

U.S. Merchandise Trade Statistics

A Quality Profile

Methods Research & Quality Assurance Branch
Foreign Trade Division
Bureau of the Census
December 19, 2002

Table of Contents

I. Introduction:

- A. Purpose of the Paper
- B. Source of the Statistics
- C. Recent Major Changes

II. Data Quality Assessment:

- A. Undocumented Shipments
 - o Exports Through Canada
 - o Reconciliations
 - o Customs Compliance Studies
 - o Northbound Shipments
 - o Foreign Trade Zones
- B. Transiting Goods
- C. Underestimation of Low Valued Transactions
- D. Late Filing
- E. Reporting Errors
- F. Data Capture Errors
- G. Quality and Automated Reporting
- H. Disclosure Avoidance
- I. Requests for Re-Verification of Trade Statistics

III. Adjustments:

- A. Adjustments for Seasonal and Trading Day Variation
- B. Adjustment for Price Change

IV. Conclusion

V. Appendices:

- A. Import Entry Summary
- B. Shipper's Export Declaration
- C. Annotated Bibliography
- D. Glossary of Acronyms

I. INTRODUCTION

A. *Purpose of the Paper*

The merchandise trade statistics measure goods traded between the United States and other countries. They are the official source of information about U.S. imports, exports and balance of merchandise trade. As a leading economic indicator and a major component of the Gross Domestic Product (GDP), the statistics provide critical information to a wide and varied group of users in the public and private sectors. The U.S. Census Bureau (Census) strives, with available resources, to provide accurate, high quality statistics to meet these needs. However, to use the information wisely and appropriately, users need to understand the nature and limitations of the merchandise trade statistics program. This paper discusses issues affecting the quality of the statistics and some known limitations. It also includes discussions of recent and proposed improvements in the quality of the statistics.

This paper covers only the statistics on trade in goods on a Census basis. The data on trade in services and on a balance of payments basis, published in the **FT900, U.S. International Trade in Goods and Services**, are compiled by the Bureau of Economic Analysis (BEA). Information on the BEA data is available on the Internet (www.bea.gov) or by calling Christopher Bach at (202) 606-9545.

Comments or questions about the information in this paper or suggestions for future reports are welcome. Address them to David Dickerson, Chief of Methods Research and Quality Assurance Branch, Foreign Trade Division, (301) 763-3080, David.M.Dickerson@census.gov.

B. *Source of the Statistics*

Census collects and compiles merchandise import and export data from various electronic and manual (paper) sources. These data represent shipments through more than 400 ports of entry and exit in the United States, Puerto Rico and the Virgin Islands.

Sources for import statistics include 1) the U.S. Customs Service (Customs) Automated Broker Interface (ABI), 2) paper import entry summaries (Appendix A), 3) paper or electronic applications for foreign trade zone admission, and 4) Canadian data on exports of natural gas and electricity to the United States provided by Statistics Canada. Import documents are completed by the importers or their licensed brokers and are filed directly with Customs. In 2001, Census collected trade statistics on more than 33 million import transactions. Approximately 99 percent of the transactions were received electronically by Customs, the remaining one percent were filed on paper documents. These paper documents account for roughly six percent of import value. Paper documents are collected by Customs and mailed to Census' Puerto Rico Trade Data Staff, which enters the statistical data and transmits them to Census headquarters for further processing.

Sources for export statistics include 1) the Automated Export System (AES), 2) paper Shipper's Export Declarations (SEDs, see Appendix B), and 3) Canadian data provided by Statistics Canada. Export declarations, either paper or electronic, are required for shipments to all countries except Canada, and are completed by exporters (U.S. principal parties in interest) or their duly authorized agents who submit them to the exporting carrier who has the responsibility to submit them to Customs at the time of exportation.

In 2001, Census collected trade statistics on more than 22 million export transactions. Approximately 52 percent of export transactions are currently submitted electronically through AES and 12 percent sent to Census' National Processing Center (NPC) where they are keyed and the data transmitted to Census headquarters for further processing. The remaining 36 percent of the export transactions are acquired through a data exchange with Statistics Canada. The United States derives its statistics on exports to Canada from import data filed with Canada. Likewise, Canada derives its export statistics for shipments to the United States from U.S. import data. For more information on the data exchange see "U.S.-Canada Data Exchange," 1990-2001, (available on the Internet at www.census.gov/foreign-trade or contact Vanessa Ware at (301) 763-6984, Vanessa.Ware@census.gov).

C. Recent Major Changes

Prior to January 1, 2000, Census also received export data through the Automated Export Reporting Program (AERP). In 1998, approximately 32 percent of monthly export data were filed through AERP. The AES, which has replaced AERP, incorporates on-line edits and refers questionable data back to the filer for verification or correction. A significant decrease in reporting error rates on export transactions has occurred as more filers opt for automated reporting on AES. Prior to the widespread use of AES, an average of 27 percent of all export transactions contained one or more reporting errors. Now that more filers have opted to use AES, export reporting errors have declined to an average of 17 percent.

II. DATA QUALITY ASSESSMENT

Census conducts various research studies to assess the quality of trade statistics and to identify quality issues related to the data. Quality assurance procedures are performed at every stage of collection, processing and tabulation; however, the data are still subject to errors. The following sections include an explanation of the most significant sources of errors: undocumented shipments, transiting goods, underestimation of low valued transactions, late filing, reporting errors, and data capture errors. This section also includes an assessment of the effects of automated reporting on the quality of the data, information on disclosure avoidance and requests for re-verification of trade statistics.

A. Undocumented Shipments

Federal regulations require importers, exporters or their agents to submit import and export information for all merchandise shipments above established exemption levels. Exemption levels are \$2,000 (\$250 for quota items) for imports and \$2,500 for exports to countries other than Canada. Through comparisons of trade data with major trading partners, audits of trade documentation, and other measures, Census has identified missing information for both import and export shipments. Missing

documentation is more common with exports than with imports since import information is subject to greater scrutiny by Customs in relation to the administration of tariffs, quotas and other enforcement activities.

Exports Through Canada

The movement of U.S. goods northbound through Canada en route to another destination can result in undercoverage in the U.S. export statistics. Most shipments to Canada do not require an SED, as they are collected through the U.S.-Canadian Data Exchange. However, an SED is required for goods that cross the Canadian border and are shipped to another country from a Canadian port. Exporters may not comply with the reporting requirements for several reasons.

In some cases, exporters may mistakenly believe that they are not required to file an SED, as most goods shipped to Canada do not require one. In other cases, shippers may choose not to file the SED because of a lack of enforcement of the reporting requirement. Aside from these likely causes of noncompliance, the lack of infrastructure (e.g. drop-off facilities) at the U.S.-Canadian border may also discourage carriers from filing the export declaration. Increased border security efforts and the future implementation of mandatory electronic filing of truck manifests and export declarations should significantly reduce this problem.

Reconciliations (Trade Data Comparisons)

In the early 1970s, The United States and Canada began annual studies to reconcile differences in merchandise trade statistics compiled by the two countries. After adjusting for differences in trade definitions, valuation, timing and errors, the studies uncovered a chronic understatement of each country's exports. At one point, the understatement of U.S. exports to Canada was estimated to be as high as 20 percent. This high undercount, in large part, reflected the difficulties of collecting data on overland shipments moving across the open border.

Given the much higher quality of each partner's import statistics, the United States and Canada signed a Memorandum of Understanding. Under that agreement, implemented January 1990, Census derived its export statistics from Canadian imports and Statistics Canada derived its exports from U.S. import statistics. Both countries consequently eliminated the requirements for filing export documents for goods destined to the other.

Several immediate improvements to the U.S. export statistics resulted from the introduction of the U.S.-Canada Data Exchange. Most important, it eliminated undocumented shipments to Canada. Also, since the Canadian data are pre-edited, it improved the accuracy of the data reported to Census and increased the inclusion of data in the correct statistical month.

The success of the U.S.-Canadian reconciliations prompted Census to seek reconciliation agreements with other major trading partners. We have conducted reconciliation studies with Japan, Korea, Mexico, Australia, and the European Community (EC). Although Census does not expect other data exchanges to result from these reconciliations, the studies provide valuable information about the quality of the U.S. merchandise trade statistics.

In the various reconciliation studies, the combined effect of proven nonreporting, underestimation of low value trade, and unresolved discrepancies ranged from three to nine percent of the reported U.S. export value, with most of the studies falling in the three to seven percent range. All of these results predate the AES, which is believed to have increased export coverage.

Census suspects that the nonreporting of exports to Mexico is greater than that to overseas partners, however, we do not believe it to be as high as that experienced with Canada before the data exchange. One reason is that increased automated reporting of exports has eliminated some of the errors resulting from the careless handling of paper documents at the border crossings.

The reconciliation studies revealed that underestimation of low value trade accounted for up to three percent of the reported value of U.S. exports to those countries. However, this estimate is very rough since trading partners can define their reporting codes differently than the United States, thus creating more or less low valued trade relative to the United States. We were only able to obtain this information from three trading partners- Australia, Korea, and Mexico. The underestimation appears to differ significantly from country to country. So, while these comparisons support our belief that we underestimate low value trade, they do not provide a sufficient basis for adjusting our estimates.

Customs Compliance Studies

In 1999, Customs conducted an outbound compliance survey along the northern border of the United States. The survey was conducted to determine the level of compliance with U.S. export reporting requirements for goods shipped by truck. The survey was also designed to identify areas of potential weakness in compliance with the collection of accurate data. For just 75 percent of the shipments requiring an SED was an SED filed. Although this measure is not statistically reliable due to the low number of sampled shipments (since most shipments to Canada do not require an SED) it does suggest that there is a missing documentation problem along the northern border. Shipper's Export Declarations are only required for licensed goods which are included in statistics via the data exchange and goods shipped to other countries from Canadian ports.

Customs has also conducted outbound compliance surveys for aircraft, vessel and commercial trucks along the southwestern border. Based on the findings of all these surveys, the survey committees made several recommendations to maintain or in some cases further increase compliance levels. Those recommendations included outreach efforts to educate the export community, improving internal Customs procedures, and to continue to conduct surveys

periodically to identify potential weaknesses in compliance with document submission and accuracy.

Foreign Trade Zones

One of the few known sources of import undercoverage involves foreign merchandise that enters foreign trade zones (FTZs). Foreign merchandise entering FTZs should be included in the import trade statistics under general imports. Census often encounters difficulties receiving the information required for including FTZ transactions in statistics. Even though there are no actual estimates of the undercounting of FTZ transactions in the merchandise trade statistics, there is ample anecdotal evidence to support the idea that a problem exists.

When foreign merchandise enters an FTZ, the zone is required to file a Customs Form (CF) 214A (the statistical copy of the Foreign Trade Zone Admission). In theory, when a zone is authorized, the operator should make arrangements with Census to file CF 214As either electronically or on paper. In practice, zone operators often overlook this requirement and Census may not be able to detect the omission.

Foreign Trade Zone merchandise can also be a factor in export undercoverage. When goods are withdrawn from an FTZ for exportation, the shipment is supposed to be reported on an SED. However, the exported goods generally are shipped in-bond (on a CF 7512) to the port of exit. This is one of the few situations where an SED is required for goods moving in-bond, so the carrier may not know to collect the SED. The exporter, who often is not the zone operator, is required to file an SED with Customs at the port of exit.

In an effort to improve reporting of FTZ transactions, Census has visited a number of zones and Customs ports to educate operators and Customs staff about statistical reporting requirements. Census has also participated in meetings and seminars sponsored by the National Association of

Foreign Trade Zones to give presentations to members on statistical reporting requirements. Finally, Census has conducted informal surveys of zone operators to gauge their understanding and adherence to statistical reporting requirements. These efforts have significantly improved the awareness of the zone operators and Customs staff of the statistical reporting requirements and increased filing of both zone entries and zone exports.

B. *Transiting Goods*

Shipments of goods moving through the United States en route from one foreign country to another can create coverage problems that affect trade statistics. When transiting goods are shipped under bond, they are not subject to duties and are excluded from the merchandise trade statistics in accordance with the guidelines for international merchandise trade statistics established by the United Nations.

As many U.S. tariffs have been reduced or eliminated, the benefits of shipping goods under bond have decreased. As a result, companies often enter transiting goods into the United States using the import entry summary and file an export declaration when the goods leave the United States for the final country of destination. This practice, though less burdensome for companies than the in-transit procedure, results in the inclusion of the transiting goods in the trade statistics, contrary to the UN guidelines.

While the practice of entering transiting goods does not affect the total trade balance, it does affect bilateral trade balances. For example, if goods shipped from Canada destined for Mexico enter the United States and are then re-exported to Mexico, the U.S. statistics will show an import from Canada (thus overstating our deficit with Canada) and an export to Mexico (understating our deficit with Mexico). In addition, this practice may create discrepancies between U.S. statistics and those of the foreign countries shipping the goods, if the shipping country records the goods as exports to the country of ultimate destination, not to the United States.

The issue of transiting goods is especially problematic for bilateral trade between Canada and the United States. While the implementation of the U.S.-Canada Data Exchange has improved coverage of both countries' export statistics, there is evidence that a substantial number of Canadian goods transiting southbound through the United States are entered as U.S. imports from Canada.

In looking for solutions to undocumented transiting goods trade, one option is to have U.S. Customs modify the import entry summary document in the Automated Commercial Environment (ACE) to capture transiting goods data that may be used to compile supplementary statistics, possibly on a post-publication basis. Implementing this requirement would require regulatory changes.

C. *Underestimation of Low Valued Transactions*

The United States does not require importers and exporters to file documents for shipments valued less than a specified exemption level. Currently, the exemption levels are \$250 for imports of certain products under quota, \$2,000 for other imports and \$2,500 for exports. Census then estimates the total value of trade beneath the exemption level for each country based upon historical patterns of trade. The data upon which these factors are based are very old and do not reflect recent shifts in trade patterns. For example, on exports, we have not collected data on transactions valued below \$1,000 since the mid 1980's and information on transactions valued between \$1,500 and \$2,500 have not been reported since October 1989. As a result, the factors do not adequately reflect the rise of air express (courier) trade, "just in time" processing and other developments that have likely increased the proportion of low valued trade. Census has little information on which to accurately assess the effects of changes in trade patterns. The trade data reconciliations conducted in the late 1980s and early 1990s provided some evidence that the value of export transactions below the exemption level is underestimated and the value of import transactions below the exemption level is overestimated.

D. *Late Filing*

Late filing and other problems may result in some import or export shipments not being included in the correct month's statistics. During the early 1980s, scarce resources caused Customs to relax its procedures for handling statistical documents. These changes, coupled with dramatic increases in the numbers of import and export transactions, delayed the delivery of large numbers of documents to the Census processing center. Often these late arrivals were too late for inclusion in the proper month's statistics. Because these shipments carried over into a subsequent month's statistics, Census coined the term "carry-over."

During the period 1984 to 1988, Census and Customs introduced changes to collection and processing procedures to reduce the effect of carry-over on the statistics. Ultimately, Census delayed the merchandise trade release to allow more time for receipt and processing of documents. In addition, it revised prior month trade totals to credit the value of any remaining late documents to the proper statistical month.

The increased use of automated reporting has also improved the timeliness of the data and decreased carry-over. Import and export carry-over is usually between 0.5 and 1.5 percent of the total value for the month. In 2000, for exports, however, carry-over reached a high of 2.0 percent of the monthly value. The higher than normal percentages were due to several new filers using AES and developmental problems on AES. These problems have been corrected and the carry-over percentages in 2001 were between 0.1 and 1.0 percent.

As a result of increased automation and other improvements, beginning with January 2003, the statistics will be released roughly seven days earlier than they have been released in recent years, generally within forty-five days of the end of the reference month. We anticipate only a slight rise carry-over as a result of releasing the data earlier.

E. Reporting Errors

Reporting errors are mistakes or omissions made by importers, exporters or their agents when reporting import or export shipments. Most errors involve missing

or invalid commodity classification codes and missing or incorrect quantities or shipping weights. They have a negligible effect on import, export and balance of trade statistics. However, they can affect detailed statistics significantly if not corrected or corrected inaccurately.

Data from 2001 show that an average of 17 percent of all export transactions and eight percent of all import transactions contain one or more reporting errors, although error rates for transactions reported on paper documents are much higher (see section on quality and automated reporting). Most of these errors are easily and accurately resolved with no significant effect on the published statistics.

The data are subjected to several types of processes to detect and correct these errors. The AES and ABI contain on-line validation checks that immediately detect reporting errors and refer these errors back to the filer for correction.

In addition, data from all sources are edited and errors corrected through clerical or electronic means. Clerical correction is time consuming and expensive. Defective data referred for clerical correction costs more to process than data that successfully pass the edits. In addition, data referred for correction may not get into the correct statistical month. Electronic corrections or imputes, which are less expensive, may introduce some error into the statistics. Therefore, the most accurate and cost-effective means of resolving reporting errors is to prevent them from occurring.

Beginning in 1991 Census introduced programs to reduce reporting errors by educating Customs staff, exporters and forwarding agents about the statistical reporting requirements.

Customs Port Briefings

Port briefings, conducted in the 1990s, consisted of a review of Customs statistical collection activities followed by briefings for Customs staff. These briefings helped increase Customs staff awareness of their role in the collection of merchandise trade statistics. The review, conducted

before the briefing, provided background information for the briefings and frequently led to suggested improvements in Customs processes.

Exporter Education Program

The goal of the Exporter Education Program (EEP) was to improve the quality of statistics by reducing the SEDs submitted with missing, obsolete, or invalid information. The EEP identified exporters responsible for reporting errors, educated them in proper reporting, tracked their improvement, and performed follow-up as appropriate.

During the initial two phases of EEP, in 1991 and 1992, we concentrated on contacting exporters responsible for specific types of reporting errors. We mailed more than 80,000 educational packets consisting of letters, other educational materials, and samples of defective documents filed by the pertinent exporter. Follow-up analysis showed the program reduced reporting errors on SEDs about 20 percent.

The final phase of EEP, that began with January 1993 statistics, took a different approach. Instead of targeting exporters making certain types of errors, this phase targeted 16 exporters who accounted for the most reporting errors on SEDs and profiled their performance. Census analysts contacted the exporter by telephone and discussed the reporting errors with the parties responsible for document preparation. The telephone conversation was confirmed with a letter. Virtually all 16 exporters we selected showed immediate significant improvement. Follow-up analysis of the final phase showed that the program reduced reporting errors on SEDs by 33 percent and the associated value by 38 percent for targeted exporters. Also 11 exporters eliminated their reporting errors entirely. This process successfully reduced reporting errors by encouraging a personal and interactive relationship between analysts and document preparation personnel at the exporting company.

The Exporter Education Program ended in 1994, however, we continue to identify, contact, educate, and conduct follow-up with filers making reporting errors on SEDs. For example, the NPC sends inaccurate or incomplete paper SEDs to Census headquarters so that staff can contact the qualified exporter or freight forwarder to acquire the correct information. The correct data are then entered into AES. This process is successful in two ways. First, the company filing the data is educated as to the correct way to complete an SED. Second, Census has an opportunity to market AES to companies still filing data via paper documents.

Foreign Trade Export Seminar Program

In September 1999, Census initiated a new seminar series designed to inform export data providers of export regulations and requirements. The seminars explain to participants the activities of various federal agencies involved in the export process; how to correctly complete and file SEDs; AES and its advantages; terms used by the foreign trade community; and the Foreign Trade Statistics Regulations, 15 CFR, Part 30.

Census holds between 10 and 12 seminars per year with 50 to 200 attendees at any one seminar. Speakers for the seminars include Census staff, Customs staff, and trade specialists from other government agencies and private organizations. Using participant feedback as a measure, this seminar series has been very successful in providing export data providers with the information necessary to file timely and accurate statistics.

AES User Meetings

Census and Customs jointly hold about six meetings for AES users each year. The meetings are designed to inform the trade community of the latest happenings in AES including information on system enhancements; common reporting problems; and Foreign Trade Statistics Regulations. The goal is to host two meetings each year on the east and west coast and one in a southern and central state.

Participation averages between 50 to 125 people. These meetings have been so successful that the trade community requested an additional meeting in New York City, a heavy volume exporting port.

The AES User Meetings educate the trade community so that their electronic reporting is timely and accurate. By hosting user meetings throughout the country, Census reaches a large segment of the trade community, readily responding to their needs and improving export trade statistics.

F. *Data Capture Errors*

As explained earlier, Census captures import and export information from administrative documents and through various automated collection programs. It subjects data from each source to various checks to ensure accurate capture of the information.

Automated Submissions

Data received through automated collection programs (ABI, AES, and U.S.-Canada Data Exchange) are screened upon receipt to ensure completeness and an acceptable level of accuracy. On-line validations and commodity specific edits are applied to data reported electronically. Other security procedures guard against file damage that may compromise the integrity of the data.

Paper Documents

Census uses a combination of data entry edits and keying verification to ensure the accurate capture of information from the SEDs and Customs Entry Forms. Automated data entry checks validate all critical data fields and signal the keyer when the information is invalid. This process prevents many keying errors and intercepts many reporting errors.

After data entry, the keyed information is subjected to sample verification. Certain information common to all transactions and all information for transactions valued over \$1 million for imports and for exports is 100 percent verified. Lower valued

transactions are verified from a one percent sample of documents. This provides the information to assess the quality of keying and to promote or demote keyers from sample verification. Only fully qualified keyers may key documents valued over \$1 million, and may key other documents at the one percent sample rate. These keyers maintain a field keying error rate of one half of one percent or less.

G. *Quality and Automated Reporting*

The increased use of automated reporting has generally improved the quality of the merchandise trade statistics.

In 2001, Census received 99 percent of import transactions and 85 percent of export transactions electronically. As explained earlier, automated reporting allows Census to receive and compile the data quickly and include almost all shipments in the correct statistical month. Automated reporting minimizes lost data and provides better control over non-filing. Finally, since Census receives pre-edited data through the U.S.-Canada Data Exchange, ABI, and AES, the information arrives at the Census with fewer reporting errors. Recent studies show that 56 percent of export records captured from SEDs (export paper documents) contain an error as compared to about ten percent of pre-edited data records. Likewise, about 37 percent of data records captured from Customs Entry Forms 7501 (import paper documents) contains an error as compared to eight percent of automated records.

The enhanced quality of automated submissions results from the high standards required of automated reporters. Customs and Census test and approve all ABI brokers and AES participants before they can submit shipments electronically. In addition, many statistical Census edits reside in the Customs computer system that houses ABI and AES. These edits intercept data problems for return to the ABI broker or AES participant for resolution. Census and Customs client representatives track and assist filers who frequently report problem data; however, data filers who fail to resolve problems or who repeatedly make the same errors face possible fines or penalties.

Furthermore, Census edits also reside in the Statistics Canada import processing system to meet U.S. export needs. Representatives from the statistical and customs agencies of each country meet regularly to resolve any problems and keep abreast of any changes that may affect the export programs.

H. Disclosure Avoidance

For published reports, no disclosure analysis is performed. Anyone believing that their data may be disclosed in the published statistics at a commodity level, commodity by country level, or commodity by country by district level may send a written inquiry to Mr. C. Harvey Monk, Jr., Chief, Foreign Trade Division. Requests may be sent via facsimile at (301) 457-2645, e-mailed to C.Harvey.Monk.Jr@census.gov or mailed to Chief, Foreign Trade Division, U.S. Census Bureau, Washington, D.C. 20233.

I. Requests for Re-Verification of Trade Statistics

Data users may request a re-verification of recently released trade statistics. To request re-verification, data users submit formal, written requests to the Commodity Analysis Branch of the Foreign Trade Division. These requests include the Harmonized Commodity Classification Code, which is the Harmonized Tariff Schedule (HTS) number for imports and the Schedule B number for exports, the reason for requesting re-verification and the month(s) or year(s) in question. If the inquiry is restricted to trade with specific countries, the countries must be identified in the request. All requests for data re-verification are directed to the Chief of the Commodity Analysis Branch via facsimile at (301) 457-1158, e-mailed to Paul.E.Herrick@census.gov or mailed to Chief, Commodity Analysis Branch, Foreign Trade Division, U.S. Census Bureau, Washington, D.C. 20233.

III. ADJUSTMENTS

Census adjusts merchandise trade data to remove the effects of seasonal influences and price shifts. Adjusted data appear in the monthly **FT900, U.S. International Trade in Goods and**

Services, released by the Department of Commerce. The adjustments remove known or predictable influences that may obscure true changes in the volume of merchandise traded.

A. Adjustment for Seasonal and Trading Day Variation

These adjustments, computed using the Census X-12-Arima program (a variation of X-11 with Arima modeling), remove predictable calendar effects from the data. X-12 develops seasonal factors from historical series of data. The merchandise trade series exhibit a high level of irregular variation. To help overcome this problem, Census uses the mathematical modeling of X-12 to adjust for level shifts and outliers in the data series. The choice of model can affect the calculation of factors and will change over time as more data are added to the series. Generally the use of longer series will help clarify the seasonal patterns.

However, the adjustments will not remove all seasonal variation. If the timing and magnitude of the seasonal effect is not predictable or stable, Census cannot adjust the series. As working day effects (the differences between the level of trade on specific days of the week) are generally small, the high irregular variation of many series prevents accurate identification of these movements. Thus, while the final published series show no clear evidence of working day effect, some residual influence may be present.

B. Adjustment for Price Change

Besides seasonally adjusting the data, Census also publishes trade data on a constant dollar basis. The adjusted data provide an estimate of the change in the volume of trade, as distinct from value changes resulting from price shifts. Census bases the adjustments on the International Price Indexes (IPI) published by the Bureau of Labor Statistics (BLS), supplemented with deflators produced by the Bureau of Economic Analysis (BEA).

Census deflates trade in computers and peripherals using the quality adjusted hedonic deflator computed by BEA. The BEA uses the attributes (speed, memory capacity, etc.) of the computer equipment to estimate the value of

quality improvements over time. Prices relative to quality have dropped rapidly for this product grouping. As a result, computers and peripheral equipment comprise a larger part of total value on a constant dollar basis than on a current dollar basis. Users may wish to examine this area of trade separately from total trade.

Currently, the Census trade data are computed on a current-weighted basis. We are working to convert to the chain-weighted Fisher basis used by BEA in the National Accounts. We expect to implement this change in April 2003.

IV. Conclusion

The merchandise trade statistics program was originally designed to meet the basic needs of policy makers and provides reasonable estimates of total trade with other countries. However, the program has grown in scope and complexity, attempting to meet the needs of many different data user groups. For example, the program collects transportation data for air and vessel carriers, port authorities and the Department of Transportation. It also collects detailed commodity information for trade associations, marketing analysts and government agencies investigating the impact of international trade on local industry and economies.

The needs of data users expand and change continuously. Census and Customs strive to provide accurate and complete information for all data users. Realistically, however, the program meets the needs of some data users better than others.

To address the concerns of these many data users, Census will continue to release periodic quality profiles. These profiles will include the results of studies conducted to assess the quality of the data and any reports on the results of quality assurance programs. The profiles also will describe any changes in the programs that may effect the quality of the statistics. In this way, Census hopes to provide the information and knowledge needed to make its many data users "educated consumers" of the merchandise trade data.

Appendix A

DEPARTMENT OF THE TREASURY
UNITED STATES CUSTOMS SERVICE

ENTRY SUMMARY

Form Approved OMB No. 1545-0045

1. Entry No.		2. Entry Type Code		3. Entry Summary Date	
4. Entry Date		5. Port Code			
6. Bond No.		7. Bond Type Code		8. Broker/Importer File No.	
9. Consignee Designate Name and Address		10. Consignee No.		11. Invoice of Record Name and Address	
				12. Invoice No.	
		13. Booking Country		14. Paper Desc.	
		15. Country of Origin		16. Marking Programme	
17. State		17. HT No.		18. I.T. Date	
19. B.O. or AWB No.		20. Mode of Transporter		21. Manufacturer I.D.	
22. Importing Office		23. Foreign Port of Loading		24. Reference No.	
25. U.S. Port of Unloading		26. Import Date		27. Location of Goods U.S. No.	

Line No.	28. (A) T.S.U.S.A. No. B. ADA/CMB Case No.	29. (A) Gross Weight B. Manifest Qty.	30. (A) Net Quantity T.S.U.S.A. Units	31. (A) Entered Value B. CHGS C. Relationship	32. (A) T.S.U.S.A. Rate B. ADA/CMB Rate C. I.R.S. Rate D. Val. Inc.	33. Duty and I.T. Tax			
						Dollars	Cents		
<p>34. Declaration of Importer of Record (Owner or Purchaser) or Authorized Agent</p> <p>I declare that I am the importer of record and that the actual owner, purchaser or consignee for custom's purposes is as shown above. OR I have not obtained permission to purchase or acquire the goods shown above pursuant to a purchase agreement to purchase and that the prices set forth in the invoice are true.</p> <p>I also declare that the statements in the documents herein filed fully declare to the best of my knowledge and belief the true price, value, quantity, weight, measure, tare, common use, and origin and are true and correct, and that all goods or services provided in the entry of the merchandise either free or at reduced cost are fully disclosed. I will immediately furnish to the appropriate customs authority information including a detailed audit of facts.</p> <p><small>NOTICE: Required by Paperwork Reduction Act of 1995: This information is needed to ensure that importers or parties are complying with U.S. customs laws, laws used to develop and collect the right amount of money, to enforce other applicable laws, and to collect accurate statistical information on imports. Your response is mandatory.</small></p>						<p>U.S. CUSTOMS USE</p> <p>A. Lit. Code</p> <p>B. Assessed Duty</p> <p>C. Assessed Tax</p> <p>D. Assessed Draw</p> <p>E. Assessed Total</p>		<p>TOTALS</p> <p>Duty</p> <p>Tax</p> <p>Draw</p> <p>Total</p>	
<p>35. Signature of Declarant, Title and Date</p>									

PART 1 RECORD COPY

Customs Form 7501 (03/08/04)

Appendix B

1a. U.S. PRINCIPAL PARTY IN INTEREST (USPPI) (Complete name and address)					
ZIP CODE		2. DATE OF EXPORTATION	3. TRANSPORTATION REFERENCE NO.		
b. USPPI EIN (IRS) OR ID NO.	e. PARTIES TO TRANSACTION <input type="checkbox"/> Related <input type="checkbox"/> Nonrelated				
4a. ULTIMATE CONSIGNEE (Complete name and address)					
b. INTERMEDIATE CONSIGNEE (Complete name and address)					
5. FORWARDING AGENT (Complete name and address)					
			6. POINT (STATE) OF ORIGIN OR FTZ NO.	7. COUNTRY OF ULTIMATE DESTINATION	
8. LOADING PIER (Vessel only)	9. METHOD OF TRANSPORTATION (Specify)		14. CARRIER IDENTIFICATION CODE	16. SHIPMENT REFERENCE NO.	
10. EXPORTING CARRIER	11. PORT OF EXPORT		16. ENTRY NUMBER	17. HAZARDOUS MATERIALS <input type="checkbox"/> Yes <input type="checkbox"/> No	
12. PORT OF UNLOADING (Vessel and air only)	13. CONTAINERIZED (Vessel only) <input type="checkbox"/> Yes <input type="checkbox"/> No		18. IN BOND CODE	19. ROUTED EXPORT TRANSACTION <input type="checkbox"/> Yes <input type="checkbox"/> No	

26. SCHEDULE B DESCRIPTION OF COMMODITIES (Use columns 22-24)					YR/PRODUCT NUMBER/ VEHICLE TITLE NUMBER	VALUE (U.S. dollars, omit cents) (Selling price or cost if not sold)
DF or M	SCHEDULE B NUMBER	QUANTITY – SCHEDULE B UNITS	SHIPPING WEIGHT (Kilograms)	YR/PRODUCT NUMBER/ VEHICLE TITLE NUMBER	YR/PRODUCT NUMBER/ VEHICLE TITLE NUMBER	VALUE (U.S. dollars, omit cents) (Selling price or cost if not sold)
(21)	(22)	(23)	(24)	(25)	(25)	(26)

27. LICENSE NO., LICENSE EXCEPTION SYMBOL, AUTHORIZATION	28. BOCN (When required)
29. Duty authorized officer or employee The USPPI authorizes the forwarder named above to act as forwarding agent for export control and customs purposes.	
30. I certify that all statements made and all information contained herein are true and correct and that I have read and understand the instructions for preparation of this document, set forth in the "Correct Way to Fill Out the Shipper's Export Declaration." I understand that civil and criminal penalties, including forfeiture and sale, may be imposed for making false or fraudulent statements herein, failing to provide the requested information or for violation of U.S. laws on exportation (19 U.S.C. Sec. 305; 22 U.S.C. Sec. 401; 18 U.S.C. Sec. 1001; 50 U.S.C. App. 2410).	
Signature	Confidential – For use solely for official purposes authorized by the Secretary of Commerce (13 U.S.C. 301 fgl). Export of license and signature in violation of U.S. Customs laws and/or Office of Export Administration
	31. AUTHENTICATION (When required)
Telephone No. (include Area Code)	E-mail address

This form may be printed by private parties provided it conforms to the official form. For sale by the Superintendent of Documents, Government Printing Office, Washington, DC 20402, and local Customs District Directors. The "Correct Way to Fill Out the Shipper's Export Declaration" is available from the U.S. Census Bureau, Washington, DC 20233.

Appendix C
Annotated Bibliography

Bureau of the Census, 1992, "Adjustment of Foreign Trade Data for Seasonality and Price Change." Foreign Trade Division, Bureau of the Census, U.S. Department of Commerce, Washington, DC.

This technical paper explains the origin of the constant dollar series and the methods used to seasonally adjust and deflate the merchandise trade data. Contact: Kathy Puzzilla (301) 763-7003.

Bureau of the Census, 1998, "Understatement of Export Merchandise Trade Data." Foreign Trade Division, Bureau of the Census, U.S. Department of Commerce, Washington, DC.

This technical paper explains reasons for the understatement of the value of U.S. exports and proposed solutions to correct this understatement. Contact: David Dickerson (301) 763-3080

National Research Council, Panel on Foreign Trade Statistics, 1992, Behind the Numbers: U.S. Trade in the world Economy. Washington, DC: National Academy Press.

This report covers issues related to the merchandise trade statistics and the need for information to guide the public and private sectors in the current world economy. From a quality standpoint, it focuses on improving data collection, accuracy and analysis.

Mozes, Steven and Oberg, Diane, 1990-2001 "U.S.-Canada Data Exchange." Statistics Canada and Bureau of the Census.

This technical paper gives detailed information on the U.S.-Canada Data Exchange. Contact: Diane Oberg (301) 763-2223

Appendix D
Glossary of Acronyms

ABI - Automated Broker Interface
ACE - Automated Commercial Environment
AERP - Automated Exporter Reporting Program
AES - Automated Export System
BEA - Bureau of Economic Analysis
BLS - Bureau of Labor Statistics
CF - Customs Form
EC - European Community
EEP - Exporter Education Program
FTZ - Foreign Trade Zone
GDP - Gross Domestic Product
HTS - Harmonized Tariff Schedule
IPI - International Price Indexes
NPC - National Processing Center
SED - Shipper's Export Declaration