Suggestions on the Evaluation of International Trade Statistics for Market Research

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Agricultural products remain a large component of U.S. international trade, and opening trade foreign markets and competitiveness more important in the future. For example, American farmers protested the influx of counter-seasonal produce from Mexico, while others sought to liberalize overseas markets for meats and fruits. The success or failure of these programs is often measured by trade statistics. The demand for trade data will increase in the future due to increasing trade relationships and closer economic ties between countries.

As trade statistics become more important for farm planners, cooperatives and exporters, a knowledge of trade statistics would be helpful. Most people who use trade statistics may not fully know what type of information is available, and from what sources. If the information one receives is not fully understood, one can quickly make costly or embarrassing mistakes.

This report will attempt to outline the criteria for soliciting a database and to list some of the international databases that are available. Finally, there is a short discussion explaining how these databases can be incorporated into an effective marketing or research tool. The report will only discuss trade statistics that are electronically available, but most of these companies also produce hard copies or paper documents. The report will only focus on merchandise trade information, and not trade in services or capital movements.

Evaluating International Trade Statistics

The following checklist of items related to international trade statistics will be discussed. Most databases contain the same information in various forms, although certain factors of the database may make one database more useful to your research than other databases.

Before identifying what trade database to use, the research goals should be understood. This process, called the "Research Interview," serves to identify what elements are the most important for your research. By going through the items in Table 1, the components of the various databases can be effectively evaluated. By comparing these components, these elements can be ranked to identify the databases likely to meet the researcher's goals.

One interesting item about trade statistics concerns the data's source. All trade information is generated by companies submitting various documents and forms to the appropriate government agencies. This paper work is not submitted for data collection, but for government agencies to monitor trade and collect duties. For the U.S., it should be noted that import statistics are always more accurate than export statistics. The reason for the inaccuracy in the export data is that import figures are more closely monitored because of import duties or quota programs. Federal law also forbids the government from assessing duties against an export cargo. As the government does not collect duties on exports, most of its resources are aimed at import traffic.

Shipping Method

For some research projects, the method of shipment can be very important. For example, a researcher may be interested in air shipments of fresh flowers from Latin America. Another researcher may research the differences between the volumes of a certain commodity shipped in a container rather than by breakbulk shipments. Unfortunately, most shipment transportation data relates to air or ocean shipments (further identified by containerized or bulk shipments.) One limitation concerning the use of transportation detail is that there is little disaggregated trade data on truck and rail movements into/from Canada and Mexico.

Value

This figure for U.S. trade statistics is always in dollars, although trade statistics from other countries may be expressed in U.S. dollars or its own national currency. Not all databases contain

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Table 1. Components in the Decision to Evaluate Trade Data Needs

Item	Component of Item
Shipping Method	Truck, rail, containerized, air, etc.
Value	U.S. dollars or foreign currencies
Time Period	Time series (quarterly, annual, monthly), time after data is available
Customs District or Port Data	Gateways to/from the United States
State of Origin	Source of export product
Trading Country	Country receiving or shipping the product
US or Other Countries	Is U.S. data alone sufficient, or is information from other countries needed?
Commodity	Commodity specific, or commodity classification to use
Import or Export	Direction of shipment
Shipper/Company Names	Company level detail
Maintenance	How and where will the database be maintained, if it is maintained
Monetary Amount to Spend on Data	The value of the data for your research

value information due to issues relating to business confidentiality, while other databases may contain estimated data values. Value comparisons can also vary as certain import databases focus on general import levels, while other databases look at imports imported for direct consumption.

Tonnage

Most international statistics are calculated in metric tons, while some databases use pounds as its tonnage basis. Not all databases contain weight statistics, while some Ports use computed tonnage figures called Metric Revenue Tons (MRTs). Based upon the weight or the measure of the cargo, MRTs reflect the wharfage or transportation billing associated with a particular commodity. These numbers are not consistent among ports due to different wharfage rates.

Time Period

Time can be an important element in the shipping season, especially if the major shipping season has a strong seasonal nature. For example, Chilean grapes begin arriving in December. If the study is based on calendar year numbers, it will actually have the first four months of the correct shipping season and one month of next year's shipping season. One way to correct this is to get monthly or quarterly data. This may generate more accurate figures, but the additional costs or database elements may offset the benefit of having the monthly. Other databases are only annual in origin, and therefore would be impossible to adequately examine the seasonal nature of certain products.

It should also be noted that over time, the trade information may be changed as government procedures or data needs change. Most of the changes involve definitions of the commodity groupings, but other information may have been altered.

Another time element consists of how soon after a certain period ends should the data be made available for analysis. For example, annual numbers generally are released after corrections are made. Some databases release monthly numbers, but these numbers are not revised on a consistent basis.

Customs District or Port Data

Customs District or U.S. gateway information is useful in comparing the movement of international freight. For example, if you are exporting poultry to Asia, you may want to evaluate the amount of poultry moving through the Gulf Coast compared to the West Coast. Some databases also contain information on the overseas ports handling these cargos.

State of Origin

If you are interested in exports originating from a particular state or state regions, there are several databases available to compare the effectiveness of state exporters to other states on a commodity level. The problem with this information is that some data may be overstated due to the "Headquarters Effect." The Headquarters Effect is based upon the premise that a company located in a certain location may credit all of its cargo to its

headquarters rather than the regional production plants. Also, U.S. export statistics consider the state of origin to be the state where the shipment was exported from, not its ultimate source, if different.

Trading Country

Most international databases include the foreign country that the product is moving to or from. This is important to evaluate shifts in trade, but also to identify changes in world markets and potential new markets.

U.S. or Other Countries

Do you need information about the flow of trade between other countries? For example, you may want to compare the success of U.S. exports to a particular country. For example, a beef export researcher may want to know the market share of U.S. beef in Japan and the amount of beef imported into Japan from other countries.

Commodity

The researcher may be interested in a particular industry or commodity. It is important to understand the different Data Classification Systems used in international trade. Data Classification Systems are the listings outlining the codes used to separate commodities for assessing duties or data collection. Due to historical data needs by various government agencies, different commodity or industry codes are available—such as SITC, SIC, TSUSA, and harmonized codes. Each of these codes are not fully compatible, but some degree of compatibility does exist.

Another factor to consider is that over time the commodity groups were modified, and these changes were assessed into the database. Also, comparisons across various government databases may also range widely. Generally, the more disaggregated the data elements are, the greater the inconsistencies between the various data classification systems.

For agricultural products, the level of processing may not be easily discernible from the information. For example, beef (fresh or frozen) is included in one database, but that same database may also include shipments of beef offal. Also, some commodities are combined into classification groups that may not include the details necessary for an effective analysis. For example, trade data on citrus shipments may include shipments of oranges, lemons or other citrus products.

Import or Export

Another valid consideration involves whether to research just imports, exports or total trade. While such a basic factor, not every database contains both import and export information, or the data is report directional trade flows on the same basis.

Shipper/Company Names

Another important concern involves is whether company-level data is needed. This information may be more appropriate for a business concern, but may be helpful to examine shipping patterns. Due to U.S. laws, shipper/company names are only available for ocean and air shipments.

Maintenance

Most people do not evaluate whether the research will be used after the research project is completed. A company must determine what its goal is—to create a historical database that will be accessed often, or an seldom used. The argument for developing a historical database is that trends and forecasts may be easier to conduct. The only downside is the fact that the more detailed the database, the greater demands upon your system. The use of CD ROM technologies or dialup online databases may help reduce the strain on a system. Also, the researcher may decide to maintain the database, or to purchase updates as needed.

Monetary Amount to Spend on Data

The final point of evaluation is the value of the data itself. For any research, one needs to decide if the cost of purchasing and maintaining the data outweighs the benefits associated with having access to the data. This is an area most people fail to properly evaluate, often substituting short-term research goals that are not coordinated properly with other research requests. Although some trade information is available for free, most is not, while others also incorrectly assume that data is quickly available in any format.

Sources of Trade Information

This section will identify some of the trade information sources that are available. The various databases listed will be discussed, but the discussion will not include any pricing information. (Information on these companies is included in the appendix.)

Table 2. Sources of Trade Statistics

U.S. Government
PIERS
Stats Canada
SICE
U.N.
GTI
MISER
Ports
U.S. Army Corps of Engineers

The U.S. Government

The first source of trade information is the U.S. Government. Various agencies are engaged in international trade and disseminate trade statistics, but the information is actually processed by the U.S. Customs Service and analyzed by the Foreign Trade Division. In addition, the Foreign Trade Division generates specialized databases on U.S. trade, although the Service can generate special reports.

Some of the information provided by the Foreign Trade Division is available on the National Trade Databank (NTDB). The information in the NTDB is generated from the Foreign Trade Division and includes some historical data on trade to various countries or by commodity type.

The United Nations

The United Nations database consists of data submitted from all the U.N. member governments. The problem with the U.N. statistics lies in the fact that not all nations file their data in the same manner, but by having data on other countries, the U.N. is a good source of evaluating activities in other markets. The U.N. contains some historical information on each country, but this varies widely.

Stats-Canada

In addition to Canadian Foreign trade, Stats-Canada also publishes U.N. trade data. (Stats-Canada is the Canadian equivalent of the U.S. Foreign Trade Division.) Stats-Canada also produces information on international trade with the U.S., which could be useful for evaluating cross-border trade disputes.

Tradstat

Tradstat also offers information on international trade, but its values are corrected against the various governments to correct any errors. Primarily a European product, Tradstat can also be used estimate trade with other regions not listed in other databases, such as North Korea.

MISER

For state level exports, the MISER group coordinates the U.S. Bureau of Census numbers with indexes of exporters to generate export flows at a state level. This is based upon the state in which the export originated, not necessarily the state the product was produced. The database does attempt to correct the Headquarters effect to generate more reliable state export data.

The Port Import-Export Reporting Service (PIERS)

Unlike most U.S. government statistics, PIERS is based upon the manifest level information, which under U.S. law, is considered public information. For each shipment, the name of the companies engaged in the transaction are listed, including the commodity type and the metric tonnage of the shipment. Also included is information on the cargo's destination and transit schedule. PIERS strength lies in its ability to monitor the levels of particular businesses in international trade. The PIERS database has recently developed information on air shipments as well as shipments into Latin America.

Global Trade Information Services

Global Trade publishes several CD ROM products containing U.S. trade statistics in various forms. In addition to U.S. trade information, GTI also sells trade data for Japan and Mexico.

International Ports

Ports generally collect data on shipments through their facilities. The problem with port statistics is that the data may not be consistent with other ports due to varying fiscal years or methods of measur-

ing cargo. Most ports generally have information on tonnage, but use U.S. Government information for value statistics. Due to port data being based under actual movements, companies sometimes contact ports to receive data on domestic shipping (such as to Hawaii or Alaska, or Puerto Rico).

The Army Corps of Engineers

The Army Corps of Engineers also publishes very detailed trade through U.S. ports. The problem is there are delays in the release of the data, but the Army Corps does include domestic traffic.

Incorporating Trade Statistics into Your Marketing or Research Functions

The following table should be used only as a suggestion, but shows how to use the "Research Interview" to develop a strategy for identifying your data resource needs. This listing should be viewed as a general guideline, as even within the same categories wide ranges in data presentation and ease of use exist.

The above items do not fully relate to incorporating trade data. Other suggestions include organizing the database so that the time series component remains consistent over time. Also, the correct commodity classification system should be used, and that differences inherent with changes due to Government adjustments or reporting methods are corrected.

This report examined sources of trade data, but other sources of trade data do exist, sometimes included in other marketing research products. As with any research, trade statistics possess no value until after an intelligent and methodical study transforms the data into information. Because of this, market research is only as profitable as the data being evaluated. Bad or erroneous data could quickly lead to false conclusions. Many firms make the mistake of basing its data needs strictly on cost issues, which may not be the most efficient method of determining which databases to use.

If you are interested in developing a wider analysis of trade statistics, the International Trade Administration published an excellent primer entitled "UNDERSTANDING UNITED STATES FOREIGN TRADE DATA." (This document is also available on the NTDB.) Further, the International Trade Data Users Group meets twice a year to discuss trade statistics.

Conclusion

As trade continues to expand, the use of accurate trade statistics continues to be paramount to effectively identifying policy goals or new markets. A critical review of data needs should allow companies to better integrate trade data with other information to provide practical and useful information for a wide variety of research projects. There are many different data sources available in a wide variety of formats. The researcher should be aware of the source of the information being used as well as the format that the data is available in. These factors, combined with other factors, could influences the success of any research effort.

Table 3. Components in the Decision to Evaluate Trade Data Needs

Item	Database
Shipping Method	Army Corps., U.S. Govt. PIERS, GTI
Value	All Databases
Tonnage	All Databases but Miser
Time Period	All are annual, but U.S. Govt., PIERS, GTI contain monthly figures also.
Customs District or Port data	GTI, PIERS, U.S. Govt.
State of Origin	MISER, PIERS
Trading Country	All Databases
US or Other Countries	U. N., Trade Stat, GTI, PIERS, Stats-Canada
Commodity	All Databases
Import or Export	All Databases (MISER contains only Exports)
Shipper/Company Names	PIERS

APPENDIX

Sources Cited in this Article

Database Providers

Global Trade Information Services
610 Hilton Street, Suite 6
Columbia, SC 29205
Telephone (803) 765-1860

Journal of Commerce, PIERS
Two World Trade Center, Suite 2750
New York, NY 10048
Telephone (212) 837-7051, (800) 952-3839

MISER
University of Massachusetts, Institute
for Social and Economic Research
128 Thompson Hall
University of Massachusetts
Amherst, MA 01003
Telephone (413) 545-3460

SICE
(Sistema de Informacion al Comercio Exterior)
Foreign Trade Information System
General Secretarit of the OAS
1889 F Street, N.W.
Washington, D.C. 20006
Telephone (202) 458-3725

Stats-Canada
Marketing and Client Services Section
International Trade Division
9th Jean Talon Building
Tunney's Pasture
Ottawa, Ontario K1A 0T6
Telephone (800) 294-5583 (in Canada only)
(613) 951-9647

United Nations Publications
Sales Section, 2 United Nations Plaza
Room DC2-853, Dept. 403
New York, NY 10017, USA
Telephone (212) 963-6170, (800) 253-9646.

United States Department of Commerce
Economics and Statistics Administration
Bureau of the Census
Foreign Trade Division
Room 2279 Building 3
Washington, DC 20233
Telephone (301) 457-2227

United States Army Corps of Engineers
Navigation Data Center
Casey Building
Fort Belvoir, VA 22060-5586
Telephone (703) 355-5586

Organizations

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