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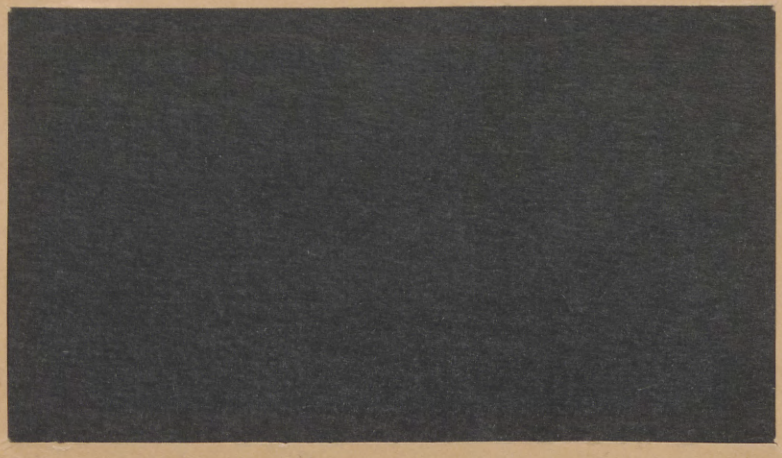

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TRANSSHIPMENTS AND THE ACCURACY OF U.S. EXPORT STATISTICS FOR EASTERN EUROPE

Joseph T. Doyle
Eastern Europe and USSR Branch
International Economics Division
Economic Research Service
U.S. Department of Agriculture

500 12th St., SW
Room 314
Washington, D.C. 20250

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Abstract

Statistics on U.S. agricultural exports to Eastern Europe frequently understate the volume of actual U.S. exports to the region. Due to the large volume of U.S. agricultural exports to Eastern Europe that are transshipped through Canada and Western Europe, there is ample opportunity for the final destinations of these commodities to be obscured. There are several sources of U.S. agricultural export data but because of the transshipments problem each is deficient.

Keywords: U.S. agricultural exports; Eastern Europe; export statistics; European agricultural trade; transshipments.

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Statistics on U.S. agricultural exports to Eastern Europe frequently understate the volume of actual U.S. exports to the region. Due to the large volume of U.S. agricultural exports that are transshipped through Canada and Western Europe, there is ample opportunity for the final destination of these commodities to be obscured.

There are three readily available sources of trade data on Eastern Europe: the Commerce Runs, published by the Census Bureau; Export Sales, published by the Foreign Agricultural Service of USDA, and the importing country yearbook. Because of the transshipments problem each set of statistics is different, but Export Sales probably provides the best capture of the transshipments.

TRANSSHIPMENTS AND THE ACCURACY OF U.S. AGRICULTURAL EXPORT STATISTICS FOR EASTERN EUROPE

Introduction

Statistics on U.S. agricultural exports to Eastern Europe frequently understate the volume of actual U.S. exports to the region. Efforts to accurately report the ultimate destination of U.S. agricultural commodities are made difficult by the large volume of these goods, primarily grains, oilseeds and oilmeals, that are off-loaded at intermediate ports in Western Europe and Canada and subsequently re-exported to other countries. The final destination of these transshipments are often obscured, resulting in inaccurate trade documentation.

In this paper several sources of trade statistics will be examined in an attempt to determine which source provides the most accurate information on U.S. trade with Eastern Europe. Each source unavoidably is deficient in some way, so the selection of any single source, or adjustment of the data presented by these sources, will necessarily be somewhat subjective. The sources will be compared with each other in order to highlight some of these inadequacies.

Sources of Data

There are three readily available sources of data on U.S. exports to Eastern Europe.

Export Sales. The Export Sales Reporting Division of the Foreign Agricultural Service, USDA puts out a weekly publication entitled U.S. Export Sales. In it are reported outstanding sales, cumulative export shipments and weekly sales of numerous agricultural commodities; in the case of Eastern Europe, the most important of these are wheat, barley, corn, grain sorghum, soybeans and soybean meal. FAS obtains its data directly from the private exporters. FAS supervises a mandatory reporting system in which the sellers of a particular commodity report weekly the final destinations of a particular shipment.

Commerce Runs. The Department of Commerce makes available on a monthly basis computer printouts containing data on U.S. agricultural imports and exports collected by the Bureau of the Census. The Census Bureau in turn compiles its data from "Shipper's Export Declarations", which are forms on which a shipping agent is supposed to declare the intermediate and/or final destination of his cargo.

Country Yearbooks. Five of the East European countries--Bulgaria, Czechoslovakia, Hungary, Poland, and Yugoslavia--report import data broken out by country of origin. However, Bulgaria, Poland, and Czechoslovakia define country of origin of a commodity as the country in which the last seller of the commodity has his place of residence. Hungary and Yugoslavia, on the other hand, record the source as where the commodity actually originated.

Data Deficiencies

The nature of the data contained in each source and certain definitional inconsistencies both lead to problems with all of the sources described above. These problems are highlighted by table 1. In this table, the three sources are compared over the period 1977-79 for five commodities and seven countries. Transit time likely accounted for some of the differences between U.S. and country data, so on table 1 the annual figures for the U.S. sources were computed on a December-November basis to allow an importer-country reporting lag of one month. Country-reported figures are on a calendar year basis.

Comparison of U.S. Sources. Due to the differences in the reporting systems Export Sales data are generally thought to be more accurate than that provided by the Commerce Runs. The rationale behind the FAS reporting system is that the private exporters themselves supposedly have a better idea of the ultimate destination of the commodities than would the shippers. As can be seen in table 1, in most cases Export Sales figures are larger than the comparable Commerce Runs data. These differences are consistent with the FAS hypothesis that reporting exporters rather than reporting shippers do a better job of identifying the ultimate destinations of U.S. exports for the region.

The chance does exist, however, that FAS may be double-counting some shipments and thus inflating U.S. export totals for the region. European agricultural commodity trade is characterized by a large amount of brokering. From the time an agricultural commodity is harvested until it is delivered to its final destination, a particular shipment can change hands several times. This involved process allows ample opportunity for several sellers to report the same sale to a particular country. However, the possibility of such brokering activities distorting U.S. export statistics for Eastern Europe is considerably less than for Western Europe because most of the governments in the former region rely primarily on direct contractual arrangements with traders in the country of origin. Nonetheless, a considerable portion of U.S. agricultural exports pass through ports such as Hamburg and Rotterdam because of inadequate port facilities in the East European countries.

In any event, it is usually the case that annual Export Sales figures are larger than comparable Commerce Runs figures. Occasionally, however, the reverse situation occurs, and annual Commerce Runs figures for a particular country and commodity are the larger of the two. It is unlikely that the Census Bureau could double-count exports, because only one shipper is involved in transporting a shipment between 2 ports. It is more likely that FAS missed a shipment while Census picked it up.

However, many of these differences, where the Commerce Runs annual total is higher than the Export Sales figure, can be explained as representing a reporting lag, especially when shipments are clustered at the end of one year and the beginning of the next. In the typical case, wide variations can be observed from month to month between Export Sales and Commerce Runs figures for a particular commodity and country. Most of the time, though, negative differences (where Commerce Runs figures

are higher than Export Sales numbers) are washed out within 4 to 5 months. A "discrepancy" in annual figures could show up when such a clump of shipments appears at the end of one year and continues to the next. 1/ For example, for December 1979 Export Sales reported a shipment of 38,400 tons of wheat to Czechoslovakia, while Commerce Runs reported 101,700 tons (table 2). In January 1980, Export Sales reported another shipment of 128,900 tons while Commerce Runs reported none. Should the year be defined on a calendar-year basis (January-December), the reporting lag would contribute a "discrepancy" of 63,300 tons to the 1979 annual figures and an "accounting transshipment" of 128,900 tons to the 1980 figures.

The existence of a reporting lag has important ramifications when attempting to construct a U.S. export series. At first glance it might be tempting to assume an FAS reporting error whenever the annual Commerce Runs figure is higher. To do so when the "discrepancy" is actually the result of a reporting lag would cause a double-counting of U.S. exports over the two-year period in question. In the above case such a policy would result in a claim that in the two-year 1979-80 period U.S. wheat exports to Czechoslovakia totalled 680,900 tons, while Export Sales and Commerce Runs record only 520,000 tons and 552,100 tons respectively. In such cases it would be more appropriate to use either one source or the other throughout the period in question.

In general, it seems safest to use Export Sales data rather than Commerce Runs data, because the former includes more transshipped trade. Only where a discrepancy occurs that cannot be reasonably explained by a reporting lag should Census figures be accepted in lieu of FAS data.

Comparison of U.S. and country-reported sources. A convenient way to judge the accuracy of the two U.S. sources would be to compare them with what the East European countries are reporting. Unfortunately, only five of the seven countries report imports by country of origin, as mentioned earlier, and of these five only two define "country of origin" in a manner acceptable for comparison with U.S. figures. 2/

1/ For simplicity's sake, where the Export Sales figures are larger than Commerce Runs figures, the difference will be designated as an "accounting transshipment"; where the reverse is the case, it will be referred to as a "discrepancy".

2/ According to the Bureau of the Census, U.S. export statistics "reflect both government and non-government exports of domestic and foreign merchandise from the U.S. customs territory...to foreign countries, without regard to whether or not the exportation involves a commercial transaction. In general, the statistics record the physical movement of merchandise out of the United States to foreign countries...." From Guide to Foreign Trade Statistics, U.S. Department of Commerce, 1975, p. 6.

Bulgaria, Poland, and Czechoslovakia report the country of origin of a commodity as the country in which the last seller of the commodity resides. Unfortunately, the application of this accounting method to agricultural trade greatly distorts the reporting of country of origin because of the large amount of brokering. For example, much of the U.S. grain shipped to ports in Canada, the Netherlands, and West Germany could be recorded by Polish or Czechoslovak authorities as originating from these countries. In addition, the large U.S. trading firms buy much of their grain and soybean meal from Latin America. Consequently, grain and meal imports attributed in the Polish and Czechoslovak trade yearbook to the United States likely includes large amounts of South American production. An inspection of table 1 will show that in many cases the import statistics of both of these countries are larger than the figures from both U.S. sources. Unfortunately, it is impossible to identify exactly the cause of the differences between country and U.S. sources; the country could be incorrectly the source of the imports while at the same time the U.S. sources would be underreporting U.S. exports to these countries.

Hungary and Yugoslavia, on the other hand, record country of origin as the country from which the imported commodity was actually shipped. It is thus more likely that data from the yearbooks of these countries more closely represent actual U.S. exports. If these countries define "imports" in a manner consistent with the U.S. "export" definition, then the use of import statistics are usually considered a more reliable account of trade flows, primarily because the application of import duties provides the incentive to governments to more carefully monitor import trade.

An examination of U.S. soybean meal exports dates to these two countries shows that both Export Sales and Commerce Runs data might be under reported with the respect to Hungary and over reported with the respect to Yugoslavia. There is reason to believe that a substantial amount of agricultural goods is transshipped through the port of Rijeka in Yugoslavia to Austria, Hungary, and perhaps Czechoslovakia. In fact, both Export Sales and Commerce Runs figures are higher than the Yugoslav figure for the three years examined, and are correspondingly lower than Hungarian-reported figures (table 1). Following the hypothesis that import data is gathered more carefully than export data, it appears that both U.S. sources are incorrectly reporting much of this transshipment trade.

Conclusions

As described above, none of the sources available completely captures data on U.S. exports to Eastern Europe. It would seem, though, that in general Export Sales is the most reliable, and should be used for five of the seven countries of the region. For two of the countries, Yugoslavia and Hungary, it was demonstrated that neither U.S. series seems to capture transshipments in a fashion which would lead to selecting one or the other in preference to the country yearbooks.

It should be noted that Export Sales provides data for only a limited range of commodities while the Commerce Runs detail all U.S. agricultural exports. Therefore, for many commodities there is no choice but to rely on Census data. The problems with these other commodities are not nearly as great as with the grains, oilmeals, and oilseeds, though, because it is only with the latter commodities that there is significant transshipment activity.

Table 1--U.S. and country export figure comparisons 1/

		Yugoslavia			Hungary			Bulgaria		
		Export Sales	Commerce Runs	Country Yearbooks	Export Sales	Commerce Runs	Country Yearbooks	Export Sales	Commerce Runs	Country Yearbooks
		Thousand metric tons								
Wheat	1977	-	-	-	-	-	-	-	-	-
	1978	-	-	-	-	-	-	-	-	-
	1979	360.5	214.1	312.7	-	-	-	-	-	-
Barley	1977	-	-	-	-	-	-	-	-	-
	1978	-	-	-	-	-	-	-	-	-
	1979	-	-	-	-	-	-	-	-	-
Corn	1977	-	-	-	-	-	-	-	-	NA
	1978	72.7	72.7	106	-	-	-	162.7	226.1	NA
	1979	1196.5	971.8	1094	-	-	-	41.5	42.0	NA
Soybean	1977	69.5	88.4	69	-	-	-	-	-	-
	1978	201.5	163.7	215	-	-	-	-	-	-
	1979	273.5	250.0	243	-	-	-	-	-	-
Soymeal	1977	101.7	93.1	85.6	84.9	46.4	116.9	-	10.9	10.4
	1978	134.5	112.9	82.2	90.9	99.1	116.2	44.4	44.4	27.4
	1979	89.8	94.3	51.2	115.0	101.7	103.0	97.7	97.7	87.8

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Table 1--U.S. and country export figure comparisons 1/

		GDR			Romania		
		Export Sales	Commerce Runs	Country Yearbooks	Export Sales	Commerce Runs	Country Yearbooks
		Thousand metric tons					
Wheat	1977	135.1	61.9	NA	204.9	170.8	NA
	1978	290.2	178.5	NA	-	-	NA
	1979	177.1	180.7	NA	80.4	80.7	NA
Barley	1977	29.7	-	NA	-	-	NA
	1978	30.2	55.0	NA	-	-	NA
	1979	16.8	16.7	NA	-	-	NA
Corn	1977	1582.9	134.9	NA	198.4	170.2	NA
	1978	995.1	690.7	NA	165.1	190.4	NA
	1979	1064.4	1124.1	NA	919.9	929.0	NA
Soybean	1977	-	-	NA	133.0	106.9	NA
	1978	1.0	1.0	NA	240.9	220.9	NA
	1979	2.9	3.1	NA	245.2	234.8	NA
Soymeal	1977	310.8	24.5	NA	37.5	37.2	NA
	1978	345.8	159.6	NA	68.0	60.1	NA
	1979	429.1	321.2	NA	229.9	195.2	NA

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Table 1--U.S. and country export figure comparisons 1/

		Czechoslovakia			Poland		
		Export Sales	Commerce Runs	Country Yearbooks	Export Sales	Commerce Runs	Country Yearbooks
		Thousand metric tons					
Wheat	1977	-	-	NA	749.1	611.7	1039
	1978	-	-	NA	660.7	578.3	604
	1979	281.2	442.1	NA	786.4	699.0	808
Barley	1977	-	-	NA	-	4.3	60
	1978	-	-	NA	167.6	141.1	160
	1979	-	-	NA	52.7	52.7	53
Corn	1977	144.9	134.9	209	1257.0	1303.0	1311
	1978	387.7	359.0	384	1633.3	1612.0	1693
	1979	733.0	700.9	974	2108.2	2058.4	2/2031
Soybean	1977	-	-	3	-	-	-
	1978	-	-	4	129.9	129.8	129
	1979	3.0	1.5	4	137.9	138.1	158
Soymeal	1977	192.3	81.4	258	197.0	210.6	189
	1978	81.5	73.7	129	396.1	493.1	625
	1979	244.8	242.7	2/229	316.1	305.7	379

1/ All U.S. figures are on a December-November basis.
2/ An additional month lag would make all U.S. figures lower than yearbook figures.

SOURCE: Compiled by the Eastern Europe and USSR Branch from official sources.

Table 2--U.S. exports of wheat to Czechoslovakia, 1979-1980

	1979		1980	
	Export Sales	Commerce Runs	Export Sales	Commerce Runs
	Thousand metric tons			
January	-	-	128.9	-
February	-	-	78.7	78.7
March	-	-	-	-
April	-	-	-	-
May	5.1	5.1	31.2	31.2
June	-	-	-	-
July	45.5	45.6	-	-
August	54.7	54.7	-	-
September	-	32.0	-	-
October	112.9	178.4	-	-
November	24.6	24.6	-	-
December	38.4	101.7	-	-
TOTALS:				
October-September	105.3	137.4	417.7	414.7
January-December	281.2	442.1	238.8	110.0

SOURCE: Compiled by the Eastern Europe and USSR Branch from official sources.

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