to the 2002 CFS showed that not all managing offices with shipping activity in the 1997 CFS indicated sales or inventories in the 1997 Economic Census. Consequently, the 1997 Economic Census results were not used to determine scope for managing offices in the 2002 CFS. For 2002, an auxiliary was included if it supported an in-scope or retail company. For the 2007 CFS, an advance survey of approximately 40,000 auxiliary establishments was conducted in 2006 to identify those auxiliary establishments with shipping activity. Those that indicated that shipping was performed (as well as nonrespondents) were included in the CFS sample universe. For the 2012 CFS, a targeted advance survey (precanvass) of approximately 100,000 establishments was conducted in 2011 to identify those establishments that actually conduct shipping activities. In these groups, surveyed establishments that reported that they did not conduct any shipping activity were excluded from the eventual CFS sample universe.

CFS Sample Size and Sample Frame

	Number of establishments in each CFS cycle				
	1993	1997	2002	2007	2012
Sample size	197,176	102,739	51,005	102,369	102,565
Sample frame size (approximately) . .	790,000	770,000	760,000	754,000	716,000

Sample Weeks

1993	1997, 2002, 2007, and 2012
Respondents were asked to select a sample of their individual outbound shipments during a 2-week period in each of the four calendar quarters of the year 1993, and report key characteristics (e.g., commodity, weight, value and destination) for each of the sampled shipments	Respondents were asked to select a sample of their individual outbound shipments during a 1-week period in each of the four calendar quarters of the reference CFS year, and report key characteristics (e.g., commodity, weight, value, and destination) for each of the sample shipments

Reported Mode of Transportation

1993	1997, 2002, and 2007	2012
For-hire truck	For-hire truck	For-hire truck
Private truck	Private truck	Private truck
Rail	Rail	Rail
Air	Air	Air
Inland water	Shallow draft vessel	Inland water
Deep sea water	Deep draft vessel	Deep sea
Pipeline	Pipeline	Pipeline
Parcel, U.S. Postal Service, or courier	Parcel, U.S. Postal Service, or courier	Parcel, U.S. Postal Service, or courier
Other	Other	Other
Unknown	Unknown	Unknown

Data Items Requested for Each Shipment

1993	1997	2002 and 2007	2012
For each shipment:	For each shipment:	For each shipment:	For each shipment:
Shipment ID	Shipment ID	Shipment ID	Shipment ID
Shipment date	Shipment date	Shipment date	Shipment date
Total value	Total value	Total value	Total value
Total weight	Total weight	Total weight	Total weight
Standard Transportation Commodity Code (STCC) of the commodity that contributes the most to the shipment's weight	Standard Classification of Transported Goods (SCTG) code of the commodity that contributes the most to the shipment's weight	SCTG code of the commodity that contributes the most to the shipment's weight	SCTG code of the commodity that contributes the most to the shipment's weight
Commodity description	Commodity description	Commodity description	Commodity description
All known modes of transportation	All known modes of transportation	All known modes of transportation in the order used	All known modes of transportation in the order used
Single origin (assumed to be the mailing address unless the respondent provided a different physical location address)	Single origin (assumed to be the mailing address unless the respondent provided a different physical location address)	Single origin (assumed to be the mailing address unless the respondent provided a different physical location address)	Single origin (assumed to be the mailing address unless the respondent provided a different physical location address)
Destination	Destination	Destination	Destination
Containerized (Y/N)	Containerized (Y/N)	NA	NA
NA	NA	Intermodal (Y/N)	NA
NA	NA	NA	Temperature controlled (Y/N)
Hazardous material (Y/N)	Hazardous material—United Nations or North American (UN/NA) code	Hazardous material—UN/NA code	Hazardous material—UN/NA code
Export (Y/N)	Export (Y/N)	Export (Y/N)	Export (Y/N)
If export: U.S. exit gateway, mode(s) of transport to the gateway, foreign city and country of destination, and mode(s) of export	If export: U.S. exit gateway, mode(s) of transport to the gateway, foreign city and country of destination, and mode(s) of export	If export: U.S. exit gateway, mode(s) of transport to the gateway, foreign city and country of destination, and mode(s) of export	If export: U.S. exit gateway, mode(s) of transport to the gateway, foreign city and country of destination, and mode(s) of export

NA Not available.

Data Items Requested for Each Establishment

1993, 1997, and 2002	2007	2012
NA	Third party logistics (3PL) usage	NA
NA	NA	Rush delivery usage

NA Not available.

Appendix B.

Reliability of the Estimates

INTRODUCTION

The estimates presented by the 2012 CFS may differ from the actual, unknown population values. The difference between the estimate and the population value is known as the total error of the estimate. When describing the accuracy of survey results, it is convenient to discuss total error as the sum of sampling error and nonsampling error. Sampling error is the average difference between the estimate and the result that would be obtained from a complete enumeration of the sampling frame conducted under the same survey conditions. Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate.

The sampling error of the estimates in this publication can be estimated from the selected sample because the sample was selected using probability sampling. Common measures related to sampling error are the sampling variance, the standard error, and the coefficient of variation (CV). The sampling variance is the squared difference, averaged over all possible samples of the same size and design, between the estimator and its average value. The standard error is the square root of the sampling variance. The CV expresses the standard error as a percentage of the estimate to which it refers.

Nonsampling errors are difficult to measure and can be introduced through inadequacies in the questionnaire, nonresponse, inaccurate reporting by respondents, errors in the application of survey procedures, incorrect recording of answers, and errors in data entry and processing. In conducting the 2012 CFS, every effort has been made to minimize the effect of nonsampling errors on the estimates. Data users should take into account both the measures of sampling error and the potential effects of nonsampling error when using these estimates.

SAMPLING ERROR

Because the estimates are based on a sample, exact agreement with results that would be obtained from a complete enumeration of all shipments made in 2012 from all establishments included on the sampling frame using the same enumeration procedures is not expected. However, because probability sampling was used at each stage of selection, it is possible to estimate the sampling variability of the survey estimates. For CFS estimates, sampling variability arises from each of the three stages of sampling (See Appendix C).

The particular sample of shipments used in this survey is one of a large number of samples of the same size that could have been selected using the same design. If all possible samples had been surveyed under the same conditions, an estimate of a population parameter of interest could have been obtained from each sample. These samples give rise to a distribution of estimates for the population parameter. A statistical measure of the variability among these estimates is the standard error, which can be approximated from any one sample. The standard error is defined as the square root of the variance. The coefficient of variation (or relative standard error) of an estimator is the standard error of the estimator divided by the estimator. For the CFS, the coefficient of variation also incorporates the effect of the noise infusion disclosure avoidance method (see Disclosure Avoidance below). Note that measures of sampling variability, such as the standard error and coefficient of variation, are estimated from the sample and are also subject to sampling variability and, technically, we should refer to the estimated standard error or the estimated coefficient of variation of an estimator. However, for the sake of brevity, we have omitted this detail. It is important to note that the standard error only measures sampling variability. It does not measure systematic biases of the sample. The Census Bureau recommends that individuals using estimates contained in this report incorporate this information into their analyses, as sampling error could affect the conclusions drawn from these estimates.

An estimate from a particular sample and the standard error associated with the estimate can be used to construct a confidence interval. A confidence interval is a range about a given estimator that has a specified probability of containing the result of a complete enumeration of the sampling frame conducted under the same survey conditions. Associated with each interval is a percentage of confidence, which is interpreted as follows. If, for each possible sample, an estimate of a population parameter and its approximate standard error were obtained, then:

1. For approximately 90 percent of the possible samples, the interval from 1.833 standard errors below to 1.833 standard errors above the estimate would include the result as obtained from a complete enumeration of the sampling frame conducted under the same survey conditions.

2. For approximately 95 percent of the possible samples, the interval from 2.262 standard errors below to 2.262 standard errors above the estimate would include the result as obtained from a complete enumeration of the sampling frame conducted under the same survey conditions.

The 1.833 and 2.262 values, used to compute the 90 percent and 95 percent confidence intervals, are taken from the t-distribution with nine degrees of freedom. This takes into account the uncertainty in the estimates of the CVs and standard errors produced using the random group method with ten random groups.

To illustrate the computation of a confidence interval for an estimate of total value of shipments, assume that an estimate of total value is \$10,750 million and the coefficient of variation for this estimate is 1.8 percent, or 0.018. First obtain the standard error of the estimate by multiplying the value of shipments estimate by its coefficient of variation. For this example, multiply \$10,750 million by 0.018. This yields a standard error of \$193.5 million. The upper and lower bounds of the 90 percent confidence interval are computed as \$10,750 million plus or minus 1.833 times \$193.5 million or \$354.7 million. Consequently, the 90 percent confidence interval is \$10,395 million to \$11,105 million. If corresponding confidence intervals were constructed for all possible samples of the same size and design, approximately 9 out of 10 (90 percent) of these intervals would contain the result obtained from a complete enumeration.

NONSAMPLING ERROR

Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate and may also occur in censuses. It is often helpful to think of nonsampling error as arising from deficiencies or mistakes in the survey process. In the CFS, nonsampling error can be attributed to many sources:

- Inability to obtain information about all units in the sample.
- Response errors.
- Differences in the interpretation of the questions.
- Mistakes in coding or keying the data obtained.
- Other errors of collection, response, coverage, and processing.

Although no direct measurement of the potential biases due to nonsampling error has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence. The Census Bureau recommends that individuals using estimates in this report incorporate this information into their analyses, as nonsampling error could affect the conclusions drawn from these estimates.

Some possible sources of bias that are attributed to respondent-conducted sampling include:

- Misunderstanding the definition of a shipment.
- Constructing an incomplete frame of shipments from which to sample.
- Ordering the shipment sampling frame by selected shipment characteristics.
- Selecting shipment records by a method other than the one specified in the questionnaire's instructions.

The respondents who reported a shipment with unusually large value or weight when compared to the rest of their reported shipments were often contacted for verification. In such cases, if we were able to collect information on all of the large shipments a respondent had made either for a particular reporting week or for the entire quarter, we then identified those large shipments as certainty shipments.

A potential source of bias in the estimates is nonresponse. Nonresponse is defined as the inability to obtain all the intended measurements or responses from all units in the sample. Four levels of nonresponse can occur in the CFS:

- Item
- Shipment
- Quarter (reporting week)
- Establishment

Nonresponse

Item nonresponse occurs either when a particular shipment data item is unanswered or the response to the question fails computer or analyst edits. Nonresponse to the shipment value or weight items is corrected by imputation, which is the procedure by which a missing value is replaced by a predicted value obtained from an appropriate model. (See Appendix C for a description of the imputation procedure.)

Shipment, quarter, and establishment nonresponse describe the inability to obtain any of the substantive measurements about a sampled shipment, quarter, or establishment, respectively. Shipment and quarter nonresponse are corrected by reweighting (see Appendix C for the descriptions of the shipment and quarter nonresponse weights). Reweighting allocates characteristics to the nonrespondents in proportion to the characteristics observed for the respondents. The amount of bias introduced by this nonresponse adjustment procedure depends on the extent to which the nonrespondents differ, characteristically, from the respondents.

Establishment nonresponse is corrected during the estimation procedure by the industry-level adjustment weight. In most cases of establishment nonresponse, none of the four questionnaires have been returned to the Census Bureau after several attempts to elicit a response.

Response Rate

The CFS produces four different response rates: a participation response rate, a unit response rate, a weighted unit response rate, and a total quantity (item) response rate. The first three are based on the responses of the establishments selected into the survey. These unit response rates are shown in Table 1 below.

Table 1.
2012 CFS Unit Response Rates

Type of response rate	PRR, URR, WRR (percent) ^{1, 2, 3}
Participation.	57.0
Unit	66.1
Weighted unit.	76.7

¹ Participation Response Rate (PRR)—The Participation Response Rate is the total number of unweighted establishments that provided usable data divided by the total number of establishments in the sample (102,565) (expressed as a percentage). “Usable data” means that an establishment provided at least one shipment that was used in the tabulation of published estimates.
² Unit Response Rate (URR)—The Unit Response Rate is defined as the percentage of the total unweighted number of establishments that provided usable data to the total number of establishments that were eligible (or potentially eligible) for data collection. URRs are indicators of the performance of the data collection process in obtaining usable responses.
³ Weighted Unit Response Rate (WRR)—The Weighted Unit Response Rate is defined as the percentage of the total weighted 2012 Economic Census adjusted receipts of establishments that provided usable data to the total weighted economic census adjusted receipts of establishments that were eligible (or potentially eligible) for data collection. This incorporates the size of the establishment as well as its sample weight into the measure of response.

The fourth rate is based on the quality of the individual shipment data reported by the responding establishments. These total quantity response rates for the 2012 CFS are shown in Table 2 below.

Table 2.
2012 CFS Total Quantity Response Rates

CFS variable	TQRR (percent) ¹
Value	51.9
Tons.	50.9
Ton-miles	63.2

¹ Total Quantity Response Rate (TQRR)—The Total Quantity Response Rate is defined as the percentage of the estimated (weighted) total of a given data item (Value, Tons, or Ton-miles) that is based on reported shipment data or from sources determined to be of equivalent-quality-to-reported. The TQRR is an item-level indicator of the “quality” of each estimate. In contrast to the Unit Response Rate (URR), these weighted response rates are computed for individual data items, so CFS produces several TQRRs. The TQRR for the CFS is based on the weighting adjustments made for establishment, quarter, or shipment nonresponse.

DEFINITIONS OF TERMS

Confidentiality

Title 13 of the U.S. Code authorizes the Census Bureau to conduct censuses and surveys. Section 9 of Title 13 requires that any information collected from the public under the authority of Title 13 be maintained as

confidential. Section 214 of Title 13 and Sections 3559 and 3571 of Title 18 of the U.S. Code provide for the imposition of penalties of up to 5 years in prison and up to \$250,000 in fines for wrongful disclosure of confidential census information. In accordance with Title 13, no estimates are published that would disclose the operations of an individual firm.

The Census Bureau’s internal Disclosure Review Board sets the confidentiality rules for all data releases. A checklist approach is used to ensure that all potential risks to the confidentiality of the data are considered and addressed.

Disclosure Avoidance

Disclosure is the release of data that have been deemed confidential. It generally reveals information about a specific individual or establishment or permits deduction of sensitive information about a particular individual or establishment. Disclosure avoidance is the process used to protect the confidentiality of the survey data provided by an individual or firm.

Using disclosure avoidance procedures, the Census Bureau modifies or removes the characteristics that put confidential information at risk of disclosure. Although it may appear that a table shows information about a specific individual or business, the Census Bureau has taken steps to disguise or suppress the original data while making sure the results are still useful. The techniques used by the Census Bureau to protect confidentiality in tabulations vary, depending on the type of data.

For the CFS, the primary method of disclosure avoidance is Noise Infusion. Noise Infusion is a method of disclosure avoidance in which values for each shipment are perturbed prior to tabulation by applying a random noise multiplier to shipment value and weight. Disclosure protection is accomplished in a manner that causes the vast majority of cell values to be perturbed by at most a few percentage points. For sample-based tabulations, such as CFS, the estimated relative standard error for a published cell includes both the estimated sampling error and the amount of perturbation in the estimated cell value due to noise. In extremely rare circumstances, some individual cells may be suppressed on a case-by-case basis for additional disclosure avoidance. In these cases, the data are replaced with a “D” in the tables. Other cells in the table may be suppressed because the quality of the data does not meet publication standards. By far, the most common reason for suppressing a cell is a high coefficient of variation (greater than 50 percent). These suppressed cells are shown with an “S” in the tables.

Unpublished Estimates

Estimates that had high sampling variability or poor response quality were not published. Some of these unpublished estimates can be derived directly from the CFS tables by subtracting published estimates from their respective totals. However, the (unpublished) estimates obtained by such subtraction would be subject to poor response, high sampling variability, or other factors that may make them potentially misleading. Estimates derived in this manner should not be attributed to the Census Bureau.

Individuals who use estimates in these tables to create new estimates should cite the Census Bureau as the source of only the original estimates.

More detailed descriptions for the 2012 CFS can be found in the sampling and nonsampling errors sections (see Sampling and Nonsampling Error in Appendix B).

Table B-1a.

Estimated Measures of Reliability for Export Shipment Characteristics by Export Mode of Transportation: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey. Because of rounding, estimates may not be additive]

Export mode of transportation	Value		Tons	
	Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent
All modes	2.0	0.0	10.4	0.0
Truck ¹	5.0	1.1	7.7	1.9
For-hire truck	2.7	0.6	4.6	1.0
Private truck	23.1	0.9	20.1	1.1
Rail	15.2	0.6	7.4	0.9
Water	2.7	0.5	13.9	2.6
Air (includes truck and air)	4.4	1.1	7.7	0.1
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	7.9	0.2	6.7	Z
Other modes	0.0	0.0	0.0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-1b.

Estimated Measures of Reliability for Export Shipment Characteristics by Export Mode of Transportation: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Export mode of transportation	Value			Tons		
	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change
	2012	2007		2012	2007	
All modes	2.0	2.5	4.2	10.4	4.2	13.2
Truck ¹	5.0	2.4	8.2	7.7	4.5	10.8
For-hire truck	2.7	X	X	4.6	X	X
Private truck	23.1	X	X	20.1	X	X
Rail	15.2	11.3	26.0	7.4	10.1	14.3
Water	2.7	3.9	7.1	13.9	6.0	18.7
Air (includes truck and air)	4.4	4.5	8.2	7.7	6.2	10.1
Pipeline ²	S	S	S	S	S	S
Parcel, U.S. Postal Service, or courier	7.9	4.6	3.2	6.7	6.0	3.5
Other modes	0.0	5.9	0.0	0.0	10.2	0.0

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-1c.

Estimated Standard Errors of Percentage for Export Shipment Characteristics by Export Mode of Transportation: Percentage of Total 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Export mode of transportation	Value		Tons	
	2012	2007	2012	2007
All modes	0.0	0.0	0.0	0.0
Truck ¹	1.1	0.6	1.9	0.7
For-hire truck	0.6	X	1.0	X
Private truck	0.9	X	1.1	X
Rail	0.6	0.4	0.9	1.1
Water	0.5	0.8	2.6	1.6
Air (includes truck and air)	1.1	0.7	0.1	0.1
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	0.2	0.4	Z	0.0
Other modes	0.0	0.3	0.0	0.5

S Withheld because estimate did not meet publication standards.

X Not applicable.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-2a.

Estimated Measures of Reliability for Export Shipment Characteristics by Domestic Mode of Transportation: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey]

Domestic mode of transportation	Value		Tons		Ton-miles ¹	
	Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent
All modes	2.0	0.0	10.4	0.0	6.0	0.0
Single modes	2.4	0.7	11.0	2.0	6.1	1.4
Truck ²	4.1	1.8	5.2	2.6	3.3	2.2
For-hire truck	3.4	1.5	6.8	1.7	3.1	2.1
Private truck	14.2	0.7	15.2	1.7	25.7	0.4
Rail	11.4	0.7	23.9	3.6	12.7	3.1
Water	21.4	1.1	11.1	1.9	23.4	1.9
Inland water	24.4	0.5	26.3	2.8	33.4	0.8
Deep sea	39.2	1.1	30.2	2.1	41.3	0.1
Multiple waterways	41.4	0.2	39.7	1.4	36.3	1.9
Air (includes truck and air)	5.7	1.1	6.7	0.1	14.3	0.2
Pipeline ³	45.3	0.5	47.1	1.6	S	S
Multiple modes	3.9	0.7	23.7	2.0	15.1	1.4
Parcel, U.S. Postal Service, or courier	4.4	0.5	14.3	Z	15.5	0.1
Truck and rail	8.8	0.5	27.4	1.8	16.5	1.1
Truck and water	13.6	0.1	28.1	0.2	22.0	0.2
Rail and water	32.8	Z	S	S	S	S
Other multiple modes	10.2	Z	9.3	0.3	9.3	0.5
Other modes	0.0	0.0	0.0	0.0	0.0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.² "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.³ Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-2b.

Estimated Measures of Reliability for Export Shipment Characteristics by Domestic Mode of Transportation: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Domestic mode of transportation	Value			Tons			Ton-miles ¹		
	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change
	2012	2007		2012	2007		2012	2007	
All modes	2.0	2.5	4.2	10.4	4.2	13.2	6.0	6.6	10.7
Single modes	2.4	3.4	5.7	11.0	5.2	15.3	6.1	7.4	14.2
Truck ²	4.1	2.5	5.1	5.2	6.3	8.1	3.3	7.1	10.0
For-hire truck	3.4	2.4	5.2	6.8	4.1	9.5	3.1	7.5	10.9
Private truck	14.2	8.7	8.2	15.2	14.3	13.3	25.7	9.3	20.5
Rail	11.4	9.9	18.0	23.9	12.9	34.8	12.7	11.0	25.8
Water	21.4	15.8	81.3	11.1	15.1	40.0	23.4	23.1	71.9
Inland water	24.4	24.1	54.8	26.3	21.9	41.2	33.4	S	S
Deep sea	39.2	18.6	235.7	30.2	22.5	138.0	41.3	19.9	8.8
Multiple waterways	41.4	X	X	39.7	X	X	36.3	X	X
Air (includes truck and air)	5.7	12.2	35.2	6.7	6.4	32.7	14.3	11.5	67.8
Pipeline ³	45.3	S	S	47.1	S	S	S	S	S
Multiple modes	3.9	2.7	5.4	23.7	18.0	29.6	15.1	18.7	11.7
Parcel, U.S. Postal Service, or courier	4.4	3.3	6.9	14.3	5.6	14.8	15.5	4.8	19.4
Truck and rail	8.8	7.7	14.7	27.4	13.1	48.4	16.5	15.5	14.2
Truck and water	13.6	12.2	7.9	28.1	39.7	8.9	22.0	38.9	5.6
Rail and water	32.8	16.2	23.7	S	S	S	S	32.4	S
Other multiple modes	10.2	22.5	1.6	9.3	27.0	7.1	9.3	26.0	11.3
Other modes	0.0	7.6	0.0	0.0	34.0	0.0	0.0	13.9	0.0

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.² "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.³ Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-2c.

Estimated Standard Errors of Percentage for Export Shipment Characteristics by Domestic Mode of Transportation: Percentage of Total 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Domestic mode of transportation	Value		Tons		Ton-miles ¹	
	2012	2007	2012	2007	2012	2007
All modes	0.0	0.0	0.0	0.0	0.0	0.0
Single modes	0.7	0.8	2.0	2.5	1.4	3.5
Truck ²	1.8	0.9	2.6	3.5	2.2	2.6
For-hire truck	1.5	0.4	1.7	1.4	2.1	2.6
Private truck	0.7	1.1	1.7	2.8	0.4	0.2
Rail	0.7	0.6	3.6	2.7	3.1	2.7
Water	1.1	0.4	1.9	2.0	1.9	0.8
Inland water	0.5	0.4	2.8	2.0	0.8	S
Deep sea	1.1	0.1	2.1	0.6	0.1	0.6
Multiple waterways	0.2	X	1.4	X	1.9	X
Air (includes truck and air)	1.1	1.1	0.1	0.0	0.2	0.1
Pipeline ³	0.5	S	1.6	S	S	S
Multiple modes	0.7	0.7	2.0	2.1	1.4	3.5
Parcel, U.S. Postal Service, or courier	0.5	0.6	Z	0.0	0.1	0.0
Truck and rail	0.5	0.5	1.8	0.8	1.1	1.7
Truck and water	0.1	0.2	0.2	1.1	0.2	2.7
Rail and water	Z	0.0	S	S	S	0.4
Other multiple modes	Z	0.1	0.3	0.6	0.5	0.4
Other modes	0.0	0.3	0.0	1.2	0.0	0.2

S Withheld because estimate did not meet publication standards.

X Not applicable.

Z Rounds to zero.

¹ Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.

² "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

³ Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-3a.

Estimated Measures of Reliability for Export Shipment Characteristics by Country of Destination: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey]

Country of destination	Value		Tons	
	Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent
Total	2.0	0.0	10.4	0.0
Canada	4.7	1.0	6.4	1.3
Mexico	5.6	0.5	11.2	1.7
All other countries	2.7	1.0	13.9	2.2

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-3b.

Estimated Measures of Reliability for Export Shipment Characteristics by Country of Destination: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Country of destination	Value			Tons		
	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change
	2012	2007		2012	2007	
Total	2.0	2.5	4.2	10.4	4.2	13.2
Canada	4.7	7.2	9.9	6.4	9.2	9.8
Mexico	5.6	5.9	10.9	11.2	19.0	25.3
All other countries	2.7	3.0	5.4	13.9	6.5	19.7

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-3c.

Estimated Standard Errors of Percentage for Export Shipment Characteristics by Country of Destination: Percentage of Total 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Country of destination	Value		Tons	
	2012	2007	2012	2007
Total	0.0	0.0	0.0	0.0
Canada	1.0	1.2	1.3	2.2
Mexico	0.5	0.7	1.7	2.2
All other countries	1.0	1.2	2.2	2.5

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-4a.

Estimated Measures of Reliability for Export Shipment Characteristics by Export Mode of Transportation and Country of Destination: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey]

Export mode of transportation and country of destination	Value		Tons	
	Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent
Total	2.0	0.0	10.4	0.0
CANADA				
All modes	4.7	0.0	6.4	0.0
Truck ¹	6.6	2.2	6.0	4.9
For-hire truck	3.5	2.1	5.1	3.0
Private truck	28.7	3.2	19.1	2.8
Rail	18.9	2.0	15.5	2.9
Water	20.1	0.3	23.1	3.2
Air (includes truck and air)	9.4	0.8	30.6	0.1
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	9.2	0.7	8.1	Z
Other modes	0.0	0.0	0.0	0.0
MEXICO				
All modes	5.6	0.0	11.2	0.0
Truck ¹	4.0	3.3	15.7	4.7
For-hire truck	3.7	2.3	8.3	1.7
Private truck	14.1	1.7	28.8	3.4
Rail	12.3	1.4	9.8	4.1
Water	28.5	3.1	30.3	5.8
Air (includes truck and air)	16.0	0.7	28.4	Z
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	11.8	0.4	18.7	Z
Other modes	0.0	0.0	0.0	0.0
ALL OTHER COUNTRIES				
All modes	2.7	0.0	13.9	0.0
Truck ³	0.0	0.0	0.0	0.0
For-hire truck	0.0	0.0	0.0	0.0
Private truck	0.0	0.0	0.0	0.0
Rail ³	0.0	0.0	0.0	0.0
Water	2.4	1.1	14.1	0.1
Air (includes truck and air)	4.5	1.1	8.5	0.1
Pipeline ³	0.0	0.0	0.0	0.0
Parcel, U.S. Postal Service, or courier	0.0	0.0	0.0	0.0
Other modes	0.0	0.0	0.0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).³ "Truck," "Rail," and "Pipeline" single-mode categories are not valid modes of transportation for export shipments to "All Other Countries."

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-4b.

Estimated Measures of Reliability for Export Shipment Characteristics by Export Mode of Transportation and Country of Destination: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Export mode of transportation and country of destination	Value			Tons		
	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change
	2012	2007		2012	2007	
Total	2.0	2.5	4.2	10.4	4.2	13.2
CANADA						
All modes	4.7	7.2	9.9	6.4	9.2	9.8
Truck ¹	6.6	2.8	10.3	6.0	7.2	10.5
For-hire truck	3.5	X	X	5.1	X	X
Private truck	28.7	X	X	19.1	X	X
Rail	18.9	14.7	29.4	15.5	10.8	17.1
Water	20.1	46.8	34.6	23.1	34.8	28.5
Air (includes truck and air)	9.4	45.3	25.6	30.6	15.8	54.8
Pipeline ²	S	S	S	S	S	S
Parcel, U.S. Postal Service, or courier	9.2	8.2	13.5	8.1	7.1	7.9
Other modes	0.0	5.8	0.0	0.0	16.3	0.0
MEXICO						
All modes	5.6	5.9	10.9	11.2	19.0	25.3
Truck ¹	4.0	6.4	12.0	15.7	9.3	27.2
For-hire truck	3.7	X	X	8.3	X	X
Private truck	14.1	X	X	28.8	X	X
Rail	12.3	14.1	31.4	9.8	19.4	32.0
Water	28.5	36.4	73.3	30.3	48.3	49.9
Air (includes truck and air)	16.0	14.4	30.3	28.4	15.1	44.3
Pipeline ²	S	S	S	S	S	S
Parcel, U.S. Postal Service, or courier	11.8	23.6	54.2	18.7	36.7	33.8
Other modes	0.0	14.9	0.0	0.0	20.5	0.0
ALL OTHER COUNTRIES						
All modes	2.7	3.0	5.4	13.9	6.5	19.7
Truck ³	0.0	0.0	0.0	0.0	0.0	0.0
For-hire truck	0.0	0.0	0.0	0.0	0.0	0.0
Private truck	0.0	0.0	0.0	0.0	0.0	0.0
Rail ³	0.0	S	S	0.0	42.8	0.0
Water	2.4	4.7	7.9	14.1	6.9	20.4
Air (includes truck and air)	4.5	3.1	7.5	8.5	6.6	10.7
Pipeline ³	0.0	0.0	0.0	0.0	0.0	0.0
Parcel, U.S. Postal Service, or courier	0.0	6.8	0.0	0.0	9.6	0.0
Other modes	0.0	10.8	0.0	0.0	30.7	0.0

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

³ "Truck," "Rail," and "Pipeline" single-mode categories are not valid modes of transportation for export shipments to "All Other Countries."

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-4c.

Estimated Standard Errors of Percentage for Export Shipment Characteristics by Export Mode of Transportation and Country of Destination: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

Export mode of transportation and country of destination	Value		Tons	
	2012	2007	2012	2007
Total	0.0	0.0	0.0	0.0
CANADA				
All modes	0.0	0.0	0.0	0.0
Truck ¹	2.2	2.9	4.9	3.6
For-hire truck	2.1	X	3.0	X
Private truck	3.2	X	2.8	X
Rail	2.0	1.7	2.9	2.2
Water	0.3	1.1	3.2	4.1
Air (includes truck and air)	0.8	3.6	0.1	0.0
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	0.7	0.5	Z	0.0
Other modes	0.0	0.6	0.0	1.1
MEXICO				
All modes	0.0	0.0	0.0	0.0
Truck ¹	3.3	2.3	4.7	3.4
For-hire truck	2.3	X	1.7	X
Private truck	1.7	X	3.4	X
Rail	1.4	2.0	4.1	5.2
Water	3.1	2.9	5.8	7.8
Air (includes truck and air)	0.7	1.0	Z	0.0
Pipeline ²	S	S	S	S
Parcel, U.S. Postal Service, or courier	0.4	0.5	Z	0.0
Other modes	0.0	2.2	0.0	3.0
ALL OTHER COUNTRIES				
All modes	0.0	0.0	0.0	0.0
Truck ³	0.0	0.0	0.0	0.0
For-hire truck	0.0	0.0	0.0	0.0
Private truck	0.0	0.0	0.0	0.0
Rail ³	0.0	S	0.0	0.0
Water	1.1	1.2	0.1	0.6
Air (includes truck and air)	1.1	0.9	0.1	0.1
Pipeline ³	0.0	0.0	0.0	0.0
Parcel, U.S. Postal Service, or courier	0.0	0.5	0.0	0.0
Other modes	0.0	0.2	0.0	0.5

S Withheld because estimate did not meet publication standards.

X Not applicable.

Z Rounds to zero.

¹ "Truck" as a single mode includes shipments that were made by only private truck or only for-hire truck.

² Estimates for pipeline exclude shipments of crude petroleum (SCTG 16).

³ "Truck," "Rail," and "Pipeline" single-mode categories are not valid modes of transportation for export shipments to "All Other Countries."

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-5a.

Estimated Measures of Reliability for Export Shipment Characteristics by Two-Digit Commodity: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey]

SCTG code	Description	Value		Tons	
		Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent
	All commodities¹	2.0	0.0	10.4	0.0
01	Live animals and live fish	43.0	Z	S	S
02	Cereal grains (includes seed)	18.8	0.3	20.1	3.1
03	Agricultural products (excludes animal feed, cereal grains, and forage products)	8.5	0.3	9.9	1.0
04	Animal feed, eggs, honey, and other products of animal origin	11.8	0.1	17.2	0.2
05	Meat, poultry, fish, seafood, and their preparations	8.0	0.1	5.9	0.1
06	Milled grain products and preparations and bakery products	13.3	0.1	17.2	0.2
07-R ²	Other prepared foodstuffs and fats and oils	11.1	0.2	14.9	0.6
08-R ³	Alcoholic beverages, and Denatured Alcohol	15.6	0.1	8.9	Z
09	Tobacco products	39.6	Z	33.1	Z
10	Monumental or building stone	33.8	Z	32.3	Z
11	Natural sands	31.0	Z	11.6	0.1
12	Gravel and crushed stone (excludes dolomite and slate)	28.4	Z	S	S
13	Other nonmetallic minerals, n.e.c.	12.0	Z	14.2	0.1
14	Metallic ores and concentrates	15.3	0.1	41.5	1.0
15	Coal	25.8	0.1	44.0	3.5
17-R ⁴	Gasoline, aviation turbine fuel, and ethanol (includes kerosene, and fuel alcohols)	39.2	0.6	37.6	1.1
18-R ⁵	Fuel oils (includes diesel, Bunker C, and biodiesel)	45.8	1.2	47.1	2.7
19	Other coal and petroleum products, n.e.c.	16.3	0.3	44.6	2.5
20	Basic chemicals	12.8	0.3	11.5	0.2
21	Pharmaceutical products	9.5	0.4	12.8	Z
22	Fertilizers	S	S	S	S
23	Chemical products and preparations, n.e.c.	8.2	0.3	6.4	0.2
24	Plastics and rubber	6.8	0.3	14.7	0.4
25	Logs and other wood in the rough	S	S	41.8	0.1
26	Wood products	10.4	0.1	16.8	0.2
27	Pulp, newsprint, paper, and paperboard	11.9	0.1	14.7	0.7
28	Paper or paperboard articles	11.3	Z	17.7	0.1
29	Printed products	14.3	0.1	S	S
30	Textiles, leather, and articles of textiles or leather	9.4	0.2	8.0	0.1
31	Nonmetallic mineral products	9.5	0.1	12.0	0.3
32	Base metal in primary or semi finished forms and in finished basic shapes	5.2	0.1	6.5	0.3
33	Articles of base metal	4.9	0.1	6.5	0.1
34	Machinery	6.7	0.7	8.2	0.1
35	Electronic and other electrical equipment and components and office equipment	9.2	1.5	8.7	0.1
36	Motorized and other vehicles (including parts)	10.4	1.2	8.5	0.4
37	Transportation equipment, n.e.c.	19.7	1.0	15.9	Z
38	Precision instruments and apparatus	7.3	0.5	12.3	Z
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	11.6	Z	16.1	Z
40	Miscellaneous manufactured products	8.1	0.3	12.8	0.1
41	Waste and scrap	24.6	0.8	19.8	1.8
43	Mixed freight	13.2	0.2	14.7	0.1
99	Commodity unknown	0.0	0.0	0.0	0.0

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ Estimates exclude shipments of crude petroleum (SCTG 16).² Prior to the 2012 CFS, oils and fats treated for use as biodiesel were included in Commodity Code 07. In the 2012 CFS, oils and fats treated for use as biodiesel moved to Commodity Code 18.³ Prior to the 2012 CFS, alcohols intended for use as fuel such as ethanol, although not specifically identified, were included in Commodity Code 08. In the 2012 CFS, ethanol moved to Commodity Code 17.⁴ Prior to the 2012 CFS, fuel alcohols such as ethanol were included in Commodity Code 08, although not specifically identified. Also, kerosene was included in Commodity Code 19. In the 2012 CFS, ethanol, fuel alcohols and kerosene moved to Commodity Code 17.⁵ Prior to the 2012 CFS, biodiesel, although not specifically identified, was included in Commodity Code 07. In the 2012 CFS, biodiesel moved to Commodity Code 18.Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-5b.

Estimated Measures of Reliability for Export Shipment Characteristics by Two-Digit Commodity: 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

SCTG code	Description	Value			Tons		
		Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change
		2012	2007		2012	2007	
	All commodities¹	2.0	2.5	4.2	10.4	4.2	13.2
01	Live animals and live fish	43.0	S	S	S	S	S
02	Cereal grains (includes seed)	18.8	15.6	21.6	20.1	15.2	13.9
03	Agricultural products (excludes animal feed, cereal grains, and forage products)	8.5	12.6	29.3	9.9	12.7	21.2
04	Animal feed, eggs, honey, and other products of animal origin	11.8	26.4	21.6	17.2	19.8	15.5
05	Meat, poultry, fish, seafood, and their preparations	8.0	7.4	15.9	5.9	13.5	17.3
06	Milled grain products and preparations and bakery products	13.3	11.3	22.3	17.2	15.4	25.8
07-R ²	Other prepared foodstuffs and fats and oils	11.1	11.4	X	14.9	16.0	X
08-R ³	Alcoholic beverages, and Denatured Alcohol	15.6	31.8	X	8.9	23.5	X
09	Tobacco products	39.6	43.1	94.1	33.1	38.4	158.0
10	Monumental or building stone	33.8	27.1	128.0	32.3	44.1	191.0
11	Natural sands	31.0	25.3	105.6	11.6	22.1	34.8
12	Gravel and crushed stone (excludes dolomite and slate)	28.4	24.9	32.4	S	32.7	S
13	Other nonmetallic minerals, n.e.c.	12.0	31.4	29.3	14.2	12.4	16.0
14	Metallic ores and concentrates	15.3	34.2	39.1	41.5	29.3	219.5
15	Coal	25.8	37.0	66.4	44.0	32.7	73.5
17-R ⁴	Gasoline, aviation turbine fuel, and ethanol (includes kerosene, and fuel alcohols)	39.2	S	X	37.6	S	X
18-R ⁵	Fuel oils (includes diesel, Bunker C, and biodiesel)	45.8	43.4	X	47.1	S	X
19	Other coal and petroleum products, n.e.c.	16.3	19.1	33.6	44.6	12.8	88.2
20	Basic chemicals	12.8	9.7	14.9	11.5	15.7	12.1
21	Pharmaceutical products	9.5	22.8	37.2	12.8	16.7	17.3
22	Fertilizers	S	39.0	S	S	45.3	S
23	Chemical products and preparations, n.e.c.	8.2	11.1	17.2	6.4	4.3	7.0
24	Plastics and rubber	6.8	4.6	12.6	14.7	8.0	21.2
25	Logs and other wood in the rough	S	19.7	S	41.8	19.3	18.6
26	Wood products	10.4	10.7	17.4	16.8	15.1	29.5
27	Pulp, newsprint, paper, and paperboard	11.9	7.0	18.9	14.7	7.0	20.4
28	Paper or paperboard articles	11.3	12.1	18.8	17.7	16.1	25.8
29	Printed products	14.3	10.7	22.0	S	30.8	S
30	Textiles, leather, and articles of textiles or leather	9.4	12.3	21.3	8.0	32.5	25.6
31	Nonmetallic mineral products	9.5	10.2	16.5	12.0	8.7	20.0
32	Base metal in primary or semi finished forms and in finished basic shapes	5.2	8.2	8.9	6.5	6.0	7.8
33	Articles of base metal	4.9	4.0	6.3	6.5	8.3	11.1
34	Machinery	6.7	7.5	12.8	8.2	9.7	12.0
35	Electronic and other electrical equipment and components and office equipment	9.2	7.2	12.1	8.7	10.6	11.3
36	Motorized and other vehicles (including parts)	10.4	6.8	18.8	8.5	7.0	13.6
37	Transportation equipment, n.e.c.	19.7	24.6	40.1	15.9	22.4	24.9
38	Precision instruments and apparatus	7.3	7.1	12.3	12.3	18.6	32.0
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	11.6	8.7	21.4	16.1	15.1	23.9
40	Miscellaneous manufactured products	8.1	6.3	12.9	12.8	12.3	16.3
41	Waste and scrap	24.6	11.9	47.2	19.8	14.3	36.8
43	Mixed freight	13.2	24.9	38.9	14.7	25.1	40.2
99	Commodity unknown	0.0	S	S	0.0	S	S

S Withheld because estimate did not meet publication standards.

X Not applicable.

¹ Estimates exclude shipments of crude petroleum (SCTG 16).² Prior to the 2012 CFS, oils and fats treated for use as biodiesel were included in Commodity Code 07. In the 2012 CFS, oils and fats treated for use as biodiesel moved to Commodity Code 18.³ Prior to the 2012 CFS, alcohols intended for use as fuel such as ethanol, although not specifically identified, were included in Commodity Code 08. In the 2012 CFS, ethanol moved to Commodity Code 17.⁴ Prior to the 2012 CFS, fuel alcohols such as ethanol were included in Commodity Code 08, although not specifically identified. Also, kerosene was included in Commodity Code 19. In the 2012 CFS, ethanol, fuel alcohols and kerosene moved to Commodity Code 17.⁵ Prior to the 2012 CFS, biodiesel, although not specifically identified, was included in Commodity Code 07. In the 2012 CFS, biodiesel moved to Commodity Code 18.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-5c.

Estimated Standard Errors of Percentage for Export Shipment Characteristics by Two-Digit Commodity: Percentage of Total for 2012 and 2007

[Estimates are based on data from the 2012 and 2007 Commodity Flow Survey]

SCTG code	Description	Value		Tons	
		2012	2007	2012	2007
	All commodities¹	0.0	0.0	0.0	0.0
01	Live animals and live fish	Z	S	S	S
02	Cereal grains (includes seed)	0.3	0.4	3.1	2.9
03	Agricultural products (excludes animal feed, cereal grains, and forage products)	0.3	0.2	1.0	0.7
04	Animal feed, eggs, honey, and other products of animal origin	0.1	0.3	0.2	0.8
05	Meat, poultry, fish, seafood, and their preparations	0.1	0.1	0.1	0.1
06	Milled grain products and preparations and bakery products	0.1	0.1	0.2	0.2
07-R ²	Other prepared foodstuffs and fats and oils	0.2	0.2	0.6	0.5
08-R ³	Alcoholic beverages, and Denatured Alcohol	0.1	0.1	Z	0.1
09	Tobacco products	Z	0.0	Z	0.0
10	Monumental or building stone	Z	0.0	Z	0.0
11	Natural sands	Z	0.0	0.1	0.1
12	Gravel and crushed stone (excludes dolomite and slate)	Z	0.0	S	0.2
13	Other nonmetallic minerals, n.e.c.	Z	0.1	0.1	0.2
14	Metallic ores and concentrates	0.1	0.3	1.0	0.3
15	Coal	0.1	0.1	3.5	2.7
17-R ⁴	Gasoline, aviation turbine fuel, and ethanol (includes kerosene, and fuel alcohols)	0.6	S	1.1	S
18-R ⁵	Fuel oils (includes diesel, Bunker C, and biodiesel)	1.2	0.2	2.7	S
19	Other coal and petroleum products, n.e.c.	0.3	0.3	2.5	0.9
20	Basic chemicals	0.3	0.4	0.2	0.7
21	Pharmaceutical products	0.4	0.7	Z	0.0
22	Fertilizers	S	0.1	S	0.8
23	Chemical products and preparations, n.e.c.	0.3	0.3	0.2	0.1
24	Plastics and rubber	0.3	0.2	0.4	0.3
25	Logs and other wood in the rough	S	0.0	0.1	0.1
26	Wood products	0.1	0.1	0.2	0.2
27	Pulp, newsprint, paper, and paperboard	0.1	0.1	0.7	0.2
28	Paper or paperboard articles	Z	0.0	0.1	0.1
29	Printed products	0.1	0.0	S	0.1
30	Textiles, leather, and articles of textiles or leather	0.2	0.3	0.1	0.4
31	Nonmetallic mineral products	0.1	0.1	0.3	0.1
32	Base metal in primary or semi finished forms and in finished basic shapes	0.1	0.2	0.3	0.3
33	Articles of base metal	0.1	0.1	0.1	0.1
34	Machinery	0.7	0.6	0.1	0.2
35	Electronic and other electrical equipment and components and office equipment	1.5	1.2	0.1	0.1
36	Motorized and other vehicles (including parts)	1.2	0.5	0.4	0.2
37	Transportation equipment, n.e.c.	1.0	1.1	Z	0.0
38	Precision instruments and apparatus	0.5	0.5	Z	0.0
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	Z	0.0	Z	0.0
40	Miscellaneous manufactured products	0.3	0.3	0.1	0.1
41	Waste and scrap	0.8	0.3	1.8	1.3
43	Mixed freight	0.2	0.4	0.1	0.1
99	Commodity unknown	0.0	S	0.0	S

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

¹ Estimates exclude shipments of crude petroleum (SCTG 16).² Prior to the 2012 CFS, oils and fats treated for use as biodiesel were included in Commodity Code 07. In the 2012 CFS, oils and fats treated for use as biodiesel moved to Commodity Code 18.³ Prior to the 2012 CFS, alcohols intended for use as fuel such as ethanol, although not specifically identified, were included in Commodity Code 08. In the 2012 CFS, ethanol moved to Commodity Code 17.⁴ Prior to the 2012 CFS, fuel alcohols such as ethanol were included in Commodity Code 08, although not specifically identified. Also, kerosene was included in Commodity Code 19. In the 2012 CFS, ethanol, fuel alcohols and kerosene moved to Commodity Code 17.⁵ Prior to the 2012 CFS, biodiesel, although not specifically identified, was included in Commodity Code 07. In the 2012 CFS, biodiesel moved to Commodity Code 18.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-6.

Estimated Measures of Reliability for Export Shipment Characteristics by Selected State of Origin: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey]

Origin state	Value		Tons	
	Coefficient of variation of number	Standard error of percent	Coefficient of variation of number	Standard error of percent
Total	2.0	0.0	10.4	0.0
Alabama	18.1	0.3	29.5	0.8
Alaska	28.3	0.1	44.8	0.5
Arizona	23.4	0.2	42.3	0.1
Arkansas	23.1	0.1	18.3	0.1
California	8.5	1.2	24.3	1.5
Colorado	11.2	0.1	24.6	0.1
Connecticut	19.5	0.2	S	S
Delaware	S	S	33.5	Z
District of Columbia	S	S	30.6	Z
Florida	12.4	0.5	45.6	1.2
Georgia	10.6	0.2	15.0	0.4
Hawaii	39.7	Z	48.8	Z
Idaho	38.8	0.1	21.7	0.1
Illinois	10.3	0.4	14.1	0.4
Indiana	14.3	0.3	11.4	0.1
Iowa	14.2	0.2	21.2	0.4
Kansas	48.6	0.8	30.9	0.2
Kentucky	24.2	0.5	14.9	0.1
Louisiana	17.9	0.8	16.4	2.7
Maine	9.6	Z	16.7	0.1
Maryland	11.8	0.1	11.7	Z
Massachusetts	7.3	0.2	31.2	0.1
Michigan	9.9	0.4	20.4	0.6
Minnesota	14.6	0.3	23.1	0.5
Mississippi	21.5	0.1	24.6	0.1
Missouri	16.0	0.2	18.2	0.2
Montana	13.9	Z	30.4	0.5
Nebraska	18.6	0.1	48.2	0.4
Nevada	21.3	0.2	27.0	0.1
New Hampshire	7.3	Z	S	S
New Jersey	11.5	0.2	42.4	1.4
New Mexico	S	S	27.4	Z
New York	9.3	0.4	12.2	0.1
North Carolina	23.0	0.6	9.5	0.2
North Dakota	18.5	Z	23.8	0.1
Ohio	13.9	0.5	17.9	0.3
Oklahoma	10.7	0.1	30.8	0.1
Oregon	26.7	0.8	25.5	0.4
Pennsylvania	4.5	0.2	22.0	0.2
Rhode Island	38.8	0.1	S	S
South Carolina	24.6	0.5	12.7	0.2
South Dakota	19.7	Z	40.8	0.2
Tennessee	27.4	0.8	25.2	0.4
Texas	7.7	0.7	31.5	3.0
Utah	7.1	Z	S	S
Vermont	23.4	0.1	41.9	0.1
Virginia	12.5	0.3	17.2	0.2
Washington	20.3	0.7	20.2	1.2
West Virginia	16.4	0.1	S	S
Wisconsin	11.7	0.2	27.5	0.5
Wyoming	15.5	Z	31.9	0.3

S Withheld because estimate did not meet publication standards.

Z Rounds to zero.

Note: Value-of-shipments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Table B-7.

Estimated Measures of Reliability for Export Shipment Characteristics by NAICS¹ for the United States: 2012

[Estimates are based on data from the 2012 Commodity Flow Survey]

NAICS code	NAICS title	Value—Coefficient of variation of number	Tons—Coefficient of variation of number	Ton-miles ² —Coefficient of variation of number
	Total	2.0	10.4	6.0
212	Mining (except oil and gas)	9.5	34.6	24.1
31–33	Manufacturing	2.2	11.1	4.8
311	Food manufacturing	11.1	17.0	18.1
312	Beverage and tobacco product manufacturing	18.6	12.7	10.5
313	Textile mills	9.1	7.9	9.1
314	Textile product mills	14.4	19.7	21.9
315	Apparel manufacturing	21.7	38.9	19.6
316	Leather and allied product manufacturing	18.1	19.4	20.7
321	Wood product manufacturing	10.5	15.8	20.5
322	Paper manufacturing	13.3	15.8	10.6
323	Printing and related support activities	30.4	13.2	10.9
324	Petroleum and coal products manufacturing	25.0	25.8	27.1
325	Chemical manufacturing	4.5	22.0	7.5
326	Plastics and rubber products manufacturing	6.0	9.7	8.0
327	Nonmetallic mineral product manufacturing	8.8	8.9	8.9
331	Primary metal manufacturing	5.4	18.4	20.2
332	Fabricated metal product manufacturing	3.4	5.8	9.5
333	Machinery manufacturing	5.2	6.6	7.0
334	Computer and electronic product manufacturing	9.7	18.9	20.1
335	Electrical equipment, appliance, and component manufacturing	5.6	10.2	11.9
336	Transportation equipment manufacturing	7.8	9.9	10.5
337	Furniture and related product manufacturing	10.3	16.2	15.5
339	Miscellaneous manufacturing	6.6	8.0	9.4
42	Wholesale trade	3.0	13.0	11.9
423	Merchant wholesalers, durable goods	3.7	13.1	15.0
4231	Motor vehicle and motor vehicle parts and supplies merchant wholesalers	12.7	25.0	49.6
4232	Furniture and home furnishing merchant wholesalers	25.7	25.4	48.7
4233	Lumber and other construction materials merchant wholesalers	26.7	29.2	22.9
4234	Professional and commercial equipment and supplies merchant wholesalers	9.5	15.9	14.9
4235	Metal and mineral (except petroleum) merchant wholesalers	19.8	24.1	28.2
4236	Electrical and electronic goods merchant wholesalers	10.0	14.5	14.9
4237	Hardware, plumbing and heating equipment and supplies merchant wholesalers	13.9	27.0	48.4
4238	Machinery, equipment, and supplies merchant wholesalers	7.7	14.7	19.7
4239	Miscellaneous durable goods merchant wholesalers	20.2	16.3	19.5
424	Merchant wholesalers, nondurable goods	5.0	16.4	15.6
4241	Paper and paper product merchant wholesalers	35.4	40.9	24.5
4242	Drugs and druggists' sundries merchant wholesalers	28.7	35.8	S
4243	Apparel, piece goods, and notions merchant wholesalers	16.5	24.5	19.9
4244	Grocery and related product merchant wholesalers	14.0	11.6	10.5
4245	Farm product raw material merchant wholesalers	11.9	13.3	19.9
4246	Chemical and allied products merchant wholesalers	15.1	43.3	46.9
4247	Petroleum and petroleum products merchant wholesalers	34.8	S	36.5
4248	Beer, wine, and distilled alcoholic beverage merchant wholesalers	36.2	36.2	33.5
4249	Miscellaneous nondurable goods merchant wholesalers	18.7	28.6	26.6
4541	Electronic shopping and mail-order houses	35.0	45.0	42.7
45431	Fuel dealers	0.0	0.0	0.0
4931 ³	Warehousing and storage	14.3	46.1	12.3
5111	Newspaper, periodical, book, and directory publishers	23.6	24.6	35.8
551114	Corporate, subsidiary, and regional managing offices	20.0	30.2	31.8

S Withheld because estimate did not meet publication standards.

¹ NAICS codes shown are those covered in the Commodity Flow Survey.

² Ton-miles estimates are based on estimated distances traveled along a modeled transportation network. See "Mileage Calculations" section for additional information.

³ For tabulation and publication purposes, NAICS 484 is grouped with NAICS 4931.

Note: Value-of-shippments estimates have not been adjusted for price changes. Appendix B tables provide estimated measures of sampling variability. The Introduction and appendixes give information on confidentiality protection, sampling error, nonsampling error, sample design and definitions. Links to this information on the Internet may be found at <www.census.gov/econ/cfs>.

Appendix C.

Sample Design, Data Collection, and Estimation

INTRODUCTION

The primary goal for the 2012 Commodity Flow Survey (CFS) was to estimate shipping volumes (value, tons, and ton-miles) by commodity and mode of transportation at varying levels of geographic detail. A secondary objective was to estimate the volume of shipments moving from one geographic area to another (i.e., flows of commodities between states, regions, etc.) by mode and commodity. A detailed description of the sample design for the 2012 CFS is provided below.

SAMPLE DESIGN

Overview

The sample for the 2012 CFS was selected using a stratified three-stage design in which the first-stage sampling units were establishments, the second-stage sampling units were groups of four 1-week periods (reporting weeks) within the survey year, and the third-stage sampling units were shipments.

First Stage—Establishment Selection

To create the first-stage sampling frame, a subset of establishment records (as of July 2011) was extracted from the Census Bureau's Business Register. The Business Register is a database of all known establishments located in the United States or its territories. An establishment is a single physical location where business transactions take place or services are performed. Establishments located in the United States, having nonzero payroll in 2010, and classified in mining (except oil and gas extraction), manufacturing, wholesale, electronic shopping and mail order, fuel dealers, and publishing industries, as defined by the 2007 NAICS, were included on the sampling frame. Certain manufacturers (Prepress services) and wholesalers (manufacturers' sales offices, agents and brokers, and certain importers) were excluded from the frame.

Auxiliary establishments (e.g., truck transportation facilities, warehouses, and central administrative offices) with shipping activity were also included on the sampling frame. Auxiliary establishments are establishments that are primarily involved in rendering support services to other establishments within the same company, instead of for the public, government, or other business firms. All other establishments included on the sampling frame are referred to as nonauxiliary establishments.

Establishments classified in forestry, fishing, utilities, construction, and all other transportation, retail, and services industries were not included on the sampling frame. Farms and government-owned entities (except government-owned liquor stores) were also excluded from the sampling frame. The resulting frame comprised approximately 716,000 establishments as shown in the table below.

Trade area	Establishments on frame	
	2012 CFS	2007 CFS
Mining	5,543	6,789
Manufacturing	305,805	327,826
Wholesale	345,511	356,477
Retail	27,697	25,190
Services	15,599	22,539
Auxiliaries	14,959	14,878
Total	716,114	753,699

For each establishment, sales, payroll, number of employees, a six-digit NAICS code, name and address, and a primary identifier were extracted, and a measure of size was computed. The measure of size was designed to approximate an establishment's annual total value of shipments for the year 2009.

All of the establishments included on the sampling frame had state and county geographic codes. We used these codes to assign each establishment to one of the 83 CFS metropolitan areas (CFS Areas) defined as a state part of a metropolitan statistical area (MSA) or combined statistical area (CSA). Establishments not located in one of these specified metropolitan areas (MAs) were assigned to a Rest of State (ROS) CFS Area.

Stratification

The sampling frame was stratified by geography, industry, and measure-of-size (MOS) class (with some exceptions for auxiliary establishments and hazardous materials establishments, as described below). The geography by industry cells form the primary strata for the main part of the sample.

Geographic strata were defined by a combination of the 50 states, the District of Columbia, and specific metropolitan areas (called CFS Areas) selected based on their population and importance as transportation gateways. These CFS Areas were defined using the 2009 Office of Management

and Budget's definitions. All other MAs were collapsed with the nonmetropolitan areas within the state into ROS CFS Area strata. When an MA crossed state boundaries, we considered the size of each state part of the MA when determining whether or not to create strata in each state in which the MA was defined. For example, the Chicago CSA makes up two CFS Areas: the Illinois part and the Indiana part. The Wisconsin part of Chicago was too small to be a separate CFS Area and was combined into the Remainder of Wisconsin CFS Area. The table below (second column) summarizes the number of CFS Areas used for sampling by type.

Geographic stratum (CFS Area) type	Number of sampled CFS Areas	Number of published CFS Areas
Actual CSA or MSA (state part)	83	82
CFS area = state (DC, RI)	2	2
ROS = whole state (AK, AR, ID, IA, ME, MS, MT, NM, ND, SD, VT, WV, WY)	13	13
ROS < whole state.	36	35
Total number of CFS areas	134	132

Between the time the CFS sample of establishments was selected and publication of the data, there were changes to the definitions of the MAs used by the CFS. For sampling purposes, the CFS Areas were defined using the 2009 OMB MA definitions. For tabulation and publication, the 2013 OMB definitions were used to define the CFS Areas. As a result, two CFS Areas used for sampling (Stockton, CA and Remainder of New Jersey) disappeared and, for many others, the counties making up the CFS Areas changed. The rightmost column of the table above shows the number of CFS Areas for which data were eventually published.

The industry strata were defined as follows. Within each of the geographic strata, we defined 48 industry groups based on the 2007 NAICS codes:

- Three mining (four-digit NAICS).
- Twenty-one manufacturing (three-digit NAICS).
- Eighteen wholesale (four-digit NAICS).
- Two retail (NAICS 4541 and 45431).
- One services (NAICS 5111).
- Three auxiliary (combinations of NAICS 484, 4931 and 51114).

For auxiliaries that responded to the Advance Survey and were found to be shippers, 134 primary strata were created, one in each geographic stratum, combining NAICS 484, 4931, and 51114. For auxiliary establishments that did not respond to the Advance Survey, two national strata were created as follows:

- One stratum for nonresponding truck transportation establishments and warehousing and storage establishments (NAICS 484 and NAICS 4931).
- One stratum for nonresponding corporate, subsidiary, and regional managing offices establishments (NAICS 51114).

In order to produce good estimates of shipments of hazardous materials (HAZMAT), 20 six-digit NAICS industries with high amounts of HAZMAT shipments were identified and used to form primary strata. The 2007 CFS data were used to identify these industries and in general, these industries were chosen because:

- They had a large (weighted) total value or total tonnage of hazardous materials.
- A high percentage of their (unweighted) shipments were HAZMAT shipments.

Thirteen of the 20 industries were made certainty strata, and the remaining seven industries were made into primary strata defined by state and the six-digit NAICS code.

The table below shows the number and types of primary strata for the main, auxiliary, and HAZMAT parts of the sample. Note that we are counting the number of strata before they are further stratified by MOS size class.

Part of the sample	Number of primary strata
Main part of the sample (134 CFS areas x 45 industries)	6,030
Auxiliary part of the sample:	
Responders to the Advance Survey (134 CFS areas x 1 industry)	134
Nonresponders to the Advance Survey (2 industries)	2
HAZMAT part of the sample:	
Certainty (take-all) strata (13 six-digit NAICS codes)	13
Noncertainty strata (51 states [incl. DC] x 7 six-digit NAICS codes).	357

Determining the Sample Sizes, Stratifying by MOS Size Class, and Sample Selection

The total desired sample size for the first stage sample was approximately 100,000 establishments and was fixed due to budget constraints. Therefore, in addition to defining the strata, a sample size was determined for each primary stratum. This was performed as follows:

- A target coefficient of variation (CV) was assigned to each primary stratum (geography by industry cell).
- Within each primary stratum, substrata defined by MOS were developed to minimize the sample size needed to achieve the target CV. The establishments in the largest MOS size class were taken with certainty. For

the noncertainty substrata, the sample was allocated according to the Neyman allocation, since the Neyman allocation minimizes the sample size needed to achieve a target CV.

- Once the minimum sample sizes for each primary stratum were determined, these were added together and compared to the desired total sample size of 100,000. If the total was not close enough to 100,000, we multiplied all of the target CVs by a fixed factor and repeated the process until the total sample size was close to 100,000.
- The establishments in the geography by industry by MOS size class substrata were selected by simple random sampling without replacement. The total sample size was 102,565 establishments of which 46,265 were selected with certainty (see the table below).

Primary strata type	2012 frame		2012 sample			
	Establishments	Total MOS (million dollars)	Total sample		Certainty component	
			Establishments	MOS of sampled Establishments (million dollars)	Establishments	MOS of certainty Establishments (million dollars)
Main.	680,128	8,361,138	95,678	6,215,482	42,187	5,620,044
Auxiliary. . . .	14,959	1,330,769	2,433	1,186,608	1,121	1,087,152
HAZMAT	21,027	775,739	4,454	685,595	2,957	669,835
Total.	716,114	10,467,646	102,565	8,087,685	46,265	7,377,031

Second Stage—Reporting Week Selection

The frame for the second stage of sampling consisted of the 52 weeks in 2012. Each establishment selected into the 2012 CFS sample was systematically assigned to report for four reporting weeks, one in each quarter of the reference year (2012). Each of the 4 weeks was in the same relative position in the quarter. For example, an establishment might have been requested to report data for the 5th, 18th, 31st, and 44th weeks of the reference year. In this instance, each reporting week corresponds to the 5th week of each quarter. Prior to assignment of weeks to establishments, we sorted the selected sample by primary stratum (geography by industry) and measure-of-size.

Third Stage—Shipment Selection

For each of the four reporting weeks in which an establishment was asked to report, the respondent was requested to construct a sampling frame consisting of all shipments made by the establishment in the reporting week. Each respondent was asked to count or estimate the total number of shipments comprising the sampling frame and to record this number on the questionnaire. For each assigned

reporting week, if an establishment made more than 40 shipments during that week, we asked the respondent to select a systematic sample of the establishment's shipments and to provide us with information only about the selected shipments. By design, this systematic sample consisted of between 20 and 40 shipments. If an establishment made 40 or fewer shipments during that week, we asked the respondent to provide information about all of the establishment's shipments made during that week; i.e., no sampling was required.

DATA COLLECTION

Each establishment selected into the CFS sample was mailed a questionnaire for each of its four assigned reporting weeks; that is, an establishment was sent a questionnaire once every quarter of 2012. For a given establishment, the respondent was asked to provide the following information about each of the establishment's reported shipments:

- Shipment ID number
- Shipment date (month, day)
- Shipment value
- Shipment weight in pounds
- Commodity code from Standard Classification of Transported Goods (SCTG) list
- Commodity description
- An indication of whether the shipment was temperature controlled
- United Nations or North American (UN/NA) number for hazardous material shipments
- U.S. destination (city, state, zip code)—or gateway for export shipment
- Modes of transport
- An indication of whether the shipment was an export
- City and country of destination for exports
- Export mode

For a shipment that included more than one commodity, the respondent was instructed to report the commodity that made up the greatest percentage of the shipment's weight.

In addition, establishments were asked to provide information about the use and extent of use of rush delivery services.

IMPUTATION OF SHIPMENT VALUE OR WEIGHT

To correct for nonresponse or an unacceptable value in either the value or weight item for a given shipment, the missing item or unacceptable value (the one that has failed edit) is replaced by a predicted value obtained from a donor imputation model. Such a shipment is considered a “recipient” if its commodity code is valid and one of the two data items (either shipment value or shipment weight) is reported, greater than zero, and passed edit. The recipient’s item that is missing or failed edit is imputed as follows:

First a donor shipment for a given recipient with the same five-digit SCTG is selected at random from a pool of potential donor shipments (those with valid SCTGs and with reported and usable shipment value and weight). The donor pools are summarized below in order of preference (the lowest numbered donor pool with a matching shipment is used).

Donor pool	Description of donor pool shipments
1	From same establishment and in the same detailed shipment size class.
2	From same company and in the same detailed shipment size class.
3	From same geographic area and in the same detailed shipment size class.
4	From same establishment and in the same broad shipment size class.
5	From same company and in the same broad shipment size class.
6	From same geographic area and in the same broad shipment size class.
7	From same establishment (no restriction on shipment size).
8	From same company (no restriction on shipment size).
9	From same geographic area (no restriction on shipment size).

Then, the donor’s value and weight data are used to calculate a ratio, which is applied to the recipient’s reported item, to impute the item that is missing or failed edit. If a donor cannot be found in one of the nine donor pools then

the recipient’s item is imputed using the median value-to-weight ratio computed using all shipments in the same SCTG as that of the recipient.

Approximately 3 percent of shipment values are imputed, and, similarly, approximately 3 percent of shipment weights are imputed.

ESTIMATION

Estimated totals (e.g., value of shipments, tons, ton-miles) are produced as the sum of weighted shipment data (reported or imputed). Percentage change and percent-of-total estimates are derived using the appropriate estimated totals. Estimates of average miles per shipment are computed by dividing an estimate of the total miles traveled by the estimated number of shipments.

Each shipment has associated with it a single tabulation weight, which was used in computing all estimates to which the shipment contributes. The tabulation weight is a product of seven different component weights. A description of each component weight follows.

CFS respondents provided data for a sample of shipments made by their respective establishments in the survey year. For each establishment, we produced an estimate of that establishment’s total value of shipments for the entire survey year. To do this, we used four different weights: the shipment weight, the shipment nonresponse weight, the quarter weight, and the quarter nonresponse weight. Three additional weights are then applied to produce estimates representative of the entire universe. These are the establishment-level adjustment weight, the establishment (or first-stage sample) weight, and the nonresponse post-stratification adjustment weight.

Like establishments, we identified shipments as either certainty or noncertainty. (See the Nonsampling Error section below for a description of how certainty shipments were identified.) For noncertainty shipments, the **shipment weight** was defined as the ratio of the total number of shipments (as reported by the respondent) made by an establishment in a reporting week to the number of sampled shipments the respondent listed on the questionnaire

for the same week. This weight uses data from the sampled shipments to represent all the establishment's shipments made in the reporting week. However, a respondent may have failed to provide sufficient information about a particular sampled shipment. For example, a respondent may not have been able to provide value, weight, or a destination for one of the sampled shipments. If this data item could not be imputed or otherwise obtained, then this shipment did not contribute to tabulations and was deemed unusable. (A usable shipment is one that has valid entries for value, weight, and origin and destination ZIP Codes.) To account for these unusable shipments, we applied the **shipment nonresponse weight**. For noncertainty shipments from a particular establishment's reporting week, this weight is equal to the ratio of the number of sampled shipments for the reporting week to the number of usable shipments for the same week. The shipment weight for certainty shipments from a particular establishment's reporting week is equal to one.

The **quarter weight** inflates an establishment's estimate for a particular reporting week to an estimate for the corresponding quarter. For noncertainty shipments, the quarter weight is equal to 13. The quarter weight for most certainty shipments is also equal to 13. However, if a respondent was able to provide information about all large (or certainty) shipments made in the quarter containing the reporting week, then the quarter weight for each of these shipments was set to one. For each establishment, the quarterly estimates were added to produce an estimate of the establishment's value of shipments for the entire survey year. Whenever an establishment did not provide the Census Bureau with a response for each of its four reporting weeks, we computed a **quarter nonresponse weight**. The quarter nonresponse weight for a particular establishment is defined as the ratio of the number of quarters for which the establishment was in business in the survey year (usually four) to the total number of quarters (reporting weeks) for which we received usable shipment data from the establishment.

Using these four component weights and the reported (or imputed) shipment values, we computed an estimate

of each establishment's value of shipments for the entire survey year. This estimate was multiplied by a factor that adjusts this estimated value to a measure of the establishment's value of shipments or receipts obtained from the 2012 Economic Census. This weight, the **establishment-level adjustment weight**, attempts to correct for any sampling or nonsampling errors caused by the selection of specific reporting weeks or that occur during the sampling of shipments by the respondent.

The adjusted value of shipments estimate for an establishment was then weighted by the **establishment weight**. This weight is equal to the reciprocal of the establishment's probability of being selected into the first-stage sample (see Sample Design).

A final adjustment, the **nonresponse post-stratification adjustment weight**, calibrates the weighted shipment value (using all prior weighting factors) to the levels of tabulated revenue data from the 2012 Economic Census for specified post-stratification cells. This accounts for:

- Establishments which did not respond to the survey or from which we did not receive any usable shipment data.
- Changes in the universe of establishments between the time the first-stage sampling frame was constructed (2011) and the year in which the data were collected (2012).

For the preliminary 2012 CFS estimates, the nonresponse post-stratification cells were defined by industry categories, typically by three-digit NAICS codes (for Manufacturing) or four-digit NAICS codes (all other industries). There were approximately 45 nonresponse post-stratification cells.

For the final 2012 CFS estimates, the nonresponse post-stratification cells were defined by state-by-industry categories. The industry categories were the same as those described above for the preliminary estimates. There were approximately 2,300 state-by-industry nonresponse post-stratification cells.

Appendix D.

Standard Classification of Transported Goods

Code Information

The commodities shown in this report are classified using the Standard Classification of Transported Goods (SCTG) coding system. The SCTG coding system was created jointly by U.S. agencies and Canadian governments based on the Harmonized System of product classification that is used worldwide. The purpose of the SCTG coding system was to specifically address statistical needs in regard to products transported.

In 2012, the Commodity Flow Survey provided respondents with a listing of SCTG codes and descriptions at the five-digit level to use in assigning a commodity code for each shipment. For shipments of more than one commodity, respondents were instructed to use the five-digit code for the major commodity, defined as the commodity of greatest total weight in the shipment. For the data presented on this report, the SCTG codes were aggregated to the two-digit level.

SCTG	Type of Change	Description
07-R	Definition	Prior to the 2012 CFS, fats and oils were all classified under Commodity Code 07. For the 2012 CFS, fats and oils treated for use as biodiesel moved to Commodity Code 18 under Fuel Oils.
074-R	Definition	Prior to the 2012 CFS, fats and oils intended for use as biodiesel were not specifically identified, but were included in Commodity Code 074. In the 2012 CFS, fats and oils intended for use as biodiesel were specified and classified under Commodity Code 182 (biodiesel and blends of biodiesel).
0743-R	Definition	Prior to the 2012 CFS, fats and oils intended for use as biodiesel were not specifically identified, but were included in Commodity Code 0743. In the 2012 CFS, fats and oils intended for use as biodiesel were specified and classified under Commodity Code 182 (biodiesel and blends of biodiesel).
08-R	Definition	Prior to the 2012 CFS, alcohols intended for use as fuel were not specifically identified and were included under SCTG 08. In the 2012 CFS, ethanol for fuel moved to SCTG 17. Additionally, beverages and denatured alcohol were more clearly identified.
083-R	Definition	Prior to the 2012 CFS, denatured alcohol of more than 80 percent alcohol by volume was included in Commodity Code 083. In the 2012 CFS, denatured alcohol of more than 80 percent alcohol by volume was moved to Commodity Code 084, and ethanol for use as biofuel was moved to Commodity Codes 175 and 176.
0831-R	Definition	Prior to the 2012 CFS, both denatured ethyl alcohol and undenatured ethyl alcohol of more than 80 percent alcohol by volume were included in Commodity Code 0831. In the 2012 CFS, denatured alcohol of more than 80 percent by volume was moved to Commodity Code 0841, and ethanol for use as biofuel was specified and moved to Commodity Codes 175 and 176.
084	New	Denatured ethyl alcohol, not for ingestion or use as biofuel.
17-R	Definition	Prior to 2012 CFS, denatured ethyl alcohol and undenatured ethyl alcohol were all classified under SCTG 08. For the 2012 CFS, ethanol that is used for fuel was identified and removed from SCTG 08 to SCTG 17 under fuel alcohols. Also, kerosene, which prior to the 2012 CFS was included in Commodity Code 19, was moved under Commodity Code 17.
171-R	Definition	Prior to the 2012 CFS, Commodity Code 171 only included gasoline, and blends of gasoline and ethanol were not identified. In the 2012 CFS, Commodity Code 171 includes gasoline and mixtures of up to 10 percent ethanol and gasoline.
172-R	Definition	Prior to the 2012 CFS, kerosene was included in Commodity Code 192, and type A jet fuel was classified under Commodity Code 172. In the 2012 CFS, all kerosene is classified under Commodity Code 172.
1720-R	Definition	Prior to the 2012 CFS, kerosene was included in Commodity Code 192, and type A jet fuel was classified under Commodity Code 1720. In the 2012 CFS, all kerosene is classified under Commodity Code 1720.
175	New	Ethanol, ethanol blends of more than 10 percent ethanol, and other fuel alcohols.
176	New	Ethanol, for use as biofuels.
18-R	Definition	Prior to the 2012 CFS, fats and oils intended for use as fuel were not identified as such and were included in Commodity Code 07. In the 2012 CFS, such fats and oils were identified as biodiesel and were moved under Commodity Code 18.
181	New	Fuel oils including diesel, distillate heating oil, and Bunker C (excludes biodiesel).
182	New	Blends of fuel oils including 5 percent or less biodiesel by volume (b5 or less).
1821	New	Blends of fuel oils with more than 5 percent biodiesel by volume, except b100.
1822	New	Biodiesel derived from vegetable oils or animal fats, b100 (excludes mixtures of biodiesel and diesel fuel).

Appendix E.

Sample Questionnaire Instructions and Form

The sample questionnaire instructions and form are shown on the following pages.

Note: Establishments were asked to provide information about the use and extent of use of rush delivery services.

2012 Commodity Flow Survey

INSTRUCTION GUIDE

Instructions for Completing the Commodity Flow Survey
Please read all instructions.

Contents:

- **Part I** — Instructions for Completing your Questionnaire Pages 2–6
- **Part II** — Mode of Transportation Definitions Page 7
- **Part III** — State Postal Abbreviation List Page 8

To complete the Commodity Flow Survey (CFS) online, visit **econhelp.census.gov/cfs**. See the front page of the questionnaire for log-in information. Instructions, as well as other useful tools, can be found on the website. If you need to contact us by telephone, a representative will be glad to assist you. Call us at **1-800-772-7851**, option "3," between 8:30 a.m. and 5:00 p.m. Eastern time.

NOTICE: Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Paperwork Project 0607-0932, U.S. Census Bureau, 4600 Silver Hill Road, AMSD – 3K138, Washington, DC 20233-1500. You may e-mail comments to Paperwork@census.gov; use "Paperwork Project 0607-0932" as the subject. Respondents are not required to respond to any information collection unless it displays a valid approval number in the top right corner on the front of the questionnaire.

Part I — Instructions for Completing Your Questionnaire

When entering numerical digits, illustrate as follows:

0	1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---	---

- Use blue or black ballpoint pen.
- Do not use pencil or felt-tip pen.
- Do not put slashes through 0 or 7.

Item A – Verification of Shipping Address

Verify that the address listed at the top of the form is the correct address from where your shipments originate. If the shipping address is correct mark the "Yes" box. If the shipping address is incorrect mark the "No" box, and make the corrections directly to the pre-printed name and address at the top of the form. Shipping address is defined as the location from where shipments originate.

Item B – Verification of Mailing Address

Mark an (X) in the box that correctly identifies the mailing address. If the shipping location can receive mail and has access to the information asked, then mark the appropriate box and skip to Item C.

Otherwise, if you prefer the future CFS questionnaires to be sent elsewhere, as in a headquarters or office building that reports for the physical shipping location, mark the appropriate box and use the space provided in B(2) to enter the preferred mailing address.

Item C – Operating Status

Mark an (X) in the box that best describes this establishment's operating status during the designated reporting week.

If this establishment was inactive and made no outbound shipments during the designated reporting week then mark an (X) in the appropriate box, skip to the end of the questionnaire, complete the Contact information, and then return the form to the Census Bureau in the envelope provided.

Item D(1) – Total Number of Outbound Shipments

In the space provided enter the total number of outbound shipments **for the one week reporting period** printed in Item D(1).

What we mean by a "shipment"

An outbound shipment is a movement of commodities from your establishment to another single location, in one trip. Single shipments may have multiple pieces, and go by multiple vehicles, such as unit trains or truck convoys, but only one destination. A full, or partial, truckload should be counted as a single shipment only if all the commodities on the truck are destined for one location. On the other hand, commodities sent from your establishment on a vehicle with multiple destinations constitute multiple shipments. Each location on the route to which your commodities are delivered is considered one shipment.

"Commodities" refer to items that the establishment at this location produces, sells, or distributes. Waste-products (without value) of your location's operation are not considered commodities and should not be reported.

Part I — Instructions for Completing Your Questionnaire – Continued

Item D(1) – Total Number of Outbound Shipments – Continued

Shipments to include

- in this count any materials picked up by the customer ("customer pick-up")
- only those shipments that were sent from the location specified in Item A
- shipments of commodities of all sizes, by any mode of transportation (e.g., parcels)
- any shipment of products from this establishment to another location of the company that are intended for sale (e.g., products moved from this establishment to a company warehouse)

Do not include

- drop-shipments where the origin was not the shipping address in Item A
- shipments such as internal administrative items, inter-office memos, payroll checks, business correspondence, promotional items, etc.
- shipments such as refuse, scrap paper, waste, and recyclable materials unless this establishment is in the business of selling these materials
- shipments of items moved from this location to another location of the company if not intended for commercial activity (e.g., the transfer of office furniture to be used at another location of this company)

Item D(2) – Total Number of Outbound Shipments

Mark an (X) in the appropriate box in Item D(2) to indicate whether you have reported 40 or fewer shipments in Item D(1). If "Yes" is marked, skip to Item F beginning on page 4 and report the information requested for all shipments made during the assigned week.

If "No" is marked, continue with Item E on page 3 to determine the sample of shipments that your establishment should report in Item F.

Item E – Sampling Instructions

If you have more than 40 outbound shipments for the one-week reporting period you are asked to report only a sample of them in Item F. Using the table in Item E, locate the row that includes the number of outbound shipments you reported in Item D(1) and the corresponding "report every" number. Mark an (X) in the space provided.

When sampling your shipments, please use the files, or combination of files that reflect the full range of your location's shipping activities in terms of modes of transportation used, commodities or products shipped, and destinations.

Note: The sample selected should not exceed 40 outbound shipment records.

An instructional video on how to sample your shipments can be found at econhelp.census.gov/cfs/surveytools. If you still have questions about the sampling process (or any part of the questionnaire) call us at 1-800-772-7851, option "3," from 8:30 a.m. to 5:00 p.m. Eastern time.

Part I — Instructions for Completing Your Questionnaire – Continued

Item F – Shipment Characteristics

- **Shipment ID Number, Column (B)** – Enter the invoice number, shipment number, or some other unique identification number that your establishment could use to find this particular shipping document if questions arise regarding your report.
- **Shipment Date, Column (C)** – Enter the month and day of the shipment. If shipment date is not available, use the invoice/shipping document date. Use numbers only.
- **Shipment Value, Column (D)** – Enter the dollar value, in whole dollars, of the entire shipment. The value should not include freight charges or excise taxes (i.e., report the net selling value, freight on board plant). If the value is not readily available from your records, please estimate.
- **Net Shipment Weight, Column (E)** – Enter the net weight of the total shipment in whole pounds. If net weight is not readily available from your records, please estimate. Convert all other types of measurements to whole pounds (e.g., gallons, tons, cubic yards).
- **SCTG Commodity Code, Column (F)** – Use the list of commodity codes provided in the accompanying 2012 Standard Classification of Transported Goods (SCTG) Commodity Codes booklet to select the proper 5-digit code. For shipments with more than one commodity, enter only the code for the commodity with the greatest weight. Mixed freight categories are also available for some standard groupings of commodities. For assistance in locating the appropriate commodity code, refer to the alphabetized quick reference at the beginning of the 2012 SCTG Commodity Codes booklet. Additional assistance is available at econhelp.census.gov/cfs.
- **Commodity Description, Column (G)** – Enter a brief description of the commodity shipped. For shipments with more than one commodity, describe only the commodity with the greatest weight. Do not use trade names, catalog numbers, or other codes not familiar to persons outside your business.
- **Temperature Controlled, Column (H)** – A temperature controlled shipment is defined as a shipment that is transported in a vehicle or container that regulates the temperature while en route (such as heating and refrigeration) or maintaining the temperature of the commodity at the time of loading (such as insulation). This excludes shipments of commodities that have temperature sensitivity without a means of controlling the temperature in the vehicle or container while in transport.
- **Hazardous Materials, Column (I)** – If the shipment is a hazardous material, enter the 4-digit United Nations (UN) or North American (NA) number.

Item F SHIPMENT CHARACTERISTICS									
Line No. (A)	Your Shipment ID Number (B)	Shipment Date (C)		Shipment value (excluding shipping costs) in whole dollars. Estimates acceptable. (D)	Net Shipment weight in pounds (E)	SCTG commodity code from accompanying booklet (F)	Commodity Description (G)	Temperature Controlled (Y/N)? (H)	If a hazardous material, Enter the "UN" or "NA" number (I)
		Month	Day						
0	123-5	4	26	244,235	4,840	34520	Mechanical machinery	Y	
00	402H	4	26	1,375	50,125	20222	Sulfuric acid	N	1830
1									
2									

Page 4

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Part I — Instructions for Completing Your Questionnaire – Continued

Item F – Shipment Characteristics – Continued

- **U.S. Destination or U.S. Exit Port, Column (J)** – For domestic shipments, enter the city, state, and 5-digit ZIP Code of the buyer/receiver's "**ship to**" address as it appears on the shipping document. For the state portion, use the two-letter state postal abbreviation shown in Part III.

Important – For export shipments, report the U.S. **port of exit** as the destination city. The port of exit is the port or airport from which the shipment left the country. In case of land shipments into Mexico or Canada, the **port of exit** is the border crossing.

- **Mode(s) of Transport to U.S. Destination, Column (K)** – Enter the code(s) for **all** modes of transport used for the shipment to its U.S. destination (i.e., the destination reported in **Column (J)**). Codes are located on the bottom of pages 5 and 7 of the questionnaire. Enter all that apply in the sequence in which the mode is used. Do not include the export mode of transport in this column, report in **Column (N)**. See Part II for definitions of each mode. Do not use commas (,) to separate each mode.

For Customer Pick-up – Report the mode(s) of transportation used, if known. Otherwise, report mode as "0" (unknown).

- **Export, Column (L)** – Indicate whether or not the shipment is intended for export outside of the United States, by entering a "Y" for yes and "N" for no. For the purposes of this survey, shipments to Puerto Rico and U.S. territories and possessions **are** considered exports.
- **Foreign Destination, Column (M)** – Only respond if answer in **Column (L)** is "Y". Enter the foreign city and country of destination. Make sure **Column (J)** and **Column (K)** only contain the domestic portion of the shipment (see above).
- **Export Mode, Column (N)** – Only respond if answer in **Column (L)** is "Y". Enter the code for the mode of transport by which the shipment left the country. Codes are located at the bottom of pages 5 and 7 of the questionnaire.

U.S. Destination or U.S. Exit Port (Complete for all shipments.) (J)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes at bottom. (K)	Export? (Y/N) (L)	Foreign Destination (for export shipments only) Note: In column (J) enter the U.S. port, airport, or border crossing of exit (M)		Export Mode (N)
City	State	ZIP Code			City	Country	
Los Angeles	CA	90040	2 4	Y	Beijing	China	6
Newark	NJ	07105	4	N			

Part I — Instructions for Completing Your Questionnaire – Continued

Item G(1) – Rush Deliveries

Mark an (X) in the “Yes” box if any of the shipments reported in Item F required purchase of a faster level of service (e.g., same day/overnight, 2–3 business days, or faster service arrangement provided by hired carriers). If not, mark an (X) in the “No” box and proceed to Item H.

Item G(2) – Rush Deliveries

If “Yes” in Item G(1) list the number of shipments reported in Item F that required the specific type of rush delivery services listed. Enter a number for each type of service.

Item H – Monthly Value of Outbound Shipments

Mark an (X) in the box that corresponds to the total value of all outbound shipments from this location for the most recently completed calendar month.

Contact

Enter the name, title, signature, telephone number, and fax number for the person to contact in the event that we have a question about your report.

Remarks

Use this space to clarify your responses, if needed or to note any critical business changes that have recently occurred or are forthcoming (e.g., closures, plant renovations, merges, etc.).

Part II — Mode of Transportation Definitions

Parcel delivery/Courier/U.S. Parcel Post – Includes ground shipments of packages and parcels that each weigh less than or equal to 150 pounds, and are transported by a for-hire carrier.

Private truck – Trucks operated by employees of this establishment or the buyer/receiver of the shipment. Includes trucks providing dedicated services to this establishment.

For-hire truck – Shipments by common or contract carriers made under a negotiated rate.

Railroad – Any common carrier or private railroad.

Inland water – Barges, ships, or ferries operating primarily in navigable waters, both within and along the borders of the United States, such as:

- Rivers – *Examples: the Mississippi River and Saint Lawrence Seaway*
- Lakes – *Examples: the Great Lakes*
- Along the shoreline but actually in the ocean – *Examples: Intracoastal Waterway along the Atlantic and Gulf coasts and the Inside Passage of Alaska*
- Canals, harbors, major bays, and inlets

Deep sea – Barges, ships, or ferries operating primarily in the open waters of the ocean, outside the borders of the United States.

Pipeline – Movements of oil, petroleum, gas, slurry, etc. through pipelines that extend to other establishments or locations beyond the shipper's establishment. (Aqueducts for the movement of water are not included.)

Air – Any shipment sent via air mode.

Other mode – Any mode not listed above.

Unknown – A shipment where you are unable to determine the mode of transportation.

Note: Transportation equipment that is "shipped" under its own power, such as boats, barges, ferries, ships, aircraft, trucks, and trains **should be classified with the appropriate mode above.** Transportation equipment shipped under its own power for which an appropriate mode is not listed (e.g., buses, recreational vehicles) should be listed as **"other mode."**

Part III — State Postal Abbreviation List

State	Abbreviation	State	Abbreviation
Alabama	AL	Montana	MT
Alaska	AK	Nebraska	NE
Arizona	AZ	Nevada	NV
Arkansas	AR	New Hampshire	NH
California	CA	New Jersey	NJ
Colorado	CO	New Mexico	NM
Connecticut	CT	New York	NY
Delaware	DE	North Carolina	NC
Dist. of Col.	DC	North Dakota	ND
Florida	FL	Ohio	OH
Georgia	GA	Oklahoma	OK
Hawaii	HI	Oregon	OR
Idaho	ID	Pennsylvania	PA
Illinois	IL	Rhode Island	RI
Indiana	IN	South Carolina	SC
Iowa	IA	South Dakota	SD
Kansas	KS	Tennessee	TN
Kentucky	KY	Texas	TX
Louisiana	LA	Utah	UT
Maine	ME	Vermont	VT
Maryland	MD	Virginia	VA
Massachusetts	MA	Washington	WA
Michigan	MI	West Virginia	WV
Minnesota	MN	Wisconsin	WI
Mississippi	MS	Wyoming	WY
Missouri	MO		



U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

FORM
CFS-1000 (2012)
(12-06-2011)

07302011

2012 Commodity Flow Survey

OMB No. 0607-0932: Approval Expires 09/30/2013

DUE DATE:

Return via Mail:

U.S. Census Bureau
1201 East 10th Street
Jeffersonville, IN 47132-0001

OR

Return via Internet:

econhelp.census.gov/cfs

Username:

Password:

Need help or have questions?

Call: 1-800-772-7851, option "3"
M-F, 8:30 a.m. - 5:00 p.m. ET

Make corrections to name, shipping address, and ZIP code if necessary.

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this form to answer the questions and return the report to the U.S. Census Bureau. By the same law, **YOUR U.S. CENSUS BUREAU REPORT IS CONFIDENTIAL.** It may be seen only by persons sworn to uphold the confidentiality of U.S. Census Bureau information and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

INSTRUCTIONS:

- Refer to the accompanying Instruction Guide for help in answering specific questions.
- More information is available at econhelp.census.gov/cfs

Item A VERIFICATION OF SHIPPING ADDRESS

Is the address listed above the location from which this establishment's shipments originate?

- ☐ Yes, the address listed above is correct. (Proceed to Item B.)
- ☐ No, the address is incorrect. (Make changes directly to the address label above.)

Item B VERIFICATION OF MAILING ADDRESS

1. What address should the remaining quarterly 2012 CFS questionnaires be mailed to?

- ☐ Mail the 2012 CFS questionnaire to this establishment's shipping address. (Proceed to Item C.)
- ☐ Mail the 2012 CFS questionnaire to the address entered below.

2. Enter your mailing address.

Company Name 1

Company Name 2

Address

City

State

ZIP Code

United States[™]
Census
Bureau



Item C OPERATING STATUS

Which of the following best describes this establishment's operating status during the week of

?

- ☐ In operation
- ☐ Temporarily or seasonally inactive
- ☐ Ceased operation - Enter date ceased operation →

Example: (04-09-1978)

<input type="text"/>	<input type="text"/>	-	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	---	----------------------	----------------------	---	----------------------	----------------------	----------------------	----------------------

Item D TOTAL NUMBER OF OUTBOUND SHIPMENTS

For this survey, it is important to obtain information about a sample of the outbound shipments made from this establishment.

*An outbound shipment in this survey is defined as a movement of commodities from your establishment to another **single** location.*

- Remember to include only outbound shipments from your shipping address (address printed on the label).
- Also include customer pick-ups, parcels, and all other outbound shipments.

1. What was the total number of all outbound shipments for this establishment the week of

?

.....

Total number of outbound shipments

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Estimates are acceptable.

For further information, refer to the Instruction Guide, page 2.

2. Did you enter 40 or fewer shipments above?

- ☐ Yes (Skip Item E and report all outbound shipments in Item F, pages 4-7.)
- ☐ No (Proceed to Item E, on page 3.)



Item E SAMPLING INSTRUCTIONS

In order to avoid asking you for information regarding all of your shipments, we will only ask about a sample of them. This section will help you **identify your sample of shipments** that should be reported in Item F.

Using the table below, mark the row that includes the total number of outbound shipments reported in Item D, and the corresponding "report every" number.

Number of outbound shipments reported in Line 1	Report every...	Mark (X) one
1-40	Report every outbound shipment	
41-80	Report every 2nd outbound shipment	
81-100	Report every 3rd outbound shipment	
101-200	Report every 5th outbound shipment	
201-400	Report every 10th outbound shipment	
401-800	Report every 20th outbound shipment	
801-1600	Report every 40th outbound shipment	
1601-3200	Report every 80th outbound shipment	
3201-6400	Report every 160th outbound shipment	
6401-12800	Report every 320th outbound shipment	
More than 12800	Call Census at 1-800-772-7851, option "3", or go to econhelp.census.gov/cfs	

Example:

If an establishment reported 253 shipments in Item D, it would correspond to the range of 201-400 in the table above, and every 10th outbound shipment record would be selected. This means the establishment would count 10 shipment records, select that record, and report it in Item F. Continuing with the next shipment record, the establishment would count 10 shipment records again, select that record, and report it in Item F. The establishment would repeat this until it had gone through the full set of shipment records for the week named in Item D.

For further information, refer to the Instruction Guide, page 3, or visit the business help site at econhelp.census.gov/cfs/surveytools to view an instructional video on how to sample.



Item F SHIPMENT CHARACTERISTICS										
NOTE: Each line runs across pages 4 and 5. After entering column (I) data on page 4 for any line, continue with column (J) on page 5 for the same line.										
Line No.	Your Shipment ID Number	Shipment Date (C)		Shipment value (excluding shipping costs) in whole dollars. Estimates acceptable.	Net Shipment Weight in pounds	SCTG commodity code from accompanying booklet	Commodity Description	Temperature controlled? (Y/N)*	If a hazardous material, enter the "UN" or "NA" number	Continue with column (J) on page 5
(A)	(B)	Month	Day	(D)	(E)	(F)	(G)	(H)	(I)	
0	123-5	4	26	224,235	4,840	34520	Mechanical machinery	Y		→
00	402H	4	26	1,375	50,125	20222	Sulfuric acid	N	1830	→
1										→
2										→
3										→
4										→
5										→
6										→
7										→
8										→
9										→
10										→
11										→
12										→
13										→
14										→
15										→
16										→
17										→
18										→
19										→
20										→

*Temperature controlled (column H) - includes shipments in refrigerated, heated, or insulated containers and vehicles.

Form CFS-1000 (2012) (12-06-2011)



Item F SHIPMENT CHARACTERISTICS - Continued										
NOTE: Each line runs across pages 6 and 7. After entering column (I) data on page 6 for any line, continue with column (J) on page 7 for the same line.										
Line No. (A)	Your Shipment ID Number (B)	Shipment Date (C)		Shipment value (excluding shipping costs) in whole dollars. Estimates acceptable. (D)	Net Shipment Weight in pounds (E)	SCTG Commodity Code from accompanying booklet (F)	Commodity Description (G)	Temperature controlled? (Y/N)* (H)	If a hazardous material, enter the "UN" or "NA" number (I)	Continue with column (J) on page 7 (J)
		Month	Day							
21										→
22										→
23										→
24										→
25										→
26										→
27										→
28										→
29										→
30										→
31										→
32										→
33										→
34										→
35										→
36										→
37										→
38										→
39										→
40										→

*Temperature controlled (column H) - includes shipments in refrigerated, heated, or insulated containers and vehicles.

Form CFS-1000 (2012) (12-06-2011)



Item G RUSH DELIVERIES

For this survey, rush deliveries require the purchase of a faster level of service by the shipper or buyer (e.g., same day/overnight or 2-3 business days). It also includes faster service provided by hired carriers, as part of an arrangement. Excluded, are shipments that would arrive in the same amount of time without the purchase of a faster level of service, and shipments delivered by company operated vehicles.

1. Considering the shipments reported in Item F, did you use rush delivery service?
☐ Yes

☐ No (Proceed to Item H.)
2. How many shipments, reported in Item F, required the use of the following rush delivery services?

Same day/Overnight.

2-3 business days

More than 3 business days

Item H MONTHLY VALUE OF OUTBOUND SHIPMENTS

Which of the following represents your best estimate of the total value of all outbound shipments originating from this establishment for the most recently completed month?

☐ Less than \$1 Million

☐ \$40 Million or more but less than \$100 Million

☐ \$1 Million or more but less than \$10 Million

☐ \$100 Million or more but less than \$400 Million

☐ \$10 Million or more but less than \$40 Million

☐ \$400 Million or more
Contact Provide the information below for the contact person regarding this report.

Name - Please print

Title - Please print

Signature

Area code

Phone Number

Extension

Area code

Fax Number

 -
 -
Remarks Use this space to clarify your responses, if appropriate.

Please return this survey in the enclosed envelope or send it to:
U.S. CENSUS BUREAU
 1201 East 10th Street
 Jeffersonville IN 47132-0001

THANK YOU FOR COMPLETING THIS REPORT.

