Effect of Mandatory Electronic Filing on Export Data

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Introduction

Effective July 2, 2008, the U.S. Census Bureau (Census Bureau) began requiring mandatory filing of export information through the Automated Export System (AES) for all shipments where a Shipper's Export Declaration (SED) was required. As of October 1, 2008 all export information is collected electronically, with the exception of a few remaining paper-SED filers who will receive penalties once the mitigation guidelines are implemented by the US Customs and Border Protection (CBP), effectively eliminating paper SEDs. The purpose of this paper is to examine the impact this new rule will have on the data with regards to data quality, coverage, and timeliness.

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Background

Information on U.S. exports of merchandise from the United States to all countries, except Canada, is compiled from copies of SEDs and Electronic Export Information (EEI) reported in AES by qualified US Principal Parties in Interest (USPPIs), forwarders, authorized agents, or carriers. Each SED represents a shipment of one or more kinds of merchandise from one USPPI to one foreign importer on a single carrier. Filing the SED, or EEI, is mandatory under Chapter 9, Title 13, of the United States Code. Historically, the U.S. Customs and Border Protection collected the SED at the port of export and

subsequently transmitted it to the National Processing Center to be keyed. The keyed data are then sent to the Census Bureau for further processing. With the advent of AES, qualified USPPIs, forwarders, or carriers were able to bypass the keying step and submit export data by automated means, but the option to submit data by paper instead still remained. Before the publication of the new regulation, about 1 percent of records (2 percent of total value) were filed via paper each month. The new regulation requires all filers to submit data using the automated system, and will eliminate the use of paper SEDs. In general, the Census Bureau expects the move to eliminate the use of paper SEDs will result in an overall improvement in data quality due to a reduction in reporting errors and improvements in coverage and timeliness.

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Data Quality

Online Validation

Reporting errors are mistakes or omissions made by USPPIs, or their agents, when reporting export shipments. Most errors involve missing or invalid commodity classification codes and missing or incorrect quantities or shipping weights. The AES contains on-line validation checks that immediately detect reporting errors and refer these errors back to the filer for correction before the data can be submitted. Paper SEDs have no such immediate checks and must be edited or corrected after submission, a more costly and time-consuming endeavor. A significant decrease in reporting error rates on export transactions was noted when automated reporting options became readily available and more filers opted for them. Analysis of 2007 data show that on average 57.3 percent of export records captured from paper SEDs contain a reporting error as compared to only about 10 percent of electronically submitted data. With the implementation of all electronic data submission, online validation checks will be done up front on all the data, and we expect a lower rate of reporting errors than with paper submissions.

Elimination of Prorated Shipping Weight Estimates

Paper SEDs also contribute to reporting errors by allowing for USPPIs to report only the total shipping weight for an entire shipment when the mode of transportation is air. Shipping weights for all the transactions within the shipment are then estimated by distributing the total shipping weight among all the transactions. Electronically submitted data must be reported at the transaction level, eliminating the need to produce prorated estimates for transaction shipping weight and improving data quality.

AES Report Card

Electronic filing through AES also improves data quality by allowing for monitoring of filers through the AES Report Card. The Census Bureau's Foreign Trade Division's AES Branch monitors filer errors through the AES report card and reaches out to educate filers who continue to repeat mistakes when filing. In addition, the Foreign Trade Division's AES Compliance Review Program is designed to provide best practice recommendations to non-compliant companies for reporting export information. This monitoring helps the Census Bureau to identify any improvements that can be made to data editing procedures.

Elimination of Port Cover Page

Certain paper SEDs come from the ports grouped together with a cover page. These bundled SEDs have the same District of Lading, Port of Lading, Schedule D Code, Date of Departure, Manifest Number, District of Unlading, and Port of Unlading, which are all reported and keyed from the cover page. All other data are specific to each record, and keyed in from each record's respective SED. Since the data in the cover page are used for every record in the bundle, if a reporting error is present in the cover page that reporting error will be repeated for every record in the bundle. Electronic data collection through AES will eliminate port cover pages and remove the corresponding possibility of the proliferation of a single reporting error on the cover page to each record within the bundle. However, elimination of the port cover page may also increase the likelihood of errors in the reporting of the port of exportation. AES records are often filed before shipments actually leave ports, and though filers are supposed to correct any changes once the shipments leave and the carrier informs them of the actual port of exportation, we do not know how many filers comply. The U.S. Customs and Border Protection at the port actually fills out the port cover page so the port of exportation for those records included in a bundle is more reliable.

Elimination of Paper 'Basket' HS Code

Automated data collection allows for the immediate checking of data submitted, so if a filer submits an invalid HS code the automated system rejects the filer's submission and requires them to immediately correct the HS code before the data are accepted. Paper SEDs have no such check and, as a result, transactions valued over $20,000 with invalid HS codes are rejected during data processing. Filers may be contacted to correct the records, sometimes resulting in the data being delayed until after the appropriate statistical month. For transactions valued under $20,000 the 'basket' HS code 9809.00.5000 was created to lump together all SED submissions where the HS code is keyed improperly or unable to be keyed from the SED. The recoding was necessary to maintain timeliness without significantly sacrificing quality, since the values of these transactions are low. On average about 0.04% of the total export value (0.12% of total data records) are lumped into this "basket" HS code each month. By eliminating paper SEDs we also eliminate the need to create the artificial HS code for unidentifiable transactions, and are able to reject invalid HS submissions in real time, resulting in more accurate and timely data.

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Data Coverage

Elimination of Data Collection Problems at Ports

The U.S. Customs and Border Protection collects paper SEDs at the port of export and mails them to the National Processing Center for keying. This presents a unique data collection problem with the physical handling of numerous sheets of paper. For example, some border ports have multiple lanes for transit vehicles to pass through, where bins are present for filers to drop off the paper SEDs (much like paying a toll at a toll booth). However in many ports not all lanes have deposit bins for the paper SEDs resulting in some SEDs being thrown out the window onto the ground or not dropped off

at all. By requiring all filers to electronically report data there will no longer be these problems with collecting and mailing paper SEDs, resulting in improved coverage of overland exports.

Non-Compliance

For a small number of filers, especially those who were among the last to continue filing by paper, adapting to AES might have a negative impact on data quality. Unresolved fatal errors could increase the likelihood of delayed receipt of data or even non-filing if the errors are not resolved. In addition, some paper filers may not make the transition to electronic filing and stop filing their data. This could result in penalties for the filer and a potential loss in data coverage. The Foreign Trade Division has a plan in place to monitor the data of traditional paper files through the transition by identifying and addressing any drop-offs in filings, therefore minimizing any negative impact on data coverage.

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Timeliness of Data

Reduction in Carryover

Electronic data collection improves the timeliness of the data since the Census Bureau extracts the data directly from the AES and can immediately begin processing them. Data reported on paper SEDs may not be as timely. This can occur when the National Processing Center does not receive SEDs before monthly deadlines. Estimation measures, known as carryover, are used to account for these data, which are received too late to include in the proper month of statistics. The move to all electronic data collection will eliminate carryover from SEDs received too late, and as a result, improve data quality by reducing the amount of data that must be estimated each month by the Census Bureau. However, there may also be an increase in filers estimating their data to meet the timing requirements of filing through AES.

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Conclusion

The implementation of the regulations and subsequent move to an all automated data collection process will have an overall positive impact on the quality, coverage, and timeliness of export data. These improvements will be achieved through more complete and timely data collection via the AES system, up front validation checks of data, and reduced reporting and keying errors. In addition, the Census Bureau will continue to conduct visits to ports and USPPIs to provide further education and ensure compliance. While the move to mandatory electronic filing of export data represents an improvement in the quality of our data, we will continue to research any additional opportunities to increase the quality, coverage, and timeliness of export statistics.

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