AN ANALYSIS OF THE EFFECT OF INCREASING THE EXPORT REPORTING EXEMPTION LEVEL

by

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1. Introduction

In 1986 Foreign Trade Division considered several
alternatives for controlling the increasing workload and costs
associated with preprocessing and keying operations on the import
and export data in Jeffersonville. Among the potential solutions
considered were (1) sampling Shipper's Export Declarations (SEDs)
with line item values between the reporting exemption level and a
specified cutoff value and (2) increasing the reporting exemption
level for export shipments from its level of $1000 at that time
to some larger value. The effect of the first alternative on the
detailed export series in terms of projected number of series no
longer published in a particular month is described in a
memorandum from Gbur to Walter ("Feasibility of Sampling SEDs
under $2500", dated Sept. 10, 1986). Since the potential effect
is so devastating, especially for the commodity by country by
district by mode of transportation series published in EM522, it
was decided instead to increase the reporting exemption level for
exports.

The export exemption level was increased from $1000 to
$1500. Processing changes were implemented in January 1987 and
regulatory changes will become effective on July 1, 1987. A
memorandum from Puzzilla to Adams ("Proposal to Raise the Export
Exemption Level to $1500", dated Oct. 31, 1986) gives estimates
of the workload and cost savings and the impact on the aggregate
export series. Additional information can be found in a
memorandum from Dickerson to Walter ("Impact of Raising Export
Exemption Level to $1500 - Supplement to Oct. 31 Memorandum",
dated Nov. 6, 1986).

This report presents the results of a more detailed study of
the effect of raising the exemption level from $1000 to $1500. A
draft of the summary for use in the text of export publications
can be found in a memorandum from Gbur to Walter ("The Effect of
Increasing the Export Reporting Exemption Level", dated Feb. 19,
1987) and has been reproduced as Appendix 1 of this report. The
draft text which will be published as an announcement attached to

the publications for the March 1987 export statistics can be found in Appendix 2.

Section 2 of this report contains the details of our analysis. An overall summary and conclusions are given in Section 3.

2. An Analysis is of the Effect of Increasing the Export Exemption Level

Four months of 1986 data were used to evaluate the effect of increasing the reporting exemption level from the $1000 to $1500; March, June, September, and December. These months were chosen to provide insight into the month to month variability of the effect on the export statistics and to provide a gross indication of any time differences in the effect. In each study month, the total value of shipments between $1000 and $1500 was computed for each export series and compared to the corresponding value of all shipments for that series. Analyses of these percentages were carried out.

Summary data files at the seven digit commodity by country by mode of transportation (MOT) levels were constructed by Ron Catzva (FTD) for March, September, and December. Two files obtained from Dave Dickerson (FTD) combined to form the June data file. Domestic and foreign export data were combined. Shipments to Puerto Rico and U.S. possessions were deleted. Computations were carried out on the Univac using a combination of FORTRAN and Minitab programs. The latter is a statistical package.

Three factors were used to define the classes of export series analyzed in this study; commodity code, country code, and MOT. In addition to total exports and the three classes of series defined above, all possible combinations of the factors were used to construct sets of series. The four additional classes are defined by commodity (4 digit) by country, commodity (4 digit) by MOT, country by MOT, and commodity (7 digit) by country by MOT. Only Schedule E commodity codes were utilized in the analysis. They were chosen instead of Schedule B since they are used in FT900, FT990, and the majority of the export

publications. At the seven digit level there is a one to one correspondence between the two schedules so that the effect in publications such as EM522 which contain detailed series using Schedule B codes can be assessed.

In this report the term "shipment" will be defined as a line item on a potentially multi-line SED. The term "low value shipment" will be taken to mean a shipment between the old exemption level of $1000 and the new level of $1500. The rationale for this definition is that such a shipment is among the smallest in value for which information was collected. In the study months it represents that portion of the originally reported data which would have been excluded from the tabulations if the new exemption level rather than the old had been in force. This differs from the usage of the term found in the text of the export publications where it refers to shipments under $1000 for which no information is available. Rather than introduce a new term for this segment of what will become the entire set of low value shipments under the new exemption level, we have decided to abuse the current terminology. If the distinction is kept in mind, no confusion should result.

2.1. Total Exports

The effect of the increase in the exemption level on the total export series in the four study months is summarized in Table 1. Although there is some monthly variation, the effect, both in terms of dollar value and low value as a percentage of the total value, is small. There are no apparent time trends. Over the four study months low value shipments totalled $461.7 million. Extrapolation would yield an estimated annual loss of approximately $1.39 billion.

Using May 1986 data, the Puzzilla to Adams memorandum estimated that approximately 75,000 SEDs would be eliminated from the processing cycle each month. This represents approximately 13% of all SEDs. The effect of the increase in the exemption level in terms of line items is given in Table 2 for three study

months. The June data file as constructed did not contain the
necessary line item counts to be included in the table. The line
item results in Table 2 agree closely with those for SEDs in the
Puzzilla memorandum.

Table 1. Effect of the Increase in the Exemption Level
on the Value of Total Exports

| | Study Month | | | |
	March	June	Sept.	Dec.
Total value*	$18912.9	$17518.1	16934.1	$18431.2
Low value*	$122.0	$122.5	$100.5	$116.7
Percent low value	0.67%	0.70%	0.59%	0.63%

* Entries are in millions of dollars.

Table 2. Effect of the Increase in the Exemption Level
on the Number of Line Items Processed

| | Study Month | | |
	March	Sept.	Dec.
Total count	735,483	719,547	708,383
Low value count	98,444	98,784	94,006
Percent low value	13.4%	13.7%	13.3%

2.2. Country Level Export Series

The percentage of the total value of exports consisting of
low value shipments was calculated by country for each study
month. The distributions of these low value percentages by month
are summarized in Table 3. These monthly distributions are
skewed to the right with median percentages ranging from 0.5% to
0.6%. There is very little variation in the overall shape of the
distribution from month to month.

Approximately 98% of the countries each month had less than
5% of their total value of exports made up of low value
shipments. Countries with more than 5% of their total formed
from low value shipments are listed in Table 4. These series
accounted for a total of only $8.1 million, or approximately 0.1%

Table 3. Summary of the Monthly Distributions of Low Value Percentage of Country Series

| | Study Month | | | |
	March	June	Sept.	Dec.
Number of countries	164	161	163	161
Number with 0% low value	13	17	14	15
Number with 100% low value	1	1	0	0
Lower quartile	0.2%	0.2%	0.3%	0.2%
Median	0.6%	0.5%	0.6%	0.5%
Upper quartile	1.0%	1.1%	1.1%	1.1%
Largest percentage	31.0%*	33.1%*	7.9%	14.2%

*Excludes countries having all shipments under $1500. See Table 4.

Table 4. Countries with Low Value Percentages Greater Than 5%

Study Month	Country Code	Country	Total Value*	Percent Low Value
March	244	Cayman Islands	$6.54	5.1%
	574	Mongolia	m	100.0%
	780	Seychelles	$0.03	31.0%
			$6.57	
June	243	Turks and Caicos Is.	$0.82	8.4%
	481	Albania	j1	100.0%
	767	Burundi	$0.03	5.3%
	778	Uganda	$0.04	6.3%
	790	Fr. Indian Ocean Areas	j2	33.1%
			$0.90	
Sept.	317	Fr. Guiana	$0.33	7.2%
	536	Nepal	$0.13	5.5%
	780	Seychelles	$0.03	7.9%
			$0.49	
Dec.	239	Cuba	$0.04	7.2%
	797	Malawi	$0.05	14.2%
			$0.09	

*Entries are in millions of dollars.
m = $1154; j1 = $1412; j2 = $7725.

of total exports in the four study months. Two instances were encountered in which all shipments were low valued. This occured in March for Mongolia (one shipment valued at $1154) and in June for Albania (one shipment valued at $1412). Thus, it is possible for countries which would have been tabulated under the old exemption level to no longer be included in the tabulations based on the new exemption level. This appears to occur infrequently and in situations in which very little trade is involved. However, regardless of their relative unimportance, the disappearance of series in a given month at this level of aggregation is disturbing and should be carefully monitored if future increases in exemption levels are contemplated.

Estimates of the within country variability over time were obtained from the available monthly low value percentages for each country. The country means over the study months ranged from 0% to 11.7%, with a median of 0.6%. As with the monthly distributions, the distribution of the mean percentage is skewed to the right. A plot of the country means is shown in Figure 1, where rectangles have been added to emphasize the differences in variation at the one digit level. From the figure, percentages for Asia (500's) tend to be small while those for Central America (200's) and Africa (700's) tend to be slightly larger and more variable.

The median standard deviation of the country samples was 0.18% with upper and lower quartiles of 0.48% and 0.08%, respectively. Thus, except for the effect of the occasional outliers listed in Table 4, there is relatively little within country variation in the low value percentages over time.

2.3. Schedule E Commodity Export Series

The seven digit Schedule E commodity series were aggregated to the four digit level and low value percentages were calculated. The distributions of these percentages for each study month are summarized in Table 5. The monthly distributions are skewed to the right with median percentages of approximately 0.75%. There is very little difference in the distributions from month to month. A

Figure 1.
**Plot of the Mean Low Value Percentages for the
Country Level Series**
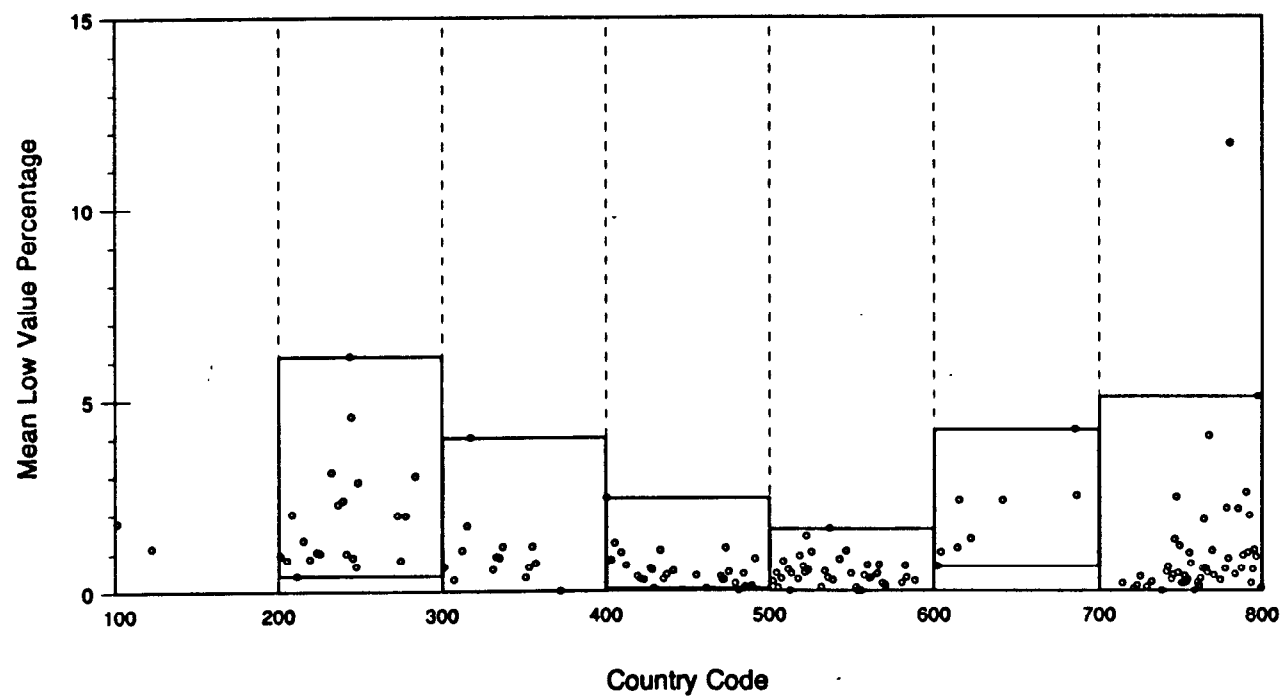
comparison of Tables 3 and 5 shows that the country and commodity distributions have roughly the same right skewed shape but that the commodity series have somewhat longer upper tails.

In each study month more than 99% of the commodity series had less than 10% of their total consisting of low value shipments. Series with low value percentages greater than 10% are listed in Table 6. They account for a total of only $12.1 million dollars in the four study months, representing less than 0.2% of the total value of exports in these months. The majority of the series in Table 6 are food and live animal series (Section 0). As with the country level series, examples occur in which all shipments in a series for a particular month fall between the old and new exemption level and would have appeared under the old exemption level but not under the new one.

Estimates of within commodity series variation were obtained from the available monthly low value percentages. The mean percentages are plotted against the commodity code in Figure 2. From the graph we see that the range of mean percentages depends on the commodity type. As a group, Section 3 (mineral fuels and lubricants) series have the smallest low value percentages while Section 0 (food and live animals) series have more variable percentages. The median commodity series mean was 0.79% with upper and lower quartiles of 1.66% and 0.24%, respectively. The median standard deviation was 0.18% with upper and lower quartiles of 0.43% and 0.06%, respectively. As was the case with the country level series, there is relatively little within commodity series variation in the low value percentages over time.

2.4. Mode of Transportation Level Series

Although mode of transportation series are not published by themselves, they do provide some insight into the differential effect of the increase in the exemption level on the three major MOT categories. Table 7 summarizes the results for dollar values and Table 8 provides similar information for line item counts.

Table 5. Summary of the Monthly Distributions of Low Value Percentages for 4-digit Schedule E Commodity Series

| | Study Month | | | |
	March	June	Sept.	Dec.
Number of commodities	646	646	645	645
Number with 0% low value	52	54	47	55
Number with 100% low value	1	0	2	0
Lower quartile	0.2%	0.2%	0.2%	0.2%
Median	0.8%	0.7%	0.7%	0.7%
Upper quartile	1.7%	1.7%	1.7%	1.6%
Largest percentage	25.6%*	18.2%	42.5%*	48.2%

*Excludes commodities with all shipments under $1500. See Table 6.

Table 6. Commodity Series with Low Value Percentages Greater Than 10%

Study Month	Schedule E Code	Total Value*	Percent Low Value
March	0112	$0.15	11.5%
	0451	$0.01	25.6%
	0541	$0.72	23.4%
	0582	$0.03	14.0%
	2610	m	100.0%
		$0.91	
June	0230	$0.04	10.0%
	0576	$0.01	18.2%
	6354	$0.23	12.0%
		$0.28	
Sept.	0541	$0.57	13.3%
	0545	$8.63	10.3%
	0611	s1	100.0%
	2490	$0.48	42.5%
	2610	s2	100.0%
		$9.68	
Dec	0541	$0.71	16.5%
	2490	$0.45	48.2%
	8473	$0.06	10.7%
		$1.22	

*Entries are in millions of dollars.
m = $1425; s1 = $1072; s2 = $1317.

Figure 2.
**Plot of the Mean Low Value Percentages for
Schedule E Commodity Codes**

Schedule E Commodity Code
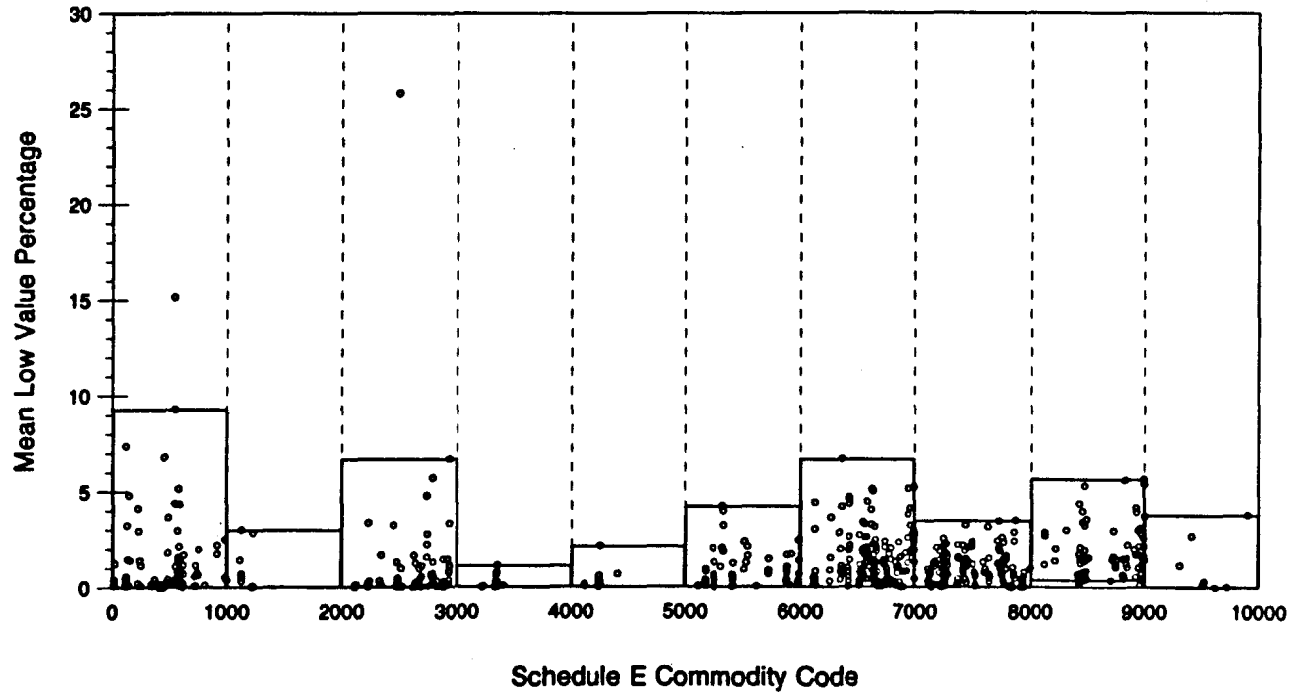
**Table 7. Effect of the Increase in the Exemption
Level by Mode of Transportation**

| | Study Month | | | |
	March	June	Sept.	Dec.
Total value *				
Vessel	$8190.1	$6940.0	$7325.7	$8011.9
Other	$5589.0	$5406.8	$4790.4	$5365.0
Air	$5133.8	$5171.4	$4818.0	$5054.3
Low value *				
Vessel	$15.3	$13.0	$13.4	$12.5
Other	$44.9	$52.4	$34.4	$48.5
Air	$61.9	$57.1	$52.7	$55.6
Percent low value				
Vessel	0.2%	0.2%	0.2%	0.2%
Other	0.8%	1.0%	0.7%	0.9%
Air	1.2%	1.1%	1.1%	1.1%
Distribution of low value total over MOT				
Vessel	12.5%	10.6%	13.3%	10.7%
Other	36.8%	42.8%	34.2%	41.6%
Air	50.7%	46.6%	52.5%	47.7%

*Entries are in millions of dollars.

**Table 8. Effect of the Increase in the Exemption
Level on the Number of Line Items Processed**

| | Study Month | | |
	March	Sept.	Dec.
Total items			
Vessel	170,862	146,843	150,450
Other	243,357	273,551	264,345
Air	321,264	299,153	293,588
Low value items			
Vessel	12,380	10,491	10,155
Other	36,263	42,281	39,139
Air	49,801	46,012	44,712
Percent low value			
Vessel	7.3%	7.1%	6.8%
Other	15.0%	15.5%	14.8%
Air	15.5%	15.4%	15.2%
Distribution of low value items over MOT			
Vessel	12.6%	10.6%	10.8%
Other	36.8%	42.8%	41.6%
Air	50.6%	46.6%	47.6%

From Table 7, the value of air shipments are the most affected of the three MOT; but even for air shipments low value exports accounted for only a small portion (no more than 1.2%) of the total value. The last panel of the table demonstrates our conclusion that air shipment values are affected the most; approximately half of the dollar value of low value exports in each study month was from air shipments. In contrast, the effect on vessel shipments was much smaller.

As before, line item counts for June were not available on our data file. For each of the three remaining study months, approximately 15% of the line items for air and other MOT would not have been processed under the new exemption level. Slightly less than half of that percentage would have been eliminated for vessel shipments. As expected, the line item distribution over the MOT categories in Table 8 agrees closely with that of the dollar value distribution in Table 7 since the range of values for low value shipments is relatively small.

2.5. Schedule E Commodity by Country Series

Low value percentages were computed for the approximately 26000 four digit Schedule E commodity by country series in each study month. The distributions of these percentages are presented in Table 9 and some summary statistics are given in Table 10.

From Table 10, in each study month more than half of the series contained no low value shipments and thus would not have been affected by the increase in the exemption level. At the other extreme, approximately 1200 series per month were composed entirely of low value shipments and would have been published under the old exemption level but not under the new level. This represents an average of 4.6% of the series in this class with a total value of approximately $1.7 million dollars per month.

In Table 11 the 100% low value series are cross-classified by their one digit commodity and country codes. The distributions of the dollar values of these series are shown in Table 12.

Table 9. Distributions of the Percentage of Low Value Shipments for Commodity by Country Series

Interval		March			June			September			December		
		Count	Dist	CumDist	Count	Dist	CumDist	Count	Dist	CumDist	Count	Dist	CumDist
0	5	22292	.8346	.8346	21851	.8293	.8293	21412	.8345	.8345	21881	.8440	.8440
5	10	1375	.0515	.8861	1381	.0524	.8817	1253	.0488	.8834	1262	.0487	.8927
10	15	582	.0218	.9079	609	.0231	.9048	593	.0231	.9065	503	.0194	.9121
15	20	343	.0128	.9207	382	.0145	.9193	355	.0138	.9203	325	.0125	.9247
20	25	246	.0092	.9299	233	.0088	.9282	233	.0091	.9294	238	.0092	.9338
25	30	176	.0066	.9365	166	.0063	.9345	163	.0064	.9358	137	.0053	.9391
30	35	131	.0049	.9414	130	.0049	.9394	135	.0053	.9410	122	.0047	.9438
35	40	123	.0046	.9460	131	.0050	.9444	134	.0052	.9463	136	.0052	.9491
40	45	96	.0036	.9496	88	.0033	.9477	93	.0036	.9499	73	.0028	.9519
45	50	44	.0016	.9513	45	.0017	.9494	41	.0016	.9515	50	.0019	.9538
50	55	15	.0006	.9519	23	.0009	.9503	22	.0009	.9523	20	.0008	.9546
55	60	24	.0009	.9527	30	.0011	.9514	32	.0012	.9536	18	.0007	.9553
60	65	18	.0007	.9534	13	.0005	.9519	9	.0004	.9539	16	.0006	.9559
65	70	8	.0003	.9537	6	.0002	.9521	11	.0004	.9544	7	.0003	.9562
70	75	0	.0000	.9537	5	.0002	.9523	2	.0001	.9544	5	.0002	.9564
75	80	5	.0002	.9539	1	.0000	.9524	3	.0001	.9546	3	.0001	.9565
80	85	1	.0000	.9539	1	.0000	.9524	2	.0001	.9546	1	.0000	.9565
85	90	0	.0000	.9539	0	.0000	.9524	1	.0000	.9547	0	.0000	.9565
90	95	0	.0000	.9539	0	.0000	.9524	0	.0000	.9547	1	.0000	.9566
95	100	0	.0000	.9539	0	.0000	.9524	0	.0000	.9547	0	.0000	.9566
100		1230	.0461	1.0000	1254	.0476	1.0000	1163	.0453	1.0000	1126	.0434	1.0000

Table 10.   Summary Statistics for the Schedule E
Commodity by Country Series

		Study Month		
	March	June	Sept.	Dec.
Number of series	26709	26349	25657	25924
Number with 0% low value	15233	14989	14872	15146
Number with 100% low value	1230	1254	1163	1126
Percent with 0% low value	57.0%	56.9%	58.0%	58.4%
Percent with 100% low value	4.6%	4.8%	4.5%	4.3%

Approximately one-half of these series have commodity codes from
Sections 5 (Chemicals and related products) and 6 (Manufactured
goods classified chiefly by material). Section 7
(Machinery and transport equipment) had the largest number of
series among the remaining sections. Several sections were only
minimally affected each month. Series involving exports to Central
America (country code 2) accounted for slightly less then one-
fourth of such series. Series involving shipments to North America
(primarily Canada) were affected the least.

2.6.   Country by Mode of Transportation series

Low value percentages were calculated for each country by mode
of transportation. Summary results are presented in Table 13. In
general the value of low value shipments relative to the total
value was small. Series for modes of transportation other than air
or vessel were affected the least while air shipment series were
affected the most. However, for the overwhelming majority of the
series in each MOT category, less than 5% of the total consisted of
low value shipments. The unusually low entries in the first two
panels of Table 13 for other MOT in June appears to be related to
an unusually small number of countries having exports by this MOT;
96 countries in June as compared to 148, 147, and 150, respectively,
in the other three study months. An average of four series per
month consisted entirely of low value shipments. Their combined
value was negligible.

Table 11. Distributions of the 100% Low Value Commodity by Country Series

Distribution of the 100% low value commodity by country series as a percentage of all 100% low value series for March

Commodity	1	2	3	Country 4	5	6	7	Total
0	.00	4.63	.73	1.38	1.38	1.30	.73	10.16
1	.00	.33	.16	.16	.16	.24	.08	1.14
2	.08	1.22	.57	1.38	.89	.33	.73	5.20
3	.00	.33	.00	.16	.41	.00	.08	.98
4	.08	.24	.08	.24	.24	.00	.08	.98
5	.00	3.17	.73	2.68	2.44	.73	1.63	11.38
6	.00	7.07	3.25	5.85	4.47	1.30	3.01	24.96
7	.00	5.77	3.25	4.31	5.20	2.36	7.07	27.97
8	.00	4.47	2.03	2.85	3.58	.89	2.85	16.67
9	.00	.33	.00	.00	.08	.08	.08	.57
Total	.16	27.56	10.81	19.02	18.86	7.24	16.34	100.00

Distribution of the 100% low value commodity by country series as a percentage of all 100% low value series for June

Commodity	1	2	3	Country 4	5	6	7	Total
0	.00	3.67	.88	1.04	1.28	.56	.64	8.21
1	.00	.48	.24	.08	.32	.00	.16	1.28
2	.08	1.59	.64	1.44	1.12	.48	.56	5.98
3	.00	.24	.08	.08	.48	.00	.00	.88
4	.00	.32	.08	.24	.08	.00	.00	.72
5	.00	3.43	1.12	1.59	2.31	.96	2.07	11.00
6	.08	7.66	3.67	5.90	6.22	1.83	3.59	28.95
7	.00	5.34	3.19	3.67	5.34	1.59	5.42	24.56
8	.00	4.39	2.47	4.55	3.03	.88	2.55	17.86
9	.00	.16	.08	.16	.24	.08	.08	.80
Total	.16	27.27	12.44	18.74	20.41	5.90	15.07	100.00

Distribution of the 100% low value commodity by country series as a percentage of all 100% low value series for September

Commodity	1	2	3	Country 4	5	6	7	Total
0	.00	3.96	1.20	1.72	1.55	1.29	.69	10.66
1	.00	.34	.09	.43	.52	.17	.00	1.55
2	.00	1.55	.17	.77	1.03	.60	.60	4.73
3	.00	.26	.09	.09	.17	.00	.26	.86
4	.00	.26	.17	.00	.00	.00	.09	.77
5	.00	2.49	1.20	1.72	2.58	.52	1.89	10.40
6	.09	8.25	3.44	5.76	5.85	1.46	2.49	27.34
7	.00	7.05	2.67	4.04	5.33	1.89	4.99	25.97
8	.00	5.07	1.81	3.18	3.96	.86	2.06	16.94
9	.00	.09	.09	.26	.09	.09	.43	1.03
Total	.09	29.32	10.92	17.97	21.32	6.88	13.50	100.00

Distribution of the 100% low value commodity by country series as a percentage of all 100% low value series for December

Commodity	1	2	3	Country 4	5	6	7	Total
0	.00	3.46	.80	1.42	1.78	1.15	.44	9.15
1	.00	.89	.00	.00	.18	.00	.18	1.24
2	.18	1.69	.98	1.42	1.33	.80	.62	7.02
3	.00	.18	.09	.00	.18	.09	.09	.62
4	.00	.27	.18	.36	.00	.09	.09	.98
5	.00	2.31	.80	2.38	2.22	.36	1.78	10.04
6	.00	6.48	3.02	6.31	5.60	1.51	3.37	26.29
7	.00	5.42	2.58	4.44	5.60	1.78	6.31	26.11
8	.09	4.97	2.22	2.66	4.00	1.24	2.66	17.83
9	.00	.27	.00	.09	.18	.09	.18	.80
Total	.27	25.93	10.66	19.27	21.05	7.10	15.72	100.00

Table 12. Distributions of the Dollar Value of 100% Low Value Commodity by Country Series

Distribution of the dollar value of 100% low value series for March

Commodity	1	2	3	4	5	6	7	8	Total
0	0	4841	6420	2567	2567	7753	1290	0	25940
1	1425	18012	11219	24200	13870	5134	13658	0	87538
2	0	8843	0	2938	7418	0	1032	0	20231
3	1463	4736	1160	3516	3751	0	1166	0	15792
4	0	58444	11737	48764	39881	15261	24338	0	198445
5	0	127213	55669	99057	72106	19606	45495	0	419146
6	0	102899	52358	82563	83927	48780	119546	0	490073
7	0	88584	31246	54741	60160	14357	43981	0	293069
8	0	4764	0	0	4261	1098	1134	0	11257
9	94584	11249	20438	24445	25066	15039	0	0	190821
Total	97472	429585	190247	342791	313007	127050	251660	0	1751812

Distribution of the dollar value of 100% low value series for June

Commodity	1	2	3	4	5	6	7	8	Total
0	0	8217	3469	1230	4945	0	2948	0	20809
1	1310	24795	12732	27156	17998	7402	9973	0	101366
2	0	5731	1059	1425	8180	0	0	0	16395
3	0	4880	2310	3574	1212	0	0	0	11976
4	0	55956	20606	23705	37112	6986	34610	0	180975
5	2225	133196	63530	105896	103089	34503	61321	0	503760
6	0	101914	56230	64196	86701	24064	93470	0	426575
7	0	82772	40279	88705	56384	14678	43007	0	325825
8	0	3322	1050	2359	5164	1286	1470	0	14651
9	68610	13419	17951	21402	11584	10138	0	0	143104
Total	72145	436202	219216	341648	332369	99057	246799	0	1747436

Distribution of the dollar value of 100% low value series for September

Commodity	1	2	3	4	5	6	7	8	Total
0	0	4988	1200	5874	8127	2467	0	0	22656
1	0	26134	2383	14209	18134	8407	8634	0	77901
2	0	3766	1122	1442	3000	0	3944	0	13274
3	0	3654	2755	0	5319	0	1300	0	13028
4	0	38285	17473	29334	40058	8315	39328	0	172793
5	1060	142363	59706	99181	100782	23127	38870	0	465089
6	0	116200	47261	70003	79164	31517	78518	0	422663
7	0	84680	25792	49818	63717	12917	32667	0	271591
8	0	1176	1289	5918	1315	1140	7114	0	17952
9	124115	26769	31978	28855	24404	10890	0	0	247011
Total	125175	448015	190959	304634	346020	98780	210375	0	1723958

Distribution of the dollar value of 100% low value series for December

Commodity	1	2	3	4	5	6	7	8	Total
0	0	14377	0	0	3988	0	2322	0	20687
1	2760	23955	16004	26849	22499	11590	11529	0	115186
2	0	2363	1353	0	2731	1400	1038	0	8885
3	0	4693	2692	5469	0	1118	1181	0	15153
4	0	35447	13473	43792	33040	4660	27004	0	157416
5	0	107268	46891	97069	88643	21050	45573	0	406494
6	0	84973	38511	75604	88811	27210	96579	0	411688
7	1094	84011	36270	46494	62337	22634	41293	0	294133
8	0	3606	0	1050	2632	1400	2534	0	11222
9	62939	13754	28372	27874	17059	6217	0	0	156215
Total	66793	374447	183566	324201	321740	97299	229053	0	1597099

2.7. Schedule E Commodity by Mode of Transportation series

Low value percentages were calculated for each four digit Schedule E commodity by mode of transportation series. A summary of the results are presented in Table 14.

The results for this class of export series are in sharp contrast to those of the previous section. The percentages of unaffected series (0% low value) do not differ substantially by MOT and are slightly less than those for the country by vessel series. Approximately one-fourth of the air series each month have more than 5% of their total composed of low value shipments; approximately one-tenth of the air series have low value percentages exceeding 10%. In addition, although not large in number, air series accounted for at least two-thirds of the series composed entirely of low value shipments in each study month. Thus, the effect on the four digit commodity series is much more pronounced for air shipment series than for the remaining two MOT categories.

2.8 Schedule E Commodity by Country by Mode of Transportation Export Series

The most detailed level at which low value percentages were calculated in this study was the seven digit Schedule E commodity by country by MOT level. There were approximately one hundred thousand such series in each study month. The distributions of these percentages are presented in Table 15 and some summary statistics are given in Table 16.

Although the distributions in Table 15 are still skewed to the right, the proportions of "large" low value percentages have increased compared to those for the less detailed classes of series considered in the previous subsections. Between 10.2% and 10.8% of these series have more than one-fourth of their total values derived from low value shipments. This only drops to an average of 8.2% for more than one-half of the total obtained from low value

**Table 13. Summary of the Monthly Distributions of
Low Value Percentages for Country by MOT Series**

| | Study Month | | | |
	March	June	Sept.	Dec.
Percent of series with 0%				
low value				
Vessel	21.5%	23.2%	21.7%	19.4%
Other	58.8%	36.0%	58.5%	59.3%
Air	5.7%	9.6%	8.1%	9.6%
Percent of countries with less				
than 5% low value				
Vessel	98.7%	98.0%	96.7%	98.7%
Other	98.7%	87.5%	97.3%	95.3%
Air	98.6%	89.6%	86.3%	87.8%
Number of series with 100%				
low value				
Vessel	1	0	1	0
Other	1	4	1	4
Air	3	1	0	0
Combined value of 100% low				
value series	$7869	$7697	$3549	$5898

**Table 14. Summary of the Monthly Distributions of Low Value
Percentages for Commodity by MOT Series**

| | Study Month | | | |
	March	June	Sept.	Dec.
Percent of series with 0%				
low value				
Vessel	18.8%	20.4%	19.9%	21.8%
Other	11.9%	13.5%	11.3%	12.1%
Air	14.6%	14.8%	13.4%	16.1%
Percent of series with less				
than 5% low value				
Vessel	98.2%	98.4%	98.6%	98.4%
Other	89.4%	90.3%	88.8%	90.4%
Air	75.6%	75.4%	75.6%	77.7%
Number of series with 100%				
low value				
Vessel	0	2	2	2
Other	2	1	3	0
Air	4	9	11	8

Table 15. Distributions of the Percentage of Low Value Shipments for Commodity by Country by MOT Series

		March			June			September			December		
Interval		Count	Dist	CumDist	Count	Dist	CumDist	Count	Dist	CumDist	Count	Dist	CumDist
0	5	83933	.8182	.8182	82251	.8149	.8149	79080	.8195	.8195	80081	.8242	.8242
5	10	3703	.0361	.8543	3718	.0368	.8517	3436	.0356	.8552	3375	.0347	.8590
10	15	1942	.0189	.8732	1932	.0191	.8709	1826	.0189	.8741	1770	.0182	.8772
15	20	1254	.0122	.8854	1233	.0122	.8831	1218	.0126	.8867	1211	.0125	.8897
20	25	929	.0091	.8945	919	.0091	.8922	863	.0089	.8956	834	.0086	.8982
25	30	713	.0070	.9014	729	.0072	.8994	651	.0067	.9024	647	.0067	.9049
30	35	610	.0059	.9074	581	.0058	.9051	572	.0059	.9083	534	.0055	.9104
35	40	562	.0055	.9129	565	.0056	.9107	544	.0056	.9140	511	.0053	.9157
40	45	417	.0041	.9169	487	.0048	.9156	416	.0043	.9183	378	.0039	.9195
45	50	211	.0021	.9190	210	.0021	.9177	220	.0023	.9206	223	.0023	.9218
50	55	121	.0012	.9202	108	.0011	.9187	93	.0010	.9215	102	.0010	.9229
55	60	101	.0010	.9211	105	.0010	.9198	102	.0011	.9226	92	.0009	.9238
60	65	50	.0005	.9216	63	.0006	.9204	62	.0006	.9232	51	.0005	.9244
65	70	29	.0003	.9219	28	.0003	.9207	33	.0003	.9236	26	.0003	.9246
70	75	20	.0002	.9221	17	.0002	.9208	16	.0002	.9237	9	.0001	.9247
75	80	6	.0001	.9222	9	.0001	.9209	13	.0001	.9239	7	.0001	.9248
80	85	2	.0000	.9222	4	.0000	.9210	5	.0001	.9239	4	.0000	.9248
85	90	0	.0000	.9222	1	.0000	.9210	3	.0000	.9239	1	.0000	.9248
90	95	0	.0000	.9222	1	.0000	.9210	0	.0000	.9239	0	.0000	.9248
95	100	0	.0000	.9222	0	.0000	.9210	0	.0000	.9239	2	.0000	.9249
100		7982	.0778	1.0000	7976	.0790	1.0000	7339	.0761	1.0000	7300	.0751	1.0000

shipments. Depending on the study month, between 7.5% and 7.9% of these series consisted entirely of low value shipments. Hence, the published value of an average of 7944 series per month would have been at least cut in half and an average of 7650 series per month would not have appeared at all in the publications had the new exemption level been in effect. The series consisting entirely of low value shipments were valued at between $10.2 million and $11.2 million in the study months. This represents approximately 0.06% of the total value of exports.

Table 16. Summary Statistics for the Schedule E Commodity by Country by MOT Export Series

| | Study Month | | | |
	March	June	Sept.	Dec.
Number of series	102,585	100,937	96,492	97,158
Number with 0% low value	73,688	72,466	69,538	70,782
Number with 100% low value	7,982	7,976	7,339	7,300
Percent with 0% low value	71.8%	71.8%	72.1%	72.9%
Percent with 100% low value	7.8%	7.9%	7.6%	7.5%
Value of 100% low value series*	$11.2	$10.9	$10.2	$10.2

* Entry is millions of dollars.

Table 17 contains the distributions of the 100% low value series over the one digit commodity by country by MOT categories. The corresponding distributions for the dollar values of these series are presented in Table 18. Overall, the month to month variation in these distributions is relatively small. From Table 17, over half of the series which would have been eliminated from the tabulations under the new exemption level are air shipment series. Relatively few are from modes of transportation other than vessel or air. Series involving destinations in Central America (200's), Europe (400's), and Asia (500's) each constitute approximately one-fourth of the 100% low value series. For the commodity groupings, Section 7 (Machinery and transport equipment) contains approximately one-third of these series while Sections 6 (Manufactured goods classified chiefly by material) and 8

Table 17. Distributions of the 100% Low Value Commodity by Country by MOT Series

Distribution of the 100% low value commodity by country by MOT series as a percentage of all 100% low value series for March

MOT = Vessel

Commodity	1	2	3	4	5	6	7	Total
0	.09	1.60	.14	.30	.83	.39	.13	3.50
1	.00	.09	.00	.16	.01	.01	.01	.21
2	.10	.30	.13	.16	.10	.08	.06	.91
3	.00	.21	.05	.09	.13	.06	.04	.55
4	.00	.06	.03	.00	.06	.01	.03	.19
5	.03	2.37	1.18	1.10	1.70	.40	.31	7.17
6	.07	3.51	.79	1.10	1.70	.31	.31	8.26
7	.03	2.76	.61	1.48	1.70	.38	.79	8.34
8	.00	2.76	.00	1.29	1.33	.13	.03	6.14
9	.00	.01	.00	.03	.01	.01	.03	.09
Total	.18	13.66	4.16	5.91	7.70	2.46	2.17	33.66

MOT = Other

Commodity	1	2	3	4	5	6	7	Total
0	.14	.25	.00	.06	.00	.00	.00	.45
1	.03	.01	.00	.01	.00	.00	.01	.06
2	.10	.03	.00	.13	.00	.00	.01	.30
3	.00	.04	.00	.04	.00	.00	.00	.12
4	.03	.03	.00	.00	.00	.00	.00	.09
5	.11	.33	.03	.33	.08	.01	.00	1.17
6	.10	.39	.01	.55	.00	.20	.09	2.09
7	.10	.39	.01	1.06	.08	.08	.11	1.83
8	.25	.00	.03	.00	.21	.00	.06	.13
9	.00	.01	.00	.04	.03	.01	.04	.13
Total	.95	1.66	.09	3.22	.54	.34	.39	7.43

MOT = Air

Commodity	1	2	3	4	5	6	7	Total
0	.06	.53	.09	.36	.30	.09	.03	1.45
1	.00	.05	.00	.03	.05	.00	.00	.16
2	.10	.08	.00	.11	.26	.03	.10	1.19
3	.03	.00	.00	.14	.09	.01	.01	.34
4	.00	.03	.00	.03	.00	.00	.00	.06
5	.11	1.00	1.00	2.13	1.00	.44	.33	7.02
6	.33	2.17	.01	3.32	2.95	.70	.33	11.29
7	.66	4.22	2.39	3.42	5.17	1.17	1.00	20.63
8	.33	3.47	1.54	3.67	3.23	.93	.95	14.19
9	.01	.10	.04	.08	.11	.00	.11	.45
Total	1.85	11.65	6.25	16.11	13.98	3.38	3.60	56.92

Distribution of the 100% low value commodity by country by MOT series as a percentage of all 100% low value series for June

MOT = Vessel

Commodity	1	2	3	4	5	6	7	Total
0	.10	1.53	.19	.26	.76	.35	.16	3.36
1	.00	.14	.04	.03	.08	.01	.04	.33
2	.00	.43	.18	.21	.19	.09	.08	1.17
3	.00	.19	.09	.09	.08	.04	.00	.51
4	.00	.08	.01	.09	.04	.00	.00	.16
5	.00	2.60	1.17	.94	1.72	.43	.99	7.28
6	.00	3.51	.04	1.39	1.57	.36	.50	8.38
7	.00	3.32	.97	1.23	1.97	.63	.71	8.85
8	.00	1.97	.79	1.07	1.15	.30	.45	5.82
9	.00	.01	.01	.04	.01	.01	.03	.11
Total	.10	13.77	4.25	5.34	7.56	2.42	2.53	36.00

MOT = Other

Commodity	1	2	3	4	5	6	7	Total
0	.10	.14	.06	.05	.00	.01	.01	.31
1	.00	.00	.00	.03	.00	.00	.00	.06
2	.06	.03	.00	.04	.03	.01	.01	.23
3	.00	.00	.00	.04	.00	.00	.00	.04
4	.00	.00	.00	.00	.00	.00	.01	.01
5	.16	.18	.00	.01	.00	.00	.03	1.03
6	.26	.11	.01	1.01	.03	.06	.06	1.45
7	.09	.36	.03	1.22	.24	.09	.10	2.12
8	.11	.33	.06	1.03	.19	.05	.08	1.26
9	.01	.00	.01	.03	.01	.00	.04	.10
Total	.92	1.48	.14	3.66	.55	.22	.34	7.31

MOT = Air

Commodity	1	2	3	4	5	6	7	Total
0	.06	.38	.09	.24	.23	.10	.00	1.07
1	.03	.01	.00	.00	.03	.01	.05	.15
2	.06	.11	.08	.39	.30	.03	.06	1.03
3	.03	.03	.03	.03	.16	.00	.00	.29
4	.00	.00	.00	.01	.01	.00	.00	.03
5	.26	1.15	1.14	2.44	1.74	.38	.39	7.42
6	.45	2.16	1.19	3.39	3.11	.73	.50	12.15
7	.51	4.34	2.21	5.42	4.88	.99	1.39	19.73
8	.45	3.49	1.39	4.23	3.32	.80	.71	14.39
9	.01	.05	.01	.10	.13	.04	.05	.46
Total	2.06	12.11	6.11	16.41	13.93	3.07	3.01	56.70

Table 17. (Continued)

Distribution of the 100% low value commodity by country by MOT series as a
percentage of all 100% low value series for September

MOT = Vessel

Commodity	1	2	3	4	5	6	7	Total
0	.14	1.49	.23	.27	.65	.35	.10	3.43
1	.00	.07	.00	.07	.08	.04	.00	.26
2	.01	.44	.03	.12	.25	.10	.04	1.01
3	.06	.15	.05	.14	.14	.01	.10	.59
4	.00	.05	.00	.00	.04	.01	.01	.16
5	.00	1.98	1.01	.91	1.59	.40	.29	6.17
6	.03	2.68	.39	1.47	1.61	.48	.92	8.27
7	.00	2.65	1.23	1.39	2.00	.45	.74	8.86
8	.03	1.92	.53	1.21	1.06	.40	.23	5.35
9	.00	.00	.00	.01	.07	.03	.07	.18
Total	.18	12.60	3.76	5.80	7.49	2.45	1.99	34.28

MOT = Other

Commodity	1	2	3	4	5	6	7	Total
0	.07	.15	.00	.08	.00	.00	.00	.30
1	.03	.00	.00	.04	.00	.00	.01	.08
2	.03	.08	.00	.06	.03	.00	.01	.23
3	.01	.03	.00	.00	.00	.00	.00	.07
4	.00	.01	.00	.00	.00	.00	.00	.01
5	.07	.19	.05	.42	.07	.01	.10	.91
6	.25	.68	.01	.59	.03	.05	.05	1.66
7	.10	.37	.03	1.10	.19	.06	.14	1.99
8	.25	.53	.00	.86	.19	.10	.10	1.99
9	.03	.00	.00	.05	.00	.03	.01	.12
Total	.82	2.04	.11	3.17	.50	.27	.41	7.33

MOT = Air

Commodity	1	2	3	4	5	6	7	Total
0	.18	.50	.12	.41	.41	.10	.03	1.66
1	.01	.03	.01	.06	.04	.01	.00	.19
2	.01	.16	.10	.33	.27	.04	.00	1.08
3	.01	.04	.01	.10	.12	.01	.00	.34
4	.00	.01	.00	.01	.01	.00	.00	.04
5	.18	1.10	1.04	2.23	2.02	.34	.37	7.32
6	.32	2.13	1.16	3.61	2.97	.59	.71	11.38
7	.74	4.25	2.40	5.07	5.76	1.29	1.49	21.00
8	.49	3.47	1.32	4.40	3.84	.55	.76	14.83
9	.00	.00	.11	.03	.18	.10	.00	.39
Total	2.06	11.81	6.27	16.42	15.55	2.93	3.35	58.39

Distribution of the 100% low value commodity by country by MOT series as a
percentage of all 100% low value series for December

MOT = Vessel

Commodity	1	2	3	4	5	6	7	Total
0	.10	1.73	.15	.33	.93	.42	.14	3.82
1	.00	.10	.00	.03	.01	.05	.01	.23
2	.00	.33	.14	.19	.19	.08	.07	1.00
3	.00	.23	.05	.10	.14	.04	.04	.60
4	.00	.07	.01	.00	.07	.01	.03	.21
5	.01	2.47	1.23	1.12	1.75	.31	.33	7.42
6	.04	3.61	.82	1.37	1.77	.40	.35	8.36
7	.03	2.99	1.34	1.60	1.84	.43	.81	9.23
8	.00	1.51	.56	1.01	1.01	.30	.27	4.67
9	.00	.00	.00	.00	.00	.00	.00	.00
Total	.18	13.03	4.33	5.78	7.71	2.45	2.25	35.75

MOT = Other

Commodity	1	2	3	4	5	6	7	Total
0	.15	.27	.00	.07	.00	.00	.00	.49
1	.05	.01	.00	.01	.00	.00	.00	.08
2	.11	.03	.00	.14	.01	.00	.01	.33
3	.00	.04	.00	.04	.00	.00	.01	.10
4	.03	.01	.00	.00	.00	.00	.00	.04
5	.12	.34	.03	.53	.07	.04	.07	1.21
6	.22	.36	.01	.50	.01	.01	.10	1.23
7	.11	.42	.03	1.16	.22	.22	.12	2.29
8	.22	.33	.03	.77	.13	.07	.03	1.70
9	.00	.00	.00	.00	.00	.00	.00	.00
Total	1.01	1.85	.10	3.30	.55	.34	.37	7.52

MOT = Air

Commodity	1	2	3	4	5	6	7	Total
0	.07	.58	.10	.40	.33	.10	.03	1.59
1	.10	.03	.04	.03	.05	.00	.00	.18
2	.10	.08	.10	.33	.05	.04	.10	1.23
3	.03	.01	.05	.15	.10	.01	.01	.37
4	.00	.03	.00	.05	.00	.00	.00	.08
5	.11	.99	1.01	2.32	1.77	.44	.30	6.23
6	.34	2.32	.62	3.66	3.11	.71	.99	11.61
7	.73	4.35	1.44	5.93	5.44	1.17	1.75	22.74
8	.30	2.92	1.38	2.84	2.78	.71	.79	11.73
9	.00	.03	.00	.03	.01	.00	.00	.07
Total	1.90	11.59	6.34	15.95	14.08	3.29	3.50	56.73

Table 18. Distributions of the Dollar Value of the 100% Low Value Commodity by Country by MOT Series

Distribution of the dollar value of 100% low value series for March

MOT = Vessel — Country

Commodity	1	2	3	4	5	6	7	Total
0	16177	181864	13224	30423	93733	45253	14307	399981
1	0	9945	0	3771	1117	8663	1290	26988
2	0	30102	12530	19230	18180	7174	7471	94687
3	0	23444	5033	8239	13781	1609	3136	60242
4	0	3860	2628	0	6315	134	2442	18589
5	2241	256029	127134	112197	187078	53893	30082	768676
6	3561	384047	80464	153042	175098	40367	31176	887737
7	2949	297841	127106	227153	172777	64550	76616	968992
8	0	241888	62763	142339	263913	46311	30508	787724
9	0	1370	0	2817	1132	1098	2959	9378
Total	24930	1434390	430902	701211	933126	273464	219989	4018012

MOT = Other — Country

Commodity	1	2	3	4	5	6	7	Total
0	18155	27502	0	7364	0	0	0	53221
1	4448	1200	0	1326	0	0	0	6974
2	9423	4588	0	17979	2091	0	1050	35131
3	0	3708	0	3482	0	0	1332	8322
4	7103	1307	0	0	0	0	0	8410
5	14395	38290	4004	37518	7413	6803	6351	133981
6	27383	44814	1025	59276	1130	1476	8794	143990
7	11150	53029	2627	119461	19325	23015	10871	240270
8	29721	48264	2099	89739	22644	7901	6050	206702
9	0	1232	0	3915	3802	2529	5522	17000
Total	121781	224738	9755	360262	56607	41006	39970	854119

MOT = Air — Country

Commodity	1	2	3	4	5	6	7	Total
0	10122	70135	10383	37147	34122	11081	2197	175187
1	0	4661	7465	3824	6604	0	0	22534
2	10480	7544	10923	36078	26997	5131	11214	128367
3	3376	1210	4623	14006	9422	1156	1032	35025
4	0	2421	0	4565	0	0	0	6986
5	17935	104152	103674	236298	191160	49464	35292	757975
6	60850	225242	88044	396327	309919	80338	56975	1217695
7	87398	464065	296913	645633	359977	131496	178271	2363733
8	41299	369848	170627	407995	371575	111180	95635	1560159
9	1300	17373	4040	8036	11092	0	14477	56320
Total	232960	1266653	696692	1829909	1520868	389846	395093	6332021

Distribution of the dollar value of 100% low value series for June

MOT = Vessel — Country

Commodity	1	2	3	4	5	6	7	Total
0	18093	179897	23505	27985	81691	43787	16002	390960
1	0	13037	3469	6294	7144	1411	4298	35653
2	0	42749	20427	21082	20939	8644	8412	122273
3	0	22096	10023	10251	8027	3678	3794	57869
4	0	7135	2310	3701	3962	0	0	17108
5	0	270354	121858	112324	182082	44854	44338	776210
6	0	363357	89131	152185	163973	63314	56327	890287
7	0	344452	101646	135741	209614	63692	74479	929824
8	0	216129	81756	114506	120633	32599	35779	621902
9	0	2200	1093	3439	1188	1500	2670	12090
Total	18093	1463406	455218	587708	799473	263479	246299	3833676

MOT = Other — Country

Commodity	1	2	3	4	5	6	7	Total
0	14762	16351	0	9233	0	1011	1476	42833
1	0	0	0	0	0	0	0	0
2	9963	4322	1114	27796	2655	1118	1245	48413
3	0	2405	0	6189	0	0	0	8599
4	0	0	0	0	0	0	1200	1200
5	22078	20743	1344	77602	3938	0	2047	130792
6	38482	47513	1155	67354	2270	7140	7617	171539
7	11737	39135	2968	127321	25166	11232	9959	227538
8	26680	37421	5400	116917	23012	6044	7304	222778
9	1302	0	1050	2525	2273	0	3886	11036
Total	125804	168310	13031	434937	61314	26553	34774	864723

MOT = Air — Country

Commodity	1	2	3	4	5	6	7	Total
0	14581	42366	3768	23128	35120	11503	0	132468
1	4173	1100	0	8333	2492	1344	0	17644
2	3933	10437	8768	40336	29686	2693	6876	104691
3	0	2504	6101	5044	18024	0	0	31673
4	0	0	0	1034	1375	0	0	2429
5	31386	119862	119176	266722	195846	41512	29302	803806
6	76332	266705	131127	370464	330509	88513	51913	1315763
7	64363	484447	247239	618298	528541	107788	151220	2201996
8	50629	376717	160190	464661	356634	82107	73398	1564536
9	1160	9385	1200	19092	15858	3397	4593	54887
Total	248809	1313583	677589	1819334	1514825	339959	317436	6229835

Table 18. (Continued)

Distribution of the dollar value of 100% low value series for September

MOT = Vessel

Commodity	1	2	3	4	5	6	7	Total
0	14996	165034	23993	28425	68966	37569	8287	367201
1	0	6213	0	6161	7700	3959	0	24013
2	8269	93180	5218	11689	22517	8397	3738	193003
3	0	15407	5081	12532	14333	1132	9852	57537
4	0	3892	5930	0	5218	1305	1300	16735
5	0	192715	97593	88842	135308	46806	27759	609023
6	3423	374709	350010	135995	155343	47355	39331	811156
7	0	285571	115936	177501	196010	45530	72171	892797
8	0	187187	49504	117508	102036	41950	23582	521767
9	0	0	0	1217	6377	2380	9954	19028
Total	26591	1273918	357385	579853	733816	256383	194274	3422220

MOT = Other

Commodity	1	2	3	4	5	6	7	Total
0	10139	78750		6830				93719
1	2449	0		1318				3767
2	2648	8188		8190	3187		1303	23516
3	1149	2449		3773				7366
4	0	1120		0				1120
5	6303	20503	4660	41943	3512	1231	8203	87933
6	27474	77752	1250	57961	2309	9133	5147	181026
7	11202	42784	2354	110783	18354	10973	13726	210212
8	27994	38192	2914	80502	21039	8404	8360	207413
9	2268	0	0	5217	0	2617	1149	11251
Total	91421	289738	11208	316017	30405	32360	37976	829325

MOT = Air

Commodity	1	2	3	4	5	6	7	Total
0	9917	32334	14840	43389	49700	9189	3817	185431
1	1249	3710	1200	7380	4272	1077	0	18888
2	1183	19285	17860	36072	29045	3596	7051	119092
3	1329	3576	1083	8505	11658	1188	3977	31316
4	0	1184	0	1080	1360	0	0	3624
5	21611	113847	106121	222193	199504	30929	42674	737041
6	35246	210954	117662	359744	306208	38359	37290	1144563
7	60437	929340	244850	527471	377131	147175	139838	2196242
8	35065	343266	129941	456087	411190	33946	70640	1520135
9	0	9503	2539	20493	9064	0	15853	57452
Total	226037	1186349	636096	1684616	1399132	305454	321140	5958824

Distribution of the dollar value of 100% low value series for December

MOT = Vessel

Commodity	1	2	3	4	5	6	7	Total
0	16177	181864	13224	30423	93733	45253	14307	394901
1	0	9943	0	3771	1117	8863	1290	26788
2	0	30102	12530	17230	18180	7179	7471	94687
3	0	25444	5033	8239	13781	4609	3136	60242
4	0	5860	2628	0	6315	1349	2442	18589
5	1180	247954	122324	105161	174124	52543	28948	726230
6	3361	358032	76633	135053	166615	36496	49726	826116
7	2949	292734	126030	225833	170408	64550	76616	959120
8	0	159999	51242	101129	219504	29332	24934	585260
9	0	0	0	0	0	0	0	
Total	23867	1305934	409644	630839	863777	250166	207990	3692217

MOT = Other

Commodity	1	2	3	4	5	6	7	Total
0	18155	27302	0	7564	0	0	0	53221
1	4448	1200	0	1326	0	0	0	6974
2	9423	4588	0	17979	2091	0	1050	35131
3	0	3708	0	3482	0	0	1332	8522
4	7103	1307	0	0	0	0	0	8410
5	14396	36601	4009	52396	6007	6005	6351	125912
6	27303	37368	1025	36443	1130	1476	8794	133821
7	11130	33829	2627	119461	17325	23013	10871	240278
8	23492	33878	2099	77992	22844	6869	4821	171995
9	0	0	0	0	0	0	0	
Total	115552	200381	9755	336595	51397	37363	33219	784264

MOT = Air

Commodity	1	2	3	4	5	6	7	Total
0	10122	70135	10383	37147	34122	11081	2197	175187
1	0	4661	7463	3824	6604	0	0	22554
2	9392	7544	10923	43635	26997	2911	9950	122332
3	3576	1210	4623	14006	9422	1156	1032	35023
4	0	2421	0	4565	0	0	0	4986
5	16045	91917	94926	233782	169947	45983	30856	684256
6	69030	218761	81786	378495	299225	74162	53689	1168958
7	87395	461899	296913	644203	556684	131496	176271	2359039
8	30091	279263	141880	291932	203338	78091	73760	1177927
9	0	2292	0	0	2116	1032	0	5440
Total	218274	1140100	648899	1663223	1389621	345880	351755	5737734

(Miscellaneous manufactured articles) each averaged slightly more than one-fifth of these series. For several commodity sections the loss of series would have been minimal. The conclusion to be drawn from Tables 17 and 18 is that the effect of the increase in the exemption level is not uniform across the commodity by country by MOT classification structure and, in fact, varies from essentially no effect to very noticeable effects.

3. Conclusion

The effect of the increase in the exemption level on a sequence of increasingly more detailed classes of export series has been described in the previous section. The primary conclusion to be drawn from these results is not unexpected; at the aggregrate level the effect is negligible, but as the level of detail increases the effect becomes more pronounced.

Our principal measure of influence was the percentage of the value of each series which is composed of low value shipments. The distributions of these low value percentages were highly skewed to the right with spikes at 0% and 100%. That is, in each class of series a very large proportion of the series would not have been seriously affected by the increase in the exemption level. However, an increasing proportion of the series were composed entirely of low value shipments as the level of detail increased. Such series would have been eliminated from the publication in the particular month.

The proportion of 100% low value series ranged from an average of less than 0.3% of the country and four digit commodity level series to an average of 4.6% for four digit commodity by country series and 7.7% of seven digit commodity by country by mode of transportation series. The magnitude of the losses in these latter classes is troublesome, but not surprising. Since the overall number of shipments is the same regardless of the level of detail, the number of shipments per series must necessarily decrease as the level of detail increases. At the most detailed level the data has been spread very thinly over the series in the class and a typical

series may contain only one or two shipments in a given month. These small sample sizes make it relatively easy to lose large numbers of series.

The second major conclusion is that there is interaction among the three factors (commodity, country, and MOT) which define the classes of export series. That is, differences among the levels of one factor depend upon the level of one or both of the remaining factors. Probably the most important instance is the differential effect on the three basic MOT categories. The interaction between the commodity and country factors at the one digit level (cf. Section 2.5) is another important example.

The differential effect in terms of the distribution of the value of low value shipments over MOT categories is summarized in Table 19. Air shipments series account for nearly half of the dollar value of low value shipments while they make up only slightly more than one-fourth of the total value of exports. The difference is reversed and greater for vessel series. A similar conclusion holds for the distribution of series which would have been eliminated from the tabulations. Additional evidence of the difference in the effect by MOT category can be found in Section 2. Hence, regardless of the measure used to quantify the effect, air series are the most severely affected and vessel series are the least affected.

Table 19. Distribution of the Value and Number of Low Value and Total Export Series by MOT*

| | MOT Category | | |
	Vessel	Other	Air
Value of low value shipments	11.8%	38.9%	49.4%
Total value	42.5%	29.8%	27.7%
Percent of all 100% low value series**	35.4%	7.4%	57.2%
Percent of all series for given MOT**	46.6%	11.8%	41.7%

* Entries are averaged over the four study months.
** Series at the commodity by country by MOT level of detail.

This study was based on four months of 1986 data. Somewhat unexpectedly, there was relatively little month to month variation in the various distributions and statistics which were computed. Since the conclusions from our study are being used, at least indirectly, to forecast the effect of the change in the exemption level for future months, their accuracy, and hence, usefulness as such, depends heavily on the absence of drastic changes in the export shipments populations which are to be tabulated in the future. Unfortunately, the only way to legitimately test this assumption of similarity would be to collect information on shipments below the exemption level (most likely on a sample basis) at some future date. The warning here should be clear; the results are historical in nature and any projection of them or their consequences into the future is extrapolation.

Finally, although our analysis deals only with the effect of removing shipments in the $1000 to $1500 range from the tabulations rather than all shipments under $1500, it may provide some indication of the differences between the published statistics and the "true" values based on all exports if there were no exemption level. The accuracy of extending our conclusions to all shipments under $1500 depends on one of two assumptions being valid; either the behavior of the under $1000 data is essentially the same as that presented here for shipments between $1000 and $1500 or the effects of the under $1000 data, regardless of how different they are, are negligible compared to those of the $1000 to $1500 data. As in the forecasting case, the assumptions can only be tested by collecting information on the unrecorded segment of future export shipments populations.

Acknowledgments

files for the remaining three study months. In SRD, many useful discussions were held with Nash Monsour and Ha Nguyen. Maureen Lynch made the figures and Carol Macauley typed the report. To all of these individuals and to anyone inadvertently overlooked, thank you.

February 19, 1987

MEMORANDUM FOR: Bruce Walter
Assistant Division Chief
Foreign Trade Division

FROM: Ed Gbur
Statistical Research Division

Subject: The Effect of Increasing the Export Reporting
Exemption Level

Attached is the latest copy of the summary of the effect of the
increase in the export reporting exemption level on various
classes of export series. I've added a paragraph on the
commodity by country series since the last draft that I sent
you. I agree that the entire summary is too long for the text of
FT900 and FT990. Probably the paragraphs on total, country,
commodity, and commodity by country would suffice. I would
suggest tailoring the discussion to each publication as much as
possible by selecting paragraphs from the summary which
correspond to the major class(es) of series in that
publication. I also think that the entire summary should be
available somewhere, perhaps in the documentation which is sent
out with EM522. Other publications should reference it as a
source of further information. In my view this information on
the effect of the increase is a temporary part of the text which
would be deleted at some future date, say at the end of 1987.

With regard to the section of text on estimating low value
exports, I agree that it needs to be updated to reflect the new
exemption level. In addition, the last sentence of the section
which mentions its effect on total exports should be expanded to
several sentences describing the effect of the estimation more
fully.

Finally, I should have a complete report on my study of the
effect of the new exemption level sometime in March.

Attachment

Effect of Increasing the Reporting Exemption Level for Exports

A study was conducted to evaluate the effect of the increase in the reporting exemption level for exports from $1000 to $1500 on the published export statistics. Four months of 1986 data were used in the evaluation; March, June, September, and December.

Shipments between $1000 and $1500 which will no longer be reported under the new exemption limit constituted between 0.5% and 0.7% of the total dollar value of exports in the study months. The total value of such shipments in a study month ranged from $100.5 million to $122.5 million. For vessel shipments, they accounted for approximately 0.2% of the total value of vessel shipments, for air shipments between 1.1% and 1.2%, and for modes of transportation other than vessel or air between 0.7% and 1.2%. The major portion of the total value of shipments between $1000 and $1500 were non-vessel shipments. Air shipments accounted for 46.6% to 52.5% of these shipments' total value during the study months while other modes of transportation accounted for 34.2% to 42.8%. Vessel shipments' share ranged from 10.6% to 13.3%.

Export shipments were reported for 161 to 164 countries, depending on the study month. Approximately 97% of the countries each month had less than 5% of their total value of exports consisting of shipments in the $1000 to $1500 range. The median percentage varied from 0.5% to 0.6%. (Half of the low value percentages are greater than the median and half are less than it.) From 13 to 17 countries had no shipments between $1000 and $1500. At the opposite extreme, there were two cases in which all shipments were valued below $1500. This occurred in March for Mongolia (one shipment valued at $1154) and in June for Albania (one shipment valued at $1412). Thus, countries which would have been included in the tabulations based on the $1000 exemption level may not appear in those based on the new exemption level. Although this can occur for the country level

series, it appears to be rare.

As in the past, estimates of the value of shipments under the exemption level are included in the total exports and the country level statistics under the heading "low-value shipments". See the section entitled "Estimated Data for Low-Value Exports" for further details. These low value shipment estimates will offset the value of shipments lost because of the increase in the reporting exemption level. The ability of these estimates to accurately account for the losses described above was not investigated in this study.

During the four study months export shipments were reported for 647 four digit Schedule E commodity codes. The percentage of these commodity series having less than 5% of their total value of exports consisting of shipments in the $1000 and $1500 range varied from 96.4% to 97.1%. The median percentage of the commodity total between $1000 and $1500 was approximately 0.75% in each study month. Between 7.3% and 8.5% of these commodity series had no shipments in the $1000 and $1500 range. In contrast, only one commodity series in March and two in September consisted entirely of shipments in this range and would have been included under the $1000 exemption level but not under the new level.

The number of four digit Schedule E commodity by country series reported in a study month ranged from 25657 to 26709. From 82.9% to 84.4% of these series had less than 5% of their total value of exports consisting of shipments valued in the $1000 to $1500 range. From 56.9% to 58.4% of these commodity by country series had no shipments between $1000 and $1500, while only 4.3% to 4.8% of the series consisted entirely of shipments in this range. This latter group was composed of between 1126 and 1254 series, depending on the study month.

For country level tabulations by mode of transportation, the percentage of these series having less than 5% of their total value consisting of shipments between $1000 and $1500 ranged from 96.7% to 98.7% for vessel series, depending on the study month,

from 86.3% to 97.6% for air series, and from 87.5% to 98.7% for modes of transportation other than vessel or air. There were never more than five country by mode of transportation series in any study month which consisted entirely of shipments in the $1000 to $1500 range.

The number of four digit Schedule E commodity series reported in a study month ranged from 626 to 629 for vessel shipments, from 561 to 566 for air shipments, and from 630 to 638 for modes of transportation other than vessel or air. The percentage of these series having less than 5% of their total value consisting of shipments between $1000 and $1500 ranged from 98.2% to 98.6% for vessel series, from 75.4% to 77.7% for air series, and from 88.8% to 90.4% for modes of transportation other than vessel or air. The percentages for air shipments series increased to between 89.2% and 90.4% when examined for less than 10% of their total value consisting of shipments in the $1000 to $1500 range. Of the approximately 1825 commodity by mode of transportation series in each study month, the number consisting entirely of shipments between $1000 and $1500 ranged from 6 to 15, of which at least two-thirds in each month were air shipments series.

For the approximately one hundred thousand seven digit Schedule E commodity code by country by mode of transportation series, 7.5% to 7.9% were composed entirely of shipments between $1000 and $1500 in the study months and would not have appeared in the publication under the new exemption level. This represents between 7300 and 8000 series, a majority of which are air shipments series. The lost air shipments series constituted between 10.4% and 10.8% of all air shipments series at this level of detail.

The Effect of Raising the Export Exemption
Level to $1500 Effective with January 1987 Statistics

The results of an evaluation of low-value export shipments
and the effects of raising the exemption level from $1000 to
$1500 on various levels of statistical detail are presented
below. The percentages shown may vary from month-to-month,
however the "worst case" situations are always cited.

Estimates of low-valued shipments are by country only; no
estimates are made on a commodity or method of transportation
basis. Categories largely comprised of low value shipments are
subject to the greatest effects from the increase in the
exemption level. In a limited number of instances commodity,
country, or method of transportation totals may disappear
entirely if all shipments in those periods are below the
exemption level. The following information is intended to give
data users a general understanding of how the new exemption may
affect the data.

1. Overall export total
   - Shipments valued from $1000 to $1500 represent less
     than 0.7 percent of overall export value.

   - Estimates at the previous $1000 exemption level amounted
     to approximately 1.6 percent of overall export value;
     .therefore, the estimate at the $1500 level should not
     exceed 2.5 percent.

2. Country Totals
   - The median percentage of country totals accounted for
     by shipments $1000 to $1500 is 0.6 percent.

   - Of, the 160-165 countries represented in any month,
     only one or two will entirely consist of shipments
     $1000 to $1500.

3. Four-digit commodity totals
   - Shipments valued $1000 to $1500 represent on average
     about 0.75 percent of the value of each commodity.

   - Of the 650 four-digit commodities about 8.5 percent
     have no shipments valued under $1500.

4. Four-digit commodity by country totals
   - Of approximately 26,000 four-digit commodity by
     country totals per month, less than 5 percent consist
     entirely of shipments under $1500; however, almost 60
     percent of these commodity by country cells have no
     shipments below $1500.

5. Seven digit commodity by country by method of
   transportation totals
   - There are approximately 100,000 of these totals per
     month.

   - Less than 8 percent consist entirely of shipments
     under $1500, but most of these are air shipments.

   - Almost 11 percent of the air data cells at this level
     of detail were dropped as a result of raising the
     exemption level to $1500. This is in addition to
     about 15 percent of air data cells lost at the
     previous $1000 exemption level.