SUPPORTING STATEMENT

UNITED STATES INTERNATIONAL TRADE COMMISSION QUESTIONNAIRE

Trade, Investment, and Industrial Policies in India: Effects on the U.S. Economy

Part B—Collection of Information Employing Statistical Methods

**1. Response universe, sample sources, and sampling strata**

**Survey objectives**

The House Ways and Means Committee and the Senate Finance Committee (Committees) instigated this investigation on August 2, 2013. The Committees directed the U.S. International Trade Commission (USITC or Commission) to survey U.S. firms about recent changes in Indian policies and the effect these changes have had on company strategies toward India. This survey is part of a larger investigation into industrial policies in India that discriminate against U.S. trade and investment.

**Respondent universe**

The respondent universe includes all companies that conduct business in the United States and abroad, particularly those that export to or have foreign affiliates in India, and are in a sector identified by industry experts at the USITC as being particularly affected by discriminatory industrial policies in India. The USITC has identified approximately 54,000 such firms for its sampling frame, of which 9,000 will be sampled. The sampling unit is the firm, rather than the establishment.

The response universe will particularly target­—to the extent possible—those firms that are “engaged in India” (i.e., firms that export to India or have foreign affiliates in India). To examine the effect of any prohibitive barriers to trade with India, it is necessary to include a broader list of firms that are not exporting to India but are potentially interested in doing so. As a result, the response universe will also include more broadly “globally engaged firms” (i.e., firms that either export abroad or have foreign affiliates abroad).[[1]](#footnote-1)

The potential respondent universe represents the sum of firms, net of duplicative records, identified in these data sources:

1. **Industry databases:** Databases derived from industry analyst knowledge as well as various industry associations and industry directories, of which some are focused on firms that have engaged in trade with India, and others are generally global firms.
2. **Specialty databases:** lists of firms derived from sources that collect data from certain subgroups of U.S. firms
	* Firms with intellectual property licensing agreements that mention India as identified in the ktMINE database.[[2]](#footnote-2)
	* Firms identified as exporting goods to India from the United States in the PIERS database.[[3]](#footnote-3)
	* Firms identified as multinational corporations in the Bureau van Dijk’s Orbis database.[[4]](#footnote-4)
3. **Broad-based Orbis list:** A broad-based database of firms obtained from Orbis in industries that face barriers to trade in India, and are likely to engage in trade via exports or investment. These industries include selected sectors based on NAICS, as discussed below.
4. **Confidential Census list:** A potential database from the U.S. Census Bureau (Census) of establishments exporting from the United States to India. The USITC is in discussions with Census to obtain this confidential database. If this database becomes available before the end of December 2013, up to 1,000 U.S. exporting companies based on the establishments in this database may be included in the final sampling frame.

The firms identified in the broad-based Orbis list are thought to be less likely to have relevant experience to share with respect to India than other lists, but will permit the USITC to capture responses from a greater number of exporters that could not be found in the specialty databases.

Because the focus of this study is on globally engaged firms, which tend to be larger than the average firm, the response universe was generally restricted to firms with 50 or more employees.[[5]](#footnote-5)

**Sample design**

Survey respondents will be selected through a stratified random sampling methodology that stratifies firms through a combination of: (1) data source, (2) industry, and (3) size. There will be a total of 52 strata (eight industries, seven data sources/size combinations, and four strata that are empty).[[6]](#footnote-6)

1. The data source may be one of the industry databases, the specialty database lists, the Orbis-based list, or the Census list, as given above. Sources vary in their level of engagement with India, and sampling rates will reflect this variation.
2. Industries comprise the following eight sectors: (1) agriculture, food, and beverage, (2) natural resources, (3) chemicals and textiles, (4) other manufacturing, (5) finance and insurance services, (6) distribution services, (7) information services, (8) other services. See appendix table A.1 for a complete list of NAICS sectors included in the respondent universe.[[7]](#footnote-7)
3. Size is defined by the number of employees or value of exports, depending on the data source.
	1. For firms identified through ktMINE, Orbis, or industry lists, size is measured by the number of employees. Employment is the most readily available measure of firm size in these databases and is known to be highly correlated with both exports and investment abroad.
		* As discussed above, the smallest firms in each stratum are not sampled in order to reduce respondent burden and to improve the statistical properties of the remaining estimates.
		* Medium sized firms are defined as firms with fewer than 500 employees
		* Large firms are defined as firms with 500 or more employees.
	2. For firms selected from the PIERS exporter database, size is measured by the value of exports.
* Firms that have exported to India are included in the database if they have more than $100,000 in total exports in the year ending October 2013.
* Firms that have exported to countries other than India are included in the database if they have more than $1 million in total exports in the year ending October 2013.

Table 1 presents the sampling frame, the population of firms in each stratum. Table 2 presents the sample size for each stratum, selected following the methodology described in the next section. 9,000 firms are expected to be sampled: 8,000 as indicated in table 1 plus an additional 1,000 from the Census list if it becomes available in time for USITC staff to process the data.

There are no publicly available, comprehensive lists of U.S. firms that are globally engaged or are engaged in India.[[8]](#footnote-8) As a result, some coverage error is unavoidable. This may be particularly problematic with respect to exporters to India. USITC staff have made a substantial effort to obtain lists of relevant firms. For example, we have sought out firms with exports to India through the use of the Piers database on exports, which includes data from approximately 80 percent of the firm population, and moreover collects only waterborne transactions. The Census export data, if they become available, could eliminate the coverage error for exporters, as the data contain a list of all known exporting establishments to India and the rest of the world. In addition, to the extent feasible, USITC staff obtained lists of firms via industry associations that are in India or interested in entering the Indian market.

Based on results of similar past surveys, we expect the response rate to range from 40–60 percent,[[9]](#footnote-9) which would result in 3,200–4,800 surveys received from the sampled companies (assuming 8,000 surveys sent out). Responses in previous and ongoing USITC surveys have not differed significantly by firm size or across industries. Thus a uniform response rate has been assumed for all strata.

**TABLE 1** Sampling frame by stratum, excluding firms from the Census list

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | Multinational corporations | India-specific firms | Exporters to countries other than India |  | Firms in Orbisa |  | Industry association lists | Total |
|   | Medium  | Large  |   |
| Agriculture, food, and beverages | 43 | 44 | 116 |  | 4,981 | 213 |  | 36 | 5,433 |
| Natural resources and metals | 363 | 109 | —b |  | 4,452 | 371 |  | 82 | 5,377 |
| Chemicals and textiles | 284 | 240 | 221 |  | 2,665 | 292 |  | —b | 3,702 |
| Other manufacturing | 544 | 215 | 123 |  | 3,746 | 580 |  | 71 | 5,279 |
| Distribution services | 130 | 114 | 93 |  | 3,824 | 830 |  | 51 | 5,042 |
| Finance and insurance services | 134 | 68 | —b |  | 2,270 | 283 |  | 648 | 3,403 |
| Information services | 334 | 135 | —b |  | 4,028 | 388 |  | 150 | 5,035 |
| Other services | 392 | 467 | 817 |   | 16,797 | 2,122 |   | —b | 20,595 |
| Total | 2,224 | 1,392 | 1,370 |  | 42,763 | 5,079 |  | 1,038 | 53,866 |

 a Large firms have 500 or more employees; medium-sized firms have between 50 and 500 employees; small firms with less than 50 employees are generally not sampled, except in the case of the agriculture, food, and beverages sector which has a minimum threashold of 20 employees.

 b Not all strata are populated.

**TABLE 2** Number of firms in the sample by stratum, excluding firms from the Census list

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sector | Multinational corporations | India-specific firms | Exporters to countries other than India |  | Firms in Orbisa |  | Industry association lists  | Total |
|   | Medium  | Large  |   |
| Agriculture, food, and beverages | 40 | 43 | 53 |  | 448 | 49 |  | 36 | 669 |
| Natural resources and metals | 235 | 95 | —b |  | 274 | 76 |  | 53 | 733 |
| Chemicals and textiles | 141 | 160 | 70 |  | 164 | 46 |  | —b | 581 |
| Other manufacturing | 451 | 215 | 64 |  | 226 | 152 |  | 59 | 1,167 |
| Distribution services | 86 | 101 | 40 |  | 161 | 173 |  | 40 | 601 |
| Finance and insurance services | 67 | 46 | —b |  | 146 | 45 |  | 326 | 630 |
| Information services | 329 | 135 | —b |  | 251 | 121 |  | 148 | 984 |
| Other services | 283 | 452 | 373 |   | 1,043 | 484 |   | —b | 2,635 |
| Total | 1,632 | 1,247 | 600 |  | 2,713 | 1,146 |  | 662 | 8,000 |

Note: Samples are based on the optimal allocations presented in table 3 except where noted

 a Large firms have 500 or more employees; medium-sized firms have between 50 and 500 employees; small firms with less than 50 employees are generally not sampled.

 b Not all strata are populated.

**2. Collection of information employing statistical methods**

1. **Statistical methodology for stratification and sample selection**

A stratified sample based on a simple stratification process is being implemented for this project. The goal of the stratification scheme is to develop a set of strata such that the variance of responses (such as level of employment, type of activities, and likelihood of engagement with India) within each stratum is minimized to the extent possible. Stratification is also being used to include rare observations. Because no pro-forma reliable data exist on the size and scope of the number of firms that are engaged in India, or are interested in engaging with India but do not as a result of its industrial policies, the stratification scheme was based on the best judgment of industry and USITC experts.

The approach to stratification in this survey is based on a two-part procedure designed to maximize efficiency of the resulting estimates, and hence reduce the total number of firms sampled. First, firms identified by the Orbis database are optimally allocated across size and industry strata based on the coefficient of variation of employment within each strata. Second, oversampling is used to allocate firms identified by the specialty databases (including the industry database), to reflect the higher expected prevalence of firms in this list that are engaged in India or engaged globally. For each industry, a higher sampling fraction is chosen for firms from the specialty databases than from the Orbis database. These procedures are discussed in more detail below.

1. Orbis-based strata: In these strata, the Neyman method is used to determine the share of the total allocated to each stratum, based on the coefficient of variation of employment and the number of firms in each stratum. Strata with larger coefficients of variation in employment (i.e., the more heterogeneous strata) will therefore be sampled at higher rates.
2. Specialty database-based strata: Selection rates in these strata were based on disproportionate sampling procedures for rare populations. Table 3 presents the estimated share of firms from each database that are of interest (i.e., they are engaged in India or are prevented from such engagement by Indian policies). Assuming that 5 percent of large firms in the Orbis database will be of interest, the sampling rates are based on Christman (2009) and Kalton (2009).[[10]](#footnote-10) Although not shown in table 3, the sampling rate varies by industry. For example, multinational corporations in the agriculture, food, and beverage sector were sampled at a rate of 3.2\*(49/213)=23 percent. Where possible, the sample includes at least 40 firms per stratum.
3. Census list: Firms from the Census list will be chosen using the same methodology as those from specialty databases, assuming that 100 percent of these firms are of interest. In addition, since Census exporter data are expected to have greater coverage of the firms of interest, we may reduce the number of firms sampled from Orbis and replace them with firms sampled from Census. This may result in fewer than 9,000 firms being sampled overall but a sample that has better coverage of the firms of interest.

**TABLE 3** Disproportionate sampling of firms selected from industry lists and specialty databases

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Multinational corporations | India-specific firms | Exporters to countries other than India | Industry association lists | Census data |
| Estimated prevalence of firms of interest (percent)a | 50 | 90 | 20 | 50 | 100 |
| Sampling rate relative to Orbis large firmsb | 3.2 | 4.2 | 2.0 | 3.2 | 4.5 |
| Average share of population sampled (percent)c | 73.4 | 89.6 | 43.8 | 63.8 | 83.8 |

 aBased on staff experience with similar databases and association lists.

 bFor specific industries, the sampling rates for large Orbis firms are as follows: 23% for agriculture, food, and beverage; 20% for natural resources; 16% for chemicals and textiles; 26% for other manufacturing; 21% for distribution services; 16% for finance and insurance services; 31% for information services; and 23% for other services.

 cThe sampling rate relative to large firms is on a sectoral basis; as a result, although the sampling rate relative to Orbis is the same for both the multinational corporations and the industry association lists, the average share of the population to be sampled differs due to compositional effects.

1. **Estimation Procedure**

Survey estimates will be based on weighted data. The weighting procedure will incorporate a sample selection weight, a nonresponse adjustment factor, and if necessary, a poststratification weighting factor. There is an equal probability of selection with each stratum.

* *Sample selection weighting*: Because the sampling rates are based on two criteria, as discussed above, the selection weight factor will account for both the probability of selection within a particular industry and size, and the oversampling of firms from the association list.
* *Nonresponse adjustment*: The nonresponse adjustment factor is designed to attenuate bias due to differential response rates. See the section below on accuracy and reliability of information collected for further discussion.
* *Poststratification weighting*: If necessary, a poststratification weighting factor will be used to attenuate bias due to sample frame noncoverage or omissions. Population information from Census data, such as the number of firms in each NAICS industry and in each size category (organized by number of employees), may be used to conduct poststratification. Although the best effort has been made to obtain a representative sample of firms engaged in India or other countries, the distribution of such firms across industries is not known with certainty in advance.

The general weighting formula can be represented as

$W\_{h}=S\_{h}×NR\_{h}×PS\_{h}$ , (1)

where $S\_{h}$ is the sample selection weight for stratum h, $NR\_{h}$ is the nonresponse adjustment factor for stratum h, and $PS\_{h}$ is the poststratification weight of stratum h. $W\_{h}$is the weight applied to all observations in stratum h. This formula may be adjusted to include a firm-specific weighting component if non-response is determined to be related to factors aside from the factors used to design the strata.

Standard estimation procedures will be used as in Heeringa et al (2010).[[11]](#footnote-11) For example, the formula used to estimate the population attribute of interest is found in equation 2. Per standard notation, the total estimate $τ\_{st}$ from a stratified random sample is given by

$τ\_{st}=\sum\_{h=1}^{L}N\_{h}\overbar{y}\_{h}$, (2)

where *h* denotes an individual stratum, *Nh* equals the population of stratum *h*, and $\overbar{y}\_{h}$ equals the average of the attribute of interest of the sampled items in stratum *h.* For example, $\overbar{y}\_{h}$ could represent the average amount of revenue within each stratum.

The variance estimate for sampling without replacement is given by

$var \left(τ\_{st}\right)=\sum\_{h=1}^{L}N\_{h}(N\_{h}-n\_{h})\frac{s^{2}}{n\_{h}}$ (3)

where *s*2 equals the standard deviation of the attribute of interest within stratum *h*, and *nh* is the sample size for stratum *h*.

1. **Degree of accuracy needed for the purpose described in the justification**

A sample size of 8,000 is needed to achieve estimates of +/-5 percent at 90 percent confidence; as noted above, the extra 1,000 firms from Census, if available, will provide better coverage of firms of interest but are not necessary for improved accuracy. It is expected that it will be feasible to produce statistically significant results for the majority of survey items at the aggregate level at a 90 percent confidence level, both for the binary questions and for questions requiring responses in U.S. dollars. For example, table 4 provides the maximum margin of error for a binary question, given alternative response rates. Note that this table is based on a sample size of 8,000 (excluding the potential 1,000 additional firms from the Census export database).

**TABLE 4** Margin of error for 90 percent confidence interval

|  |  |
| --- | --- |
|  | Response Rates, percent |
| Measure | 40 | 50 | 60 |
| Number of respondents | 3,200 | 4,000 | 4,800 |
| Standard error, percent | 0.88 | 0.79 | 0.72 |
| Margin of error, percent | 1.45 | 1.30 | 1.19 |

Note: This assumes a maximum margin of error of 50% for a binary question.

Given the sample size per stratum, it is assumed that it will also be feasible to distinguish the responses across the largest industries within a 90 percent confidence interval. This degree of confidence is sufficient for the purposes described in the justification.

1. **Unusual problems requiring specialized sampling procedures**

No unusual problems were encountered.

1. **Any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

This data collection is currently only intended to occur once, and therefore will not be repeated on a periodic basis. As such, the total recurring annual cost burden is zero.

**3. Methods to maximize response rates and deal with non-response**

**a. Maximizing response rates**

Commission staff will employ several techniques to increase the response rates of questionnaire recipient firms. Recipients will receive separate notices that (1) notify them that their firm was selected for the survey, (2) direct them to complete the survey, and (3) remind them, if necessary, to complete the survey before the deadline. Once the submission deadline has passed, firms that still have not responded will receive an additional reminder. Each of these communications will include a phone number and email address of a person who can help firms with filling out the questionnaire or answer their questions regarding the survey and/or study. Commission staff may also contact firms directly, via phone or email, to urge them to complete the survey and to answer any questions they may have regarding this information collection or study in general. Commission staff may also contact firms, via phone or email, to correct information or fill in incomplete responses, or solicit additional information about a response. The burden associated with follow up calls or emails is included in the total response burden amount.

In addition to pre-contact and follow-up, the questionnaire itself has been designed to be clear and succinct as possible to gather the specific material requested by the Committees. (See discussion of testing below.) This clarity and brevity should reduce burden and improve response rates. The questionnaire will clearly point out that firms are obligated by law to respond. Finally, the ability to access, fill out, and submit the survey electronically may also increase response.

**b. Accuracy and reliability of information collected**

The sample methodology has been designed to be as accurate and reliable as possible, based on Commission experience in past surveys. The sampling frame has been chosen to include firms in industries that are globally engaged or engaged in India.

The size of firms included in the survey has also been carefully considered to improve accuracy and reliability. Small firms are unlikely to be exporters (see table 5), and are even less likely to have foreign affiliates in other countries. Thus, the survey should capture many exporters, while excluding firms of the smallest size that are unlikely to be exporters. Foreign affiliates tend to be a subset of exporting firms, and are generally even larger (and more rare) than exporters.

**TABLE 5** Firm size and exporters

|  |  |
| --- | --- |
|   | Firm size |
|  | Small | Medium | Large |
| Share of U.S. firms that | (1-49 employeesa) | (50-499 employees) | (500+ employees) |
|  Export | 3.8 | 8.8 | 37.2 |
|  Export to India | 0.2 | 1.3 | 11.3 |

Source: U.S. Census, 2011 Country Business Patterns

a Including firms of unknown size, which are generally small.

Response rates in USITC surveys have recently approached 60%. The USITC will examine survey responses to detect and correct for any non-response bias. The team will first examine conditional response rates for groups of firms based on characteristics available in the data frame that are hypothesized to impact outcomes of interest. These may include variables such as firm size, industry, NAICS code, or location. Any differences in response rates can be further investigated through logistic regression analysis, using firm characteristics as predictors, and whether or not a recipient responded to the survey as a binary outcome. If the results of the logistic regression indicate that one or more of the characteristics investigated above affects the propensity of a survey recipient to respond to the survey, then those characteristics will be examined to determine whether they are associated with differences in the outcome variables under study across the dataset of survey responses collected. If any sources of non-response bias are found, they can be controlled for by the development of weights, which can then be used in concert with weighting based on population stratification, in the extrapolation of results to the entire population.

Since each frame (based on industry and firm size) from the industry association list and specialty database lists has a corresponding frame from the Orbis database, the Commission expects that all sampled information will yield “reliable” data that can be generalized to the universe studied.

**4. Tests of procedures or methods to minimize burden or improve utility**

The Commission sought public comment on the questionnaire with industry representatives of several relevant industries. These representatives provided feedback in areas such as availability of data, product coverage, definitions, and clarity of instructions. See part A for information about the 9 field testers, the comments they made, and the subsequent changes made to the questionnaire.

In addition to field testing, the questionnaire has been made available for public comment. Notice of the draft questionnaire was published in the Federal Register, and the draft questionnaire was publicized by industry associations. It has also been extensively reviewed within the Commission. Industry analysts and economists have reviewed the document to ensure it contains information needed to adequately answer questions posed in the study while imposing a minimum burden on the responding businesses. The burden on the smallest companies (those with fewer than 20 employees) has been eliminated, as these firms have been excluded from the survey. Moreover, in most sectors, firms with fewer than 50 employees have also been excluded from the survey.

The sampling methodology and procedures in this survey are quite similar to those in prior USITC survey work, including the study on digital trade, the study on remanufactured goods, and the study on used electronics. Prior studies, for example, also have had populations drawn from Orbis and industry association lists; have also stratified by industry and size; and have used similar methods of survey distribution and data collection. Although the USITC has not specifically tested the methodology and procedures of the India trade, investment, and industrial policies survey, prior surveys have provided implicit tests of its practicability and utility.

**5. Contact information**

Collection and analysis of the data will be the responsibility of the Office of Economics and the Office of Industries within the Commission. Project leader William Powers can be contacted at william.powers@usitc.gov or 202-708-5405, deputy project leader Renee Berry can be contacted at renee.berry@usitc.gov or 202-205-3498, and lead economist for this study Tani Fukui can be contacted at tani.fukui@usitc.gov or 202-205-3220. Commission staff also worked with Mariel Townsend and her colleagues at Summit Consulting, a survey design and data analysis consulting firm. Ms. Townsend may be contacted at 202-407-8328 or at mariel.townsend@summitllc.us.

# TABLE A.1 The eight industrial groupings used in the survey, with associated NAICS codes

1. **Agriculture, food, and beverage**

|  |  |
| --- | --- |
| 111110 | Soybean Farming |
| 111140 | Wheat Farming |
| 111150 | Corn Farming |
| 111160 | Rice Farming |
| 111199 | All Other Grain Farming |
| 1112 | Vegetable and Melon Farming |
| 1113 | Fruit and Tree Nut Farming |
| 11142 | Nursery and Floriculture Production |
| 11211 | Beef Cattle Ranching and Farming, including Feedlots |
| 112120 | Dairy Cattle and Milk Production |
| 112210 | Hog and Pig Farming |
| 1123 | Poultry and Egg Production |
| 115210 | Support Activities for Animal Production |
| 311222 | Soybean Processing |
| 311223 | Other Oilseed Processing |
| 311225 | Fats and Oils Refining and Blending |
| 3114 | Fruit and Vegetable Preserving and Specialty Food Manufacturing |
| 311611 | Animal (except Poultry) Slaughtering |
| 311612 | Meat Processed from Carcasses |
| 311615 | Poultry Processing |
| 3119 | Other Food Manufacturing |
| 312130 | Wineries |
| 312140 | Distilleries |

1. **Chemicals and textiles**

|  |  |
| --- | --- |
| 314 | Textile Product Mills |
| 315 | Apparel Manufacturing |
| 316 | Leather and Allied Product Manufacturing |
| 325 | Chemical Manufacturing |

1. **Natural resources**

|  |  |
| --- | --- |
| 1133 | Logging |
| 2111 | Oil and Gas Extraction |
| 2121 | Coal Mining |
| 2122 | Metal Ore Mining |
| 2131 | Support Activities for Mining |
| 3211 | Sawmills and Wood Preservation |
| 3212 | Veneer, Plywood, and Engineered Wood Product Manufacturing |
| 32191 | Millwork |
| 32192 | Wood Container and Pallet Manufacturing |
| 321992 | Prefabricated Wood Building Manufacturing |
| TABLE A.1 The eight industrial groupings used in the survey, with associated NAICS codes - *continued* |
| 321999 | All Other Misc Wood Product Manufacturing |
| 327125 | Nonclay Refractory Manufacturing |
| 3311 | Iron and Steel Mills and Ferroallow Manufacturing |
| 3313 | Alumina and Aluminum Production and Processing |
| 3314 | Nonferrous Metal (except Aluminum) Production and Processing |
| 3321 | Forging and Stamping |
| 3331 | Agriculture, Construction, and Mining Machinery Manufacturing |
| 3339 | Other General Purpose Machinery Manufacturing |
| 423520 | Coal and Other Mineral and Ore Merchant Wholesalers |

1. **Other manufacturing**

|  |  |
| --- | --- |
| 326211 | Tire Manufacturing (except Retreading) |
| 332410 | Power Boiler and Heat Exchanger Manufacturing |
| 333611 | Turbine and Turbine Generator Set Units Manufacturing |
| 3341 | Computer and Peripheral Equipment Manufacturing |
| 3342 | Communications Equipment Manufacturing |
| 3343 | Audio and Video Equipment Manufacturing |
| 334413 | Semiconductor and Related Device Manufacturing |
| 334417 | Electronic Connector Manufacturing |
| 334419 | Other Electronic Component Manufacturing |
| 334510 | Electromedical and Electrotherapeutic Apparatus Manufacturing |
| 334511 | Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing |
| 3353 | Electrical Equipment Manufacturing |
| 3359 | Other Electrical Equipment and Component Manufacturing |
| 3361 | Motor Vehicle Manufacturing |
| 3363 | Motor Vehicle Parts Manufacturing |
| 336510 | Railroad Rolling Stock Manufacturing |
| 3391 | Medical Equipment and Supplies Manufacturing |
| 33993 | Doll, Toy, and Game Manufacturing |

1. **Distribution services**

|  |  |
| --- | --- |
| 4231 | Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers |
| 4236 | Electrical and Electronic Goods Merchant Wholesalers |
| 4243 | Apparel, Piece Goods, and Notions Merchant Wholesalers |
| 4244 | Grocery and Related Product Merchant Wholesalers |
| 4245 | Farm Product Raw Material Merchant Wholesalers |
| 4248 | Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers |
| 4431 | Electronics and Appliance Stores |
| 4441 | Building Material and Supplies Dealers |
| 4451 | Grocery Stores |
| 4452 | Specialty Food Stores |
| 4453 | Beer, Wine, and Liquor Stores |
| **TABLE A.1** The eight industrial groupings used in the survey, with associated NAICS codes - *continued* |
| 4481 | Clothing Stores |
| 4482 | Shoe Stores |
| 4483 | Jewelry, Luggage, and Leather Goods Stores |
| 4521 | Department Stores |
| 4532 | Office Supplies, Stationery, and Gift Stores |
| 4541 | Electronic Shopping and Mail-Order Houses |

1. **Information services**

|  |  |
| --- | --- |
| 5111 | Newspaper, Periodical, Book, and Directory Publishers |
| 5112 | Software Publishers |
| 51211 | Motion Picture and Video Production |
| 51212 | Motion Picture and Video Distribution |
| 512131 | Motion Picture thaters except drive-in |
| 51219 | Postproduction Services and Other Motion Picture and Video Industries |
| 5122 | Sound Recording Industries |
| 5151 | Radio and Television Broadcasting |
| 5152 | Cable and Other Subscription Programming |
| 517 | Telecommunications |
| 51911 | New Syndicates |
| 51913 | Internet Publishing and Broadcasting and Web Search Portals |
| 51919 | All Other Information Services |

1. **Finance and insurance services**

|  |  |
| --- | --- |
| 52221 | Credit Card Issuing |
| 522320 | Financial Transactions Processing, Reserve, and Clearinghouse Activities |
| 52392 | Portfolio Management |
| 5241 | Insurance Carriers |
| 52421 | Insurance Agencies and Brokerages |

1. **Other services**

|  |  |
| --- | --- |
| 2362 | Nonresidential Building Construction |
| 2371 | Utility System Construction |
| 2373 | Highway, Street, and Bridge Construction |
| 2379 | Other Heavy and Civil Engineering Construction |
| 481111 | Scheduled Passenger Air Transportation |
| 481112 | Scheduled Freight Air Transportation |
| 483111 | Deep Sea Freight Transportation |
| 483112 | Deep Sea Passenger Transportation |
| 488119 | Other airport operations |
| 48819 | Other Support Activities for Air Transportation |
| 4883 | Support Activities for Water Transportation |
| 488510 | Freight Transportation Arrangement |
| **TABLE A.1** The eight industrial groupings used in the survey, with associated NAICS codes - *continued* |
| 4921 | Couriers and Express Delivery Services |
| 5331 | Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) |
| 5411 | Legal Services |
| 5412 | Accounting, Tax Preparation, Bookkeeping, and Payroll Services |
| 54133 | Engineering Services |
| 5414 | Specialized Design Services |
| 5415 | Computer Systems Design and Related Services |
| 541614 | Process, Physical Distribution, and Logistics Consulting Services |
| 541712 | Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology) |
| 54181 | Advertising Agencies |
| 54182 | Public Relations Agencies |
| 54183 | Media Buying Agencies |
| 54184 | Media Representatives |
| 54185 | Display Advertising |
| 54187 | Advertising Material Distribution Services |
| 54189 | Other Services Related to Advertising |
| 54191 | Marketing Research and Public Opinion Polling |
| 541922 | Commercial Photography |
| 54193 | Translation and Interpretation Services |
| 54194 | Veterinary Services |
| 54199 | All Other Professional, Scientific, and Technical Services |
| 561520 | Tour Operators |
| 6113 | Colleges, Universities, and Professional Schools |
| 6114 | Business Schools and Computer and Management Training |
| 6221 | General Medical and Surgical Hospitals |

1. Although it is possible that firms that do not export. [↑](#footnote-ref-1)
2. ktMINE is a propriety global database of information on intellectual property licensing agreements. [↑](#footnote-ref-2)
3. PIERS is a proprietary database of U.S. international trade. [↑](#footnote-ref-3)
4. Orbis is a proprietary global database with information on public and private companies. [↑](#footnote-ref-4)
5. See table 5 below, which shows that small firms are very unlikely to export to India. For select agriculture and food processing NAICS categories, the employment cutoff was lowered to 20 employees as such firms are more frequently able to export. For select services NAICS categories, the cutoff was raised to 100 employees, as they were deemed unlikely to export or have a foreign affiliate with fewer than 100 employees. [↑](#footnote-ref-5)
6. By design these strata will be non-overlapping. Each firm is identified with a sole industry and size. There may be duplicates as sources may contain overlapping sets. These will be manually deleted. [↑](#footnote-ref-6)
7. These NAICS sectors are those used for obtaining the broad-based Orbis list. Although these are the main sectors of interest, firms whose primary NAICS sectors are not included in the list in appendix table A.1 may be included in the specialty databases, as long as these firms operate within an industry of interest. [↑](#footnote-ref-7)
8. The Bureau of Economic Analysis collects data on firms with foreign investment, and Census collects data on exporting firms; no list of all globally engaged firms is publicly available. Census data may become available to us (see above) in time for partial inclusion into the survey. [↑](#footnote-ref-8)
9. In prior surveys undertaken by the USITC, the response rates have ranged between 39 percent and 57 percent. [↑](#footnote-ref-9)
10. Shares are based on USITC judgment of the likelihood of engagement with India. See Christman, Mary, 2009, “Sampling of rare populations,” *Handbook of Statistics* vol. 29A, 112; and Kalton, Graham, 2009, “Methods for oversampling rare subpopulations in social surveys,” *Survey Methodology* vol. 35 no. 2, 127. [↑](#footnote-ref-10)
11. Heeringa, Steven G., Brady T. West, and Patricia A. Berglund. 2010. *Applied Survey Data Analysis*. Chapman and Hall/CRC. [↑](#footnote-ref-11)