INTERNATIONAL TRADE

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Why GAO Did This Study

Trade in business, professional, and technical (BPT) services associated with offshoring needs to be accurately tracked, but a gap exists between U.S. and Indian data. The extent of and reasons for this gap are important to understand in order to address questions about the magnitude of offshoring and to analyze its future development. Under the authority of the Comptroller General of the United States, and as part of a body of GAO work on the issue of offshoring of services, this report (1) describes the extent of the gap between U.S. and Indian data, (2) identifies factors that contribute to the difference between the two countries’ data, and (3) examines the challenges the United States has faced in collecting services trade data. GAO has addressed this report to the congressional committees of jurisdiction.

What GAO Found

The gap between U.S. and Indian data on trade in BPT services is significant. For example, data show that for 2003, the United States reported $420 million in unaffiliated imports of BPT services from India, while India reported approximately $8.7 billion in exports of affiliated and unaffiliated BPT services to the United States.

At least five definitional and methodological factors contribute to the difference between U.S. and Indian data on BPT services. First, India and the United States follow different practices in accounting for the earnings of temporary Indian workers residing in the United States. Second, India defines certain services, such as software embedded on computer hardware, differently than the United States. Third, India and the United States follow different practices for counting sales by India to U.S.-owned firms located outside of the United States. The United States follows International Monetary Fund standards for each of these factors. Fourth, BEA does not report country-specific data for particular types of services due to concerns about the quality of responses it receives from firms when they allocate their affiliated imports to detailed types of services. As a result, U.S. data on BPT services include only unaffiliated imports from India, while Indian data include both affiliated and unaffiliated exports. Fifth, other differences, such as identifying all services importers, may also contribute to the data gap.

The U.S. Bureau of Economic Analysis (BEA) has experienced challenges in identifying all U.S. services importers and obtaining quality survey data from importers. To test BEA’s survey coverage, GAO provided BEA with lists of firms identified from public sources as likely importers of BPT services from India. The results of this test showed that some services importers were not included in BEA’s mailing lists. However, BEA has taken action to address these challenges, including collaborating with other federal agencies, such as the U.S. Census Bureau and the Internal Revenue Service, to better identify firms to survey. However, data-sharing restrictions hamper BEA’s efforts.

What GAO Recommends

To improve the overall quality of services trade data, GAO recommends that the Secretary of Commerce direct BEA to improve its coverage of importers and its administration of surveys in order to collect needed information on services imports. BEA should also pursue additional company information from the Census Bureau. The Department of Commerce reviewed a draft copy of this report and concurred with GAO’s recommendations.


To view the full product, including the scope and methodology, click on the link above. For more information, contact Loren Yager at (202) 512-4128 or yagerl@gao.gov.
Abbreviations

BEA        U.S. Bureau of Economic Analysis
BOP        balance of payments
BPT        business, professional, and technical
ESC        Electronics and Computer Software Export Promotion Council
IMF        International Monetary Fund
IRS        Internal Revenue Service
IT-ITES    Information Technology and Information Technology-Enabled Services
NASSCOM    National Association of Software and Service Companies
OECD       Organization for Economic Co-operation and Development
RBI        Reserve Bank of India
STPI       Software Technology Parks of India

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October 27, 2005

Congressional Committees:

The offshoring of services from the United States to overseas locations has grown recently and is the subject of debate over its extent and consequences for the United States. We reported in September 2004 that one category of services trade—business, professional, and technical (BPT) services—is most often associated with services offshoring.¹ We also noted that imports from India—a major source of services offshoring—were rising, but that a gap exists between U.S. and Indian trade data on these services. The extent of and reasons for this gap are important to understand in order to address questions about the magnitude of offshoring and to analyze its future development.

In response to widespread congressional interest, we have prepared this report under the authority of the Comptroller General of the United States. We examine in this report several issues related to the gap between U.S. and Indian trade data on BPT services. Specifically:

- What is the extent of the gap between U.S. and Indian data on trade in BPT services?
- What factors explain the difference between U.S. data on imports of BPT services and India’s data on exports of those same services?
- What challenges has the United States faced in collecting services data?

To address these questions, we compared U.S. and Indian services trade data, reviewed official methodologies, and interviewed U.S. and Indian government officials from relevant agencies, including the Department of Commerce’s U.S. Bureau of Economic Analysis (BEA) and the Reserve Bank of India (RBI). In order to examine the coverage of BEA surveys for collecting services data, we supplied BEA with a list of companies we collected to compare with its mailing lists. We identified these companies through publicly available sources, including public media, company filings with the Securities and Exchange Commission, annual reports of companies, the list of National Association of Software and Service

Companies (NASSCOM) members, and lists of companies compiled by information technology interest groups. Our lists of firms are not necessarily representative of all U.S. firms importing from India, and we do not generalize our results. We also met with representatives and reviewed documents from members of NASSCOM, which assists in collecting India's services data. We interviewed a range of U.S. and Indian businesses that supply these data to the United States and India and reviewed relevant literature on the reliability of U.S. statistics. NASSCOM did not provide us with their methodology for ensuring the reliability of their data. However, RBI recently released a public report outlining a new methodology to collect services exports data separately from NASSCOM, and in accordance with balance of payments (BOP) requirements of the International Monetary Fund (IMF). As a U.S. government agency, we do not have review authority over these data. Therefore, we were not able to independently assess the quality and consistency of these data. However, for the purposes of this report, we found both U.S. and Indian data to be sufficiently reliable for reporting the difference between the official U.S. and Indian trade data in BPT services. We conducted our analysis in accordance with generally accepted government auditing standards from March 2005 through September 2005. A detailed description of our scope and methodology appears in appendix I. This report is one of a series of reports that we plan to issue on offshoring.

Results in Brief

A significant gap exists between U.S. and Indian data on trade in BPT services. U.S. data indicate that U.S. firms import a small fraction of what India reports as exports to the United States in this category, and this trade—as well as the difference in these data—is growing. For 2002, the United States reported $240 million in unaffiliated imports of BPT services from India, while India reported about $6.5 billion in affiliated and unaffiliated exports in similar services categories. For 2003, the United

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4Affiliated trade occurs between U.S. parent firms and their foreign affiliates and between foreign-owned firms in the United States and their foreign parent companies; while unaffiliated trade occurs between U.S. entities and foreigners that do not own, nor are owned by, the U.S. entity. BEA does not report bilateral affiliated BPT services data (see discussion in the next section of this report).
States reported $420 million in unaffiliated imports of BPT services from India, while India reported approximately $8.7 billion in affiliated and unaffiliated exports of similar services to the United States. Thus, the gap in data has increased by about one-third from 2002 to 2003.

At least five definitional and methodological factors contribute to the difference between U.S. and Indian data on BPT services. First, India counts the earnings of temporary Indian workers residing in the United States as exports to the United States. However, the United States only includes temporary foreign workers who have been in the United States less than 1 year and who are not on the payrolls of firms in the United States. Indian officials estimate that this factor may account for 40 to 50 percent of the difference between U.S. and Indian data. Second, India defines services more broadly than does the United States. For example, Indian data on trade in services include packaged software and software embedded on computer hardware, which the United States classifies as trade in goods. An Indian official estimated that this factor accounts for approximately 10 to 15 percent of Indian exports. In addition, India includes in its data certain information technology-enabled services, such as some financial services, that are not included in BEA's definition of BPT services. Third, India treats sales to U.S.-owned firms located outside of the United States as exports to the United States, but the United States does not count these as imports. For each of these three definitional factors, the United States follows IMF standards. Fourth, for trade between U.S. firms and their foreign affiliates, BEA does not report BPT data by country due to its concerns about the quality of responses it receives from firms when they allocate their affiliated imports to detailed types of services. Therefore, U.S. import data on BPT services from India are available for unaffiliated parties only, while Indian data include both affiliated and unaffiliated trade but do not separate them. Finally, there may be other collection or methodological differences between the United States and India that contribute to the overcounting or undercounting of services trade.

BEA faces challenges in identifying the full range of U.S. services importers and in collecting quality services data. We provided BEA with lists of firms that public sources indicated are likely importers of services from India, and asked BEA to match these lists against its mailing lists. We found that...

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BEA survey data did not include some of these firms. Although most of these firms were on BEA's mailing list, some were not; therefore, they were not surveyed. BEA stated it had previously eliminated many of these firms because they did not have reportable transactions or were below survey exemption levels. Subsequently, BEA conducted further research on the firms that it did not identify and added several of these firms to its mailing lists. In addition, it appears that BEA should have sent multiple surveys to some of our identified firms for different types of services imports, thus potentially undercounting imports. However, BEA has taken several actions over time to improve survey data and coverage, such as outreach to survey recipients, initiating external reviews of its programs, and collaborating with other federal agencies, but challenges still remain. For example, the U.S. Census Bureau (Census) maintains a large database of U.S. companies with names and addresses that BEA could use to identify additional importers of services. However, data-sharing limitations exist, and BEA is negotiating with Census and the Internal Revenue Service regarding BEA's accessing Census data to expand its mailing lists for surveys.

We are recommending that the Secretary of Commerce direct BEA to systematically expand its sources of information for identifying firms to survey. BEA should consider ways to improve both its identification of the appropriate survey forms to send to firms and the information it requests about services imports, particularly regarding affiliated imports. We also recommend that BEA continue to pursue additional company information from previous Census surveys and consider requesting Census to add questions to future surveys to help identify services importers.

We provided a draft copy of this report to the Department of Commerce for its review and comment. Commerce generally agreed with the recommendations in our report. In addition, while this report was being finalized, we received additional information from the Reserve Bank of India and incorporated this information in the report where appropriate.

**Background**

As we reported in September 2004, improvements in information technology, decreasing data transmission costs, and expanded infrastructure in developing countries have facilitated services offshoring. Offshoring is reflected in services import data because when a company replaces work done domestically with work done overseas, such as in India or China, the services are now being imported from overseas. For example, when a U.S.-based company pays for a service (such as computer and data
processing services in India), the payment is recorded as a services import (from India in this example). BEA reports data on trade in services that are frequently associated with offshoring.

BEA’s trade in services data consist of cross-border transactions between U.S. and foreign residents and comprise five broad categories of services. One of these five categories of services is “other private services,” which includes key sectors associated with offshoring under the subcategory of BPT services. In 2003, BPT services accounted for $40.8 billion or 48 percent of U.S. imports of “other private services,” which totaled $85.8 billion. (See fig. 1.)

Selected BPT services that are relevant to offshoring include such subcategories as accounting, auditing, and bookkeeping; architectural, engineering, and other technical; computer and data processing; database and other information; legal; management, consulting, and public relations; and research, development, and testing. Other categories, such as financial services, may also involve offshoring.

Preliminary services trade data for 2004 are available, but primarily at an aggregate level. Since data at a country and detailed service level are not available for affiliated BPT services, we discuss 2003 data. For 2004, U.S. imports of total private services amounted to about $263.1 billion, and U.S. imports of other private services totaled about $95.7 billion.
U.S. data on BPT services differentiate between affiliated and unaffiliated trade. Affiliated trade occurs between U.S. parent firms and their foreign affiliates and between foreign parent firms and their affiliates in the United States; while unaffiliated trade occurs between U.S. entities and foreigners that do not own, nor are owned by, the U.S. entity. In 2003, total U.S. imports of affiliated BPT services accounted for approximately $29.9 billion, or about 73 percent of all U.S. imports of these services. BEA does not disaggregate affiliated trade by country, in particular types of services, due to its concerns about the accuracy and completeness of data firms’ report. Total U.S. imports of unaffiliated BPT services amounted to approximately $11.0 billion in 2003, or about 27 percent of the total.
unaffiliated U.S. imports of BPT services.\(^7\) According to U.S. data, the growth of U.S. trade in BPT services has been rapid. For example, from 1994 to 2003, total unaffiliated U.S. imports of these services more than doubled. In addition, U.S. exports of unaffiliated BPT services almost doubled during the same period.

To report data on trade in BPT services, BEA conducts mandatory quarterly, annual, and 5-year benchmark surveys of firms in the United States. In administering its services surveys, BEA seeks to collect information from the entire universe of firms with transactions in BPT services above certain threshold levels for the period covered by each survey. The mailing lists for the surveys include firms in the United States that have previously filed a survey and other firms that BEA believes may have had transactions in the services covered by the survey. The mailing lists of firms receiving surveys are derived, in part, from U.S. government sources, industry associations, business directories, and various periodicals. Firms receiving the surveys are required to report transactions above a certain threshold value, which BEA believes, in theory, captures virtually the entire universe of transactions in the services covered by its surveys. Those firms with transactions falling below the threshold value are exempt from reporting data by type of service, but they are asked to voluntarily provide estimates of the aggregate value of their transactions for all services covered by the survey.

The trade data that BEA produces help government officials, business decision makers, researchers, and the American public to follow and understand the performance of the U.S. economy. For example, analysts and policy makers use U.S. trade data to assess the impact of international trade on the U.S. balance of payments and the overall economy. In addition, U.S. trade data are used by trade policy officials to negotiate international trade agreements.

### A Significant Gap Exists between U.S. and Indian Trade-in-Services Data

U.S. data show a significantly smaller volume of trade in BPT services between India and the United States than Indian data show. BEA data on U.S. imports of unaffiliated BPT services from India indicate that U.S. firms import only a small fraction of the total that India reported in exports of similar services to the United States. In addition, this gap has grown

\(^7\)For 2004, total U.S. imports of unaffiliated BPT services increased to $12.5 billion.
between 2002 and 2003. This gap does not exist just for U.S. and Indian data. A similar gap also exists between other developed countries’ import data and Indian export data.\(^8\)

BEA data show a rapid increase in U.S. imports of unaffiliated BPT services from India. For 2002, the total unaffiliated U.S. imports of BPT services from India totaled approximately $240 million. For 2003, the total unaffiliated U.S. imports of BPT services from India increased to about $420 million.\(^9\) India reports exports to the United States of similar services of about $6.5 billion for 2002 and $8.7 billion for 2003.\(^10\) Thus, the value of the gap between U.S. and Indian data in 2002 was approximately $6.2 billion and, in 2003, was about $8.3 billion, an increase of about one-third.\(^11\) (See fig. 2.)

RBI, which is India’s central bank, is responsible for reporting official Indian data on trade in services. However, RBI data on trade in services incorporate the data collected by India’s primary information technology association—the National Association of Software and Service Companies (NASSCOM). To improve the completeness of the data NASSCOM provides to RBI, NASSCOM includes data on the software services exports it receives from an Indian government program, the Software Technology Parks of India (STPI). While RBI does not provide country-specific data on India’s exports of services to the United States, NASSCOM’s data do provide a country-specific breakdown. Thus, the data cited above for India


\(^9\)BEA data on U.S. imports from India of selected BPT services show a similar trend. For example, of the total unaffiliated U.S. imports of BPT services from India, BEA reported $186 million for 2002 and $372 million for 2003 in unaffiliated U.S. imports of selected BPT services that are particularly relevant to offshoring. These selected BPT services include computer and information services; research, development, and testing services; and management consulting and public relations services.

\(^10\)India’s data reported here include the category of IT and IT-enabled services (ITES). BEA’s definition of BPT services is not identical to this Indian category, although they roughly compare. We discuss this difference further in the next section of this report. Furthermore, RBI recently provided new data and definitions on computer services exports, which exclude exports of ITES services.

\(^11\)However, U.S. data on BPT imports as a share of Indian data on exports of BPT services, narrowed over this time period. In 2002, U.S. data on BPT imports were about 3.7 percent of Indian data on BPT exports. In 2003, U.S. data on BPT imports increased to about 4.8 percent of Indian data on BPT exports.
come from NASSCOM. According to a recent RBI report, a technical group recommended in 2003 that RBI compile data on software and information technology exports through quarterly surveys, and through a comprehensive survey to be conducted every 3 years. The first of these studies was released in September 2005, as our report was being finalized, and provides data on Indian exports of computer services for 2002.\textsuperscript{12} The 2005 RBI report showed that India reported approximately $4.3 billion in computer services exports to the United States and Canada for 2002 (2003 data have not yet been provided).\textsuperscript{13} Although RBI’s report did not provide an estimate of the U.S. share of these exports, on the basis of NASSCOM’s estimate that 80 to 85 percent of exports to North America were destined for the United States in 2002, we estimate that India exported approximately $3.5 billion in computer services to the United States.

\textsuperscript{12}Computer services as defined by IMF’s \textit{Balance of Payments Manual} include the following: databases, such as development, storage, and online time series; data processing, including tabulation, provision of processing services on a time-share or specific basis, and management of the facilities of others on a continuing basis; hardware consultancy; software implementation; and maintenance and repair of computer and peripheral equipment.

\textsuperscript{13}RBI’s report did not provide us with a U.S. dollar value of services exports; therefore, we converted the values provided using the rupee/dollar exchange rate published by IMF for 2002.
Five Factors Contribute to the Difference between U.S. and Indian Trade in Services Data

Those examining trends in offshoring often compare U.S. and Indian data series; however, there are at least five factors that make this comparison difficult and affect the difference between U.S. and Indian data. These factors relate to (1) the treatment of services provided by foreign temporary workers in the United States; (2) the definition of some services, such as computer programs embedded in goods and certain information technology-enabled services; (3) the treatment of transactions between firms in India and the overseas offices of U.S. firms; (4) the reporting of country-specific data on trade in affiliated services; and (5) the sources of data and other methodological differences in the collection of services trade data.

Figure 2: Comparison of U.S.-Reported and India-Reported Data on Trade in Selected Services between the United States and India, 2002 and 2003

Source: GAO analysis of data from BEA’s October 2004 Survey of Current Business and NASSCOM’s 2005 Strategic Review.

Note: Although BEA data were collected on the basis of a respondent’s fiscal year, they approximate a calendar year basis. However, NASSCOM reports data for India’s fiscal year (April 1 to March 31).
India’s Treatment of Earnings of Foreign Temporary Workers Providing Services in the United States Contribute to the Difference in U.S. and Indian Trade Data

According to U.S. and Indian officials, U.S. and Indian data differ in their treatment of salaries paid to certain temporary foreign workers providing services to clients in the United States. U.S. data do not include such salaries as cross-border trade in services. The United States only includes the salaries paid to temporary foreign workers who have been in the United States less than 1 year and are not on the payrolls of firms in the United States. However, Indian data do include, as Indian exports, the value of services provided by Indian workers employed in the United States for more than 1 year, according to Indian officials. The U.S. approach accords with the international standards of IMF. According to BEA and international standards, cross-border trade in services occurs between residents of a country and nonresidents, or “foreigners,” and residency of a temporary foreign worker employed abroad is based, in part, on the worker’s length of stay in the country. Therefore, according to these standards, if a temporary foreign worker stays or intends to stay in the United States for 1 year or more, that worker is considered a U.S. resident, and the value of the work performed is not included in U.S. import data.

The treatment of services provided by temporary foreign workers in the United States is likely a significant factor contributing to the difference between U.S. and Indian data, according to Indian officials. Some Indian officials estimated that in past years, approximately 40 percent of India’s exports to the United States of services corresponding to BPT services were delivered by temporary Indian workers in the United States. For example, for 2002, RBI found that approximately 47 percent of India’s global exports of computer services occurred through the on-site delivery of services by temporary Indian workers.

India Defines Services Differently Than Does the United States

U.S. and Indian data differ, in part, due to differences in how both countries count services trade. India counts as trade in services certain transactions in software that are classified as trade in goods in U.S. data. For example, Indian data on trade in services include software embedded on computer hardware, which the United States classifies as trade in goods. Consistent with internationally recommended standards, the United States does not separate the value of embedded software that is physically shipped to or from the United States from the overall value of the media or computer in
which it is installed.\textsuperscript{14} Thus, the value of such software is not recorded as trade in services but is included in the value of the physical media and hardware—which are counted as trade in goods in U.S. data. We were not able to determine the extent to which this factor contributes to the difference in U.S. and Indian data because we found no estimates of the proportion of embedded software in Indian data on services exports to the United States. Indian officials stated that the difference in the treatment of embedded software likely does not significantly contribute to the difference in data because India exports a relatively low value of embedded software. For example, according to Indian officials, the portion of India's global services exports delivered through physical media and hardware accounts for 10 to 15 percent of the total value of India-reported exports of services corresponding to BPT services.

U.S. and Indian data also differ in how they define services in their respective data series. Unlike BEA, RBI and NASSCOM do not report data under the category of BPT services. RBI officials stated that it reports trade data on services similar to BPT services under the category of Software Services. RBI does not report a breakdown of its data on software services into subcategories of services. According to a NASSCOM official, NASSCOM classifies its trade data on services that most closely correspond to BPT services under Information Technology and Information Technology-Enabled Services (IT-ITES). The subcategories of services under this classification do not directly correspond to the subcategories of BPT services, but are similar. For example, under its IT-ITES classification, NASSCOM reports data on IT Services and Software, while BPT services include computer and data processing, and database and other information services. However, NASSCOM includes data on certain information technology-enabled services, such as certain financial services, that are not included in BEA's definition of BPT services, but are recorded separately. Although these categories roughly compare, a reconciliation of these subcategories has not yet been done. Thus, we were not able to determine the extent to which these definitional differences contribute to the difference between U.S. and Indian data.

India Counts Sales to Overseas Offices of U.S. Firms as Exports to the United States

The treatment of services involving the overseas offices of U.S. firms by BEA and India is another factor explaining some of the difference between U.S. and Indian data. Unlike the United States, India counts the sales of services from firms in India to U.S.-owned firms outside the United States as exports to the United States. U.S. data do not count such sales as U.S. imports of services from India, because BEA considers the overseas offices of U.S. firms to be residents of the countries where they are located rather than residents of the country of the firm’s owners. The U.S. approach is consistent with international standards.

U.S. and Indian officials could not provide us an estimate of the extent to which the treatment of transactions involving the overseas offices of U.S.-owned firms contribute to the difference in U.S. and Indian data. However, one high-level Indian official stated that it is likely a significant factor.

U.S. and Indian Data Differ in the Reporting of Affiliated Trade in Services

The reporting of affiliated trade in services differ in U.S. and Indian data. BEA reports country-specific data only for unaffiliated U.S. imports of BPT services, while Indian data include both affiliated and unaffiliated trade in services but do not separate the two. BEA reports detailed data only for unaffiliated trade because it has concerns about the accuracy and completeness of the data that firms report about affiliated trade in BPT services by country. For example, multinational firms with global offices may find it difficult to establish where, between whom, and what type of services have been transacted; and report these data along national lines to a statistical agency. BEA does collect data on overall affiliated services trade, but it reports only the total value across all countries due to its concerns about the reliability of how companies are allocating these totals to specific countries. In addition, due to concerns over the reporting burden on U.S. companies, BEA collects less detailed data on affiliated transactions than on unaffiliated transactions.

U.S. data on overall affiliated trade across all countries show that a significant majority of total U.S. imports of BPT services take the form of trade between parents and affiliates. For example, for 2003, approximately three-quarters of all U.S. imports of BPT services—about $29.9 billion—represented trade within multinational firms. If U.S.-Indian trade in these services reflects this overall share of trade through affiliates, then unreported affiliated trade with India may be much larger than the unaffiliated trade that is reported. Therefore, the lack of reported data on affiliated imports of BPT services contributes to the difference in data.
There are differences in the sources of data the United States and India use to collect data on trade in services, which may contribute to overcounting or undercounting of services trade. While both BEA and NASSCOM prepare estimates of cross-border trade in services by surveying qualifying firms, U.S. and Indian data differ in the universe of such firms covered by their survey methodologies.

The universe of firms in India exporting services is relatively easily identified because these firms have an incentive to report data on their exports of services and tend to be concentrated in certain industries. For example, firms exporting software services are required to report export data to the government of India’s STPI program. STPI requires firms to report these data in order to comply with India’s foreign exchange controls and to qualify for certain tax incentives and infrastructure benefits. To improve the completeness of its own survey data from its member firms, NASSCOM incorporates information on other exporters collected under the STPI program prior to providing these data to RBI. In addition, services exporting firms tend to be concentrated in certain industries. For instance, according to Indian officials, NASSCOM surveys its member firms in India to collect the annual dollar value of these firms’ exports. The member firms that NASSCOM surveys number approximately 900 and, according to a NASSCOM official, these firms contribute a large share of India’s total exports of these services. In addition, RBI has begun its own comprehensive survey of companies, which according to RBI, covered all of the identified companies engaged in software and IT services exports activities. RBI identified these companies on the basis of lists provided by NASSCOM, STPI, and the Electronics and Computer Software Export Promotion Council (ESC).

In contrast to how India identifies firms exporting services, BEA does not have an easily available list of services importers. Instead, it must identify firms from public sources. BEA acknowledges that its survey methodology may contribute to the undercounting of U.S. imports of services due, in part, to the difficulty it faces in identifying the universe of services importers. The firms in the United States that BEA surveys to estimate U.S. imports are in many different industries and number in the thousands. Thus, BEA notes that it is difficult to establish and maintain a comprehensive mailing list for all U.S. firms importing services from foreign sources, particularly if the group of firms that import services changes substantially from year to year. In addition, maintaining accurate coverage using surveys is particularly difficult when there is rapid growth in the activity, as is the case with BPT services imports from India. Under
BEA regulations, BEA exempts smaller importers from reporting their imports. Instead, it estimates these imports on the basis of a sample. If the value of smaller transactions is higher than BEA assumes in its estimation procedures, then imports of services would be understated. BEA, therefore, may undercount the total value of U.S. imports of services.

The data collection entities—BEA and NASSCOM—also differ significantly in mission and scope. BEA is the U.S. agency charged with collecting, analyzing, and reporting official statistics on a broad range of U.S. imports and exports of services. BEA is regarded as a leading statistical organization, and it provides both statistical concepts and best practices to other countries and statistical organizations worldwide. NASSCOM is not a government statistical agency. It is a private trade association that represents the interests of the software and services industry in India, and data collection is but one element of a broader mission that focuses on representing that industry. Recently, RBI has recognized a need to reexamine the current methodology on the collection of software exports data, and is utilizing a methodology to collect services data in accordance with IMF standards. As a U.S. government agency, we were not able to fully review India’s methodologies, but we did further examine in the next section of this report the challenges BEA faces in collecting services statistics.

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15 Under 15 C.F.R. § 801, U.S. persons and intermediaries are required to report annual transactions with unaffiliated foreigners for transactions of over $1 million in any one kind of service. Respondents whose transactions fall below this level must report the total level of transactions in all services. Under 15 C.F.R. § 806, for transactions with affiliated foreigners, quarterly and annual reporting are required only for affiliates whose total assets, sales, or net income exceed $30 million. For majority-owned foreign affiliates, detailed foreign direct investment reporting is required if assets, sales, or net income is greater than $100 million.

16 Upon the recommendation of India’s National Statistical Commission, RBI developed a technical group consisting of members of the Ministry of Commerce, NASSCOM, STPI, the State Bank of India, and a few major software companies to recommend better ways to collect data on software and IT exports.
BEA Encounters Challenges in Surveying All U.S. Importers of Business, Professional, and Technical Services

BEA faces challenges in collecting services import data, including identifying the full universe of services importers. To test its survey coverage, we provided BEA with lists of firms that we identified from public sources as likely importing BPT services from India. Although the BEA mailing lists included most of the firms we identified, they did not include all of these firms. In addition, BEA may be undercounting imports because it is challenging to identify all of the applicable surveys to send to firms. BEA also has not always received quality survey responses from firms. BEA has taken action to improve survey coverage and responses through outreach to survey respondents and by attempting to collaborate with other federal agencies, but it has not been able to access data that could assist in identifying the universe of firms importing services.

BEA Has Challenges in Tracking Services Offshoring Trends

Services offshoring presents its own challenges for statistical agencies. As previously discussed, identifying services importers becomes difficult if the group of firms and individuals importing services changes over time, or if there is a rapid increase in services imports. In the case of BPT services, both the United States and India have reported a rapid increase of exports to the United States and BEA may be undercounting U.S. firms importing such services from India due to this growth. (See fig. 3.) BEA acknowledges that it is able to identify a higher proportion of U.S. exporters than U.S. importers. This is because exporters tend to be large firms providing one particular type of service and are concentrated in certain industries, while importers vary in size and industry affiliation. Thus, BEA officials expressed concern that they are not able to identify and survey small firms that import BPT services infrequently, and are potentially undercounting U.S. trade in these services.
Test of Firms Importing from India Confirms Challenges to Collecting Services Data

To test for potential undercounting of U.S. imports, we provided BEA with lists of firms that we identified through publicly available sources as likely to be importing BPT services from India.\(^\text{17}\) BEA then (1) reviewed its mailing lists of firms that were sent surveys to verify that it had previously identified and surveyed these firms and (2) verified whether the firms we identified reported imports from India. Table 1 shows the following:

- BEA had included in its mailing lists 87 of the 104 firms we identified as likely importing BPT services from India; thus, BEA did not send surveys to 17 of these firms. After further analysis, BEA added 13 of

\(^{17}\)The sources utilized were publicly available and included the following: media articles covering the period from 2002 to 2005; information technology association lists compiled using 2001 to 2005 data; and Securities and Exchange Commission filings and annual reports using 2004 data.
these firms to its mailing lists and has sent them surveys, thus improving
the universe of services importers.

- Of the 66 affiliated firms that received surveys, 48 firms received the
  quarterly survey for affiliated imports; thus, BEA did not send 18
  affiliated firms this quarterly survey, although they received other
  surveys.

- Of the 21 unaffiliated firms that received surveys, 6 received the
  quarterly survey for unaffiliated imports; thus, BEA did not send 15
  unaffiliated firms this quarterly survey, although they received other
  surveys.

BEA may miss some BPT services imports because it is difficult to identify
the total number of surveys that apply to all of the services transactions for
which each firm was qualified. On the basis of the review of our lists, it
appears that some of the firms that BEA identified in at least one of its
comprehensive mailing lists were not on the mailing lists for other surveys
that we expected. These firms likely had transactions covered by surveys
other than the one they received. For example, several companies we
identified as having an affiliate office in India did not receive one of the
surveys for affiliated transactions, although these firms received a survey
for unaffiliated transactions.

With respect to BEA’s effort to verify whether firms that we identified
actually reported imports from India, of the 51 firms responding to the
quarterly surveys, 15 firms indicated imports from India. Thus, 15 of the 104
firms we identified on the basis of public-source data as likely importing
BPT services from India, reported those imports to BEA. High-level BEA
officials indicated that it is possible that companies are not reporting
country information because they fall below the survey exemption levels
and, thus, were not required to provide such detailed data to BEA. BEA
requests firms falling below survey exemption levels to voluntarily report

BEA uses separate surveys to collect data on affiliated and unaffiliated trade in services.
To collect data on unaffiliated trade in BPT services, BEA uses quarterly, annual and 5-year
benchmark surveys of selected services transactions with unaffiliated foreign persons (BE-
25, BE-22, BE-20). BEA collects data on affiliated trade in BPT services using BEA’s surveys
of direct transactions of U.S. Reporter with Foreign affiliate (BE-577), and 5-year
benchmark surveys of U.S. direct investment abroad (BE-10). Affiliated trade-in-services
data are also collected through the benchmark (BE-12) and quarterly (BE-605) surveys of
foreign direct investment. A firm’s operations may span several of these categories; thus,
BEA sends some firms multiple surveys.
aggregate transactions for all countries combined, without a country-specific breakdown.

<table>
<thead>
<tr>
<th>Firms</th>
<th>GAO-identified firms</th>
<th>Firms on any BEA mailing list</th>
<th>Firms receiving appropriate survey</th>
<th>Firms responding to appropriate surveys</th>
<th>Responding firms indicating imports from India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliated</td>
<td>81</td>
<td>66</td>
<td>48</td>
<td>46</td>
<td>12</td>
</tr>
<tr>
<td>Unaffiliated</td>
<td>23</td>
<td>21</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>87</td>
<td>54</td>
<td>51</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: GAO analysis of BEA data.

Note: The publicly available sources utilized to identify these firms included data covering the period from 2001 to 2005.

*Appropriate surveys refer to those surveys that we believe firms should have received on the basis of publicly available information about their investments and imports.

While these results cannot be generalized, they confirm the challenges of collecting services import data. However, they do not provide an indication of the magnitude or extent of these challenges. In addition, our lists of firms were based on a review of multiple sources of publicly available information. Without directly surveying each firm, however, it is not possible to confirm that they actually purchased BPT services from India.

BEA is addressing concerns related to the identification of U.S. importers, the undercounting of services, and the administration of its surveys. For example, BEA contracted with a private firm to undertake an external review of its data sources and methods of identifying these services importers. The review will examine the extent of undercounting in both affiliated and unaffiliated services transactions, including the possible sources of undercounting, and any additional methods or sources of information that will improve survey coverage. The goals of this effort include identifying the extent of qualified firms that are not currently on the survey mailing lists, and to improve the estimates of international transactions. BEA expects the results of this review early in fiscal year 2006. BEA also has made efforts to ensure that firms receive the surveys for which they are qualified. BEA routinely sends surveys to firms that may be exempt from reporting in order to make a determination that they are still exempt. In addition, firms having transactions in services not covered in
the surveys they receive are required to request additional surveys from BEA.

### BEA Has Not Received Quality Responses on Affiliated Trade by Country

In order to report data on trade in services, BEA needs to receive accurate and complete survey responses. However, BEA notes that the information it receives from firms on their affiliated imports of particular types of services has not proved sufficiently reliable to support the release of country-level estimates. As previously discussed, BEA is able to report overall affiliated trade for specific countries, but it is not able to report BPT trade for specific countries. This is because BEA has concerns over the quality of responses it receives from firms when they allocate affiliated imports to detailed types of services. Global firms may have difficulty accurately attributing services exported to the United States when their operations are spread across multiple countries. In addition, a high-level BEA official said that firms may not fully report all of their affiliated transactions for which they should report. This official noted that these reporting difficulties may reflect business record-keeping practices, which are intended to meet financial reporting requirements, rather than government surveys.

In order to address these challenges, BEA is taking action to improve the quality of survey responses and to overcome the difficulty of reporting detailed data on affiliated imports of services. For example, an examination of BEA’s data on affiliated transactions is a component of BEA’s contract with a private firm that is conducting an external review of BEA’s data sources and methods of identifying services importers. In addition, BEA has requested Census to conduct an external review of its survey forms and instructions, and to make recommendations that would improve clarity and promote accurate reporting. BEA is also performing its own review of its surveys to determine the clarity of survey instructions and is providing training to survey recipients on how to complete the surveys accurately. In addition, to improve the quality of its data on affiliated services imports, including affiliated imports of BPT services, BEA is considering collecting data on both affiliated and unaffiliated transactions on the same survey form. BEA is also considering expanding the types of affiliated BPT services for which it requests data to match the detailed data it collects on unaffiliated imports of BPT services.
BEA Has Difficulty in Gaining Access to Other Federal Agency Data

BEA is currently negotiating access to data from other federal agencies to expand its existing sources of data and to improve its survey coverage, but BEA has been unable to access this data from other federal agencies. According to BEA officials, other federal agencies, such as Census, possess data that could assist BEA in preparing its estimates of trade in services, including information on firms in the United States that could be importing services. For example, Census surveys firms to collect data of firms’ business expenses, which include the purchase of BPT services. These surveys may be useful to identify importers because large purchasers of services may also be importing these services. The survey data that Census currently collects are not directly useful for BEA because the data on business expenses do not separate domestic from international expenses and do not distinguish between affiliated and unaffiliated transactions. However, BEA would get name and addresses of potential services importers. In addition, BEA could potentially request that Census add questions to one or more of the surveys that Census administers in order to identify services importers.

However, BEA currently faces legal restrictions in gaining access to data utilized by Census. Although federal laws allow such data sharing between Census and BEA, BEA is generally restricted from gaining access to federal tax information that Census obtains from the Internal Revenue Service. According to BEA officials, BEA is negotiating with Census and the Internal Revenue Service to gain access to sources of data to improve its mailing lists.

Conclusions

The large difference between U.S. and Indian data on BPT sources makes the analysis of the extent of offshoring more difficult. Some of this difference in data can be attributed to varying definitions of BPT services, but some also appears to be due to incomplete U.S. data. BEA has been seeking various ways to improve the overall quality of U.S. services trade data, but our test of whether they had identified BPT service importers indicated that they were not identifying all U.S. importers of services. Given the importance of this category of data in understanding the extent of offshoring of services, a subject of continuing public and congressional concern, we believe that additional efforts to strengthen the quality of U.S. services data are merited.
**Recommendations**

We are recommending that the Secretary of Commerce direct BEA to systematically expand its sources of information for identifying firms to survey. BEA should consider ways to improve its identification of the appropriate survey forms to send to firms and the information requested about services imports, particularly with regard to affiliated imports. We also recommend that the Secretary direct BEA to pursue additional company information from previous Census surveys and consider requesting Census to add questions to future surveys to help identify services importers.

**Agency Comments and Additional Information Provided by the Reserve Bank of India**

The Department of Commerce provided written comments on the draft report, which are reproduced in appendix II. Commerce concurred with our recommendation that BEA should strive to improve its coverage of services imports. In particular, Commerce agreed that BEA should pursue additional company information from Census. Commerce also provided technical comments, which we incorporated into the report as appropriate.

Following the receipt of agency comments from Commerce, RBI publicly released a report outlining a new methodology to compile services export data in accordance with IMF standards. Although RBI's new survey methodology conforms more closely to IMF standards for defining international transactions in services, differences between U.S. and Indian data remain due to a variety of factors we discuss in this report. For example, the RBI report acknowledges that Indian data include not only exports of computer-related services but also exports of ITES. Since the primary objective of RBI's survey was to collect data on software exports in conformity with IMF's definition of computer services, RBI's survey data exclude data from companies exclusively exporting ITES, and include only data on computer services. However, RBI's report does not indicate that RBI's survey methodology addresses other factors contributing to the difference between U.S. and Indian data. For example, it appears that RBI's survey data include the earnings of foreign temporary workers employed abroad without taking into account their length of stay or intention to remain abroad. RBI estimated this on-site work to account for approximately 47 percent of India's total worldwide exports, although some portion of this total may include services provided by temporary Indian workers employed abroad for over 1 year. In addition, RBI's report does not indicate that sales of embedded software are excluded from RBI's survey data.
We are providing copies of this report to interested congressional committees and the Secretary of Commerce. Copies will be available to others upon request. In addition, the report will be available at no charge on the GAO Web site at www.gao.gov.

If you or your staff have any questions about this report, please contact Mr. Yager on (202) 512-4128. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Other GAO contacts and staff acknowledgments are listed in appendix III.

Loren Yager
Director, International Affairs and Trade
List of Committees

The Honorable Charles Grassley
Chairman
The Honorable Max Baucus
Ranking Member
Committee on Finance
United States Senate

The Honorable Susan Collins
Chairman
The Honorable Joseph Lieberman
Ranking Minority Member
Committee on Homeland Security and
   Governmental Affairs
United States Senate

The Honorable Bill Thomas
Chairman
The Honorable Charles Rangel
Ranking Minority Member
Committee on Ways and Means
House of Representatives

The Honorable Tom Davis
Chairman
The Honorable Henry A. Waxman
Ranking Minority Member
Committee on Government Reform
House of Representatives
Appendix I

Scope and Methodology

This report discusses (1) the extent of the difference between U.S. and Indian data on trade in business, professional, and technical (BPT) services, (2) the factors that explain the difference between U.S. data on imports of BPT services and India’s data on exports of those same services, and (3) the challenges that the United States has faced in collecting services data.

To obtain information on the extent of the difference between U.S. and Indian services trade data, we analyzed and compared U.S. and Indian data and interviewed U.S. and Indian government officials from the relevant agencies, including the U.S. Bureau of Economic Analysis (BEA), and the Reserve Bank of India (RBI). RBI relies on a trade association, the National Association of Service and Software Companies (NASSCOM), to collect data on these services. Although we reviewed NASSCOM’s survey form and discussed with a NASSCOM official the collection of their statistics, NASSCOM did not provide us with their methodology for ensuring the reliability of their data. Therefore, we were not able to independently assess the quality and consistency of their data. However, for the purposes of this report, we found these data to be sufficiently reliable for reporting the difference in the official U.S. and Indian trade data in BPT services.

To determine the factors that explain the difference in U.S. and Indian trade data, we reviewed official methodologies, interviewed relevant officials, and conducted a search of available literature. We reviewed documentation and technical notes from BEA and RBI to determine the U.S. and Indian methodologies for collecting and reporting trade in services data and to assess the limitations and reliability of various data series. We discussed these topics with BEA officials. In addition, we traveled to India to interview RBI officials and NASSCOM representatives and to obtain documentation on the collection and limitations of Indian data. We also interviewed a range of U.S. and Indian businesses in India that supply trade data to the United States and India to determine how they report data. We performed a literature search and obtained information from the Brookings Institution, the Institute for International Economics, and the Organization for Economic Co-operation and Development (OECD). To determine the international standards for collecting and reporting trade-in-services data, we reviewed relevant documentation from international organizations, including the International Monetary Fund and the United Nations.

In September 2005, as our report was being finalized, RBI released a report entitled “Computer Services Exports from India: 2002-03,” which discusses the methodology and results of a comprehensive survey that RBI
conducted to collect data on India’s “computer services” exports for 2002 in conformity with the International Monetary Fund’s *Balance of Payments Manual, 5th edition* (1993). The RBI report provides information about RBI’s survey methodology, including the number and types of companies surveyed and the information sought through the survey. In addition, the report outlines recommendations for RBI to collect data on software and information technology exports through representative quarterly surveys and a comprehensive survey every 3 years. We incorporated this additional information from the RBI report where appropriate.

To examine the coverage of BEA’s surveys for collecting trade-in-services data, we supplied BEA with lists of U.S.-based companies we identified as likely importers of services from India to compare with its mailing lists. We developed two lists. The first list included the names and addresses of companies in the United States with affiliate offices in India that are likely importing BPT services from India through affiliates. The second list included the names and addresses of companies that are likely purchasers of services through unaffiliated parties in India. We identified these companies through publicly available sources, including public media, company filings with the Securities and Exchange Commission, annual reports of companies, the list of NASSCOM member companies, and lists of companies compiled by information technology interest groups. Our lists of firms are not necessarily representative of all U.S. firms importing from India, and we do not generalize our results.

We asked BEA to compare these lists with the following mailing lists for affiliated and unaffiliated surveys to identify how many companies it was surveying:

<table>
<thead>
<tr>
<th>Mailing list</th>
<th>BEA survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliated Business, Professional, and Technical Services</td>
<td>BE-577</td>
</tr>
<tr>
<td>Affiliated Computer and Information Services</td>
<td>BE-577</td>
</tr>
<tr>
<td>Unaffiliated Business, Professional, and Technical Services</td>
<td>BE-25, BE-22</td>
</tr>
<tr>
<td>Unaffiliated Computer and Information Services</td>
<td>BE-25</td>
</tr>
</tbody>
</table>

Table 2: List of BEA Surveys

Source: GAO presentation of BEA data.

We requested that BEA provide us with the number of companies from both lists that BEA was able to identify and not identify on its
corresponding mailing lists. For companies that received a survey, we asked BEA to identify the number of these companies that responded to the survey and provided information on purchases from India. For companies that were not on any mailing list, BEA was asked to identify (1) whether the firms were excluded from its mailing list because they were assumed to be below exemption levels for the particular survey, (2) whether the firms are on BEA's current mailing list for the particular survey, and (3) whether the firms are listed on other BEA mailing lists. We discussed the results of this review with BEA officials.

To assess the challenges the United States has faced in collecting and reporting data on trade in services, we reviewed relevant BEA documentation and interviewed BEA officials. We reviewed BEA documentation to determine BEA's data limitations and to assess the challenges BEA faces in collecting and reporting U.S. data on trade in services. To determine the challenges of expanding BEA's survey coverage through interagency data sharing we interviewed officials at BEA and the U.S. Census Bureau (Census), and we reviewed Census documentation. We also interviewed BEA officials to discuss these identified challenges and to determine the plans and actions BEA has taken to improve the quality of U.S. data. Finally, we interviewed Internal Revenue Service (IRS) officials to gain an understanding of IRS policy on restricting access to federal tax information that the IRS provides to Census.

We performed our work from March 2005 through September 2005 in accordance with generally accepted government auditing standards.
September 21, 2005

Mr. Loren Yager, Director
International Affairs and Trade
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Yager:

The U.S. Department of Commerce appreciates the opportunity to comment on the U.S. Government Accountability Office draft report, *U.S. and India Data on Offshoring Show Significant Differences* (GAO 05-976). I enclose the Department’s comments on this report.

Sincerely,

David A. Sampson

Enclosure
Appendix II
Comments from the Department of Commerce

U.S. Department of Commerce Comments on the U.S. Government Accountability Office
Draft Report Entitled U.S. and India Data on Offshoring Show Significant Differences GAO 05-976

We support GAO’s recommendation that the Bureau of Economic Analysis (BEA) should strive to improve its coverage of services imports and, in particular, that BEA work to obtain additional company information from the Census Bureau. As GAO is aware, before this GAO study began, BEA had initiatives underway that would help accomplish these objectives. We appreciate your confirmation that these initiatives are worthwhile.

As your report notes, there are large differences between U.S. and Indian data on trade in services, and only a small percentage of India’s reported exports of services are matched in the mirror statistics of Organization of Economic Cooperation and Development importing countries. The Indian statistics are not consistent with balance of payments reporting standards issued by the International Monetary Fund and followed by the United States and most other countries. India’s inclusion of transactions that, under international definitions, should be excluded from services exports to the United States seem to account for much – perhaps even a substantial majority – of the difference between the Indian and U.S. estimates.

Nonetheless, we agree that some portion of the differences between the U.S. and Indian estimates may reflect under-reporting on BEA’s surveys. However, when BEA contacted the companies that GAO identified from public sources as likely having imports from India, BEA did not identify any company with substantial imports of services that were not already being reported to BEA. We do agree, though, that BEA’s mailing lists should be improved. We appreciate that your report identifies initiatives that BEA has underway to improve its estimates, including an external review of its statistical procedures for estimating unreported transactions, an external review of the clarity of its surveys and instructions, and increased outreach to survey respondents. BEA also has been negotiating with the Census Bureau and the Internal Revenue Service to obtain access to the Census Bureau’s database of U.S. companies, which may enable BEA to identify additional importers of services.
## Appendix III

### GAO Contact and Staff Acknowledgments

<table>
<thead>
<tr>
<th>GAO Contact</th>
<th>Loren Yager, (202) 512-4128</th>
</tr>
</thead>
</table>

### Staff Acknowledgments

In addition to the person named above, Virginia Hughes, Bradley Hunt, Ernie Jackson, Sona Kalapura, Judith Knepper, Robert Parker, Cheryl Peterson, and Tim Wedding made major contributions to this report.
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