



## **How the Bureau of Labor Statistics Measures Price Change for Inbound Crude Oil Tanker Freight in the U.S. Import/Export Price Indexes**

The Bureau of Labor Statistics (BLS) Inbound Crude Oil Tanker Freight Index measures changes in the average price charged for delivery of crude oil on tanker freight vessels to the U.S. The tanker index was first published in 1987 with a lag of one quarter. In 2001, BLS began calculating the index monthly, published with a two month lag. This index was discontinued in 2008. BLS publishes international services price indexes for air freight and air passenger fares. Historical data are available for crude oil tanker freight and ocean liner freight (<http://www.bls.gov/web/discsrv.htm>), education (<http://www.bls.gov/web/srv3.htm>) and travel and tourism services (<http://www.bls.gov/web/srv2.htm>).

Crude oil tanker freight consists of bulk crude oil shipments measured in barrels. Other liquids transported in tankers, such as chemicals and liquid natural gas, are not included in this index. The scope of the service measured is ocean transportation; therefore, the service being priced is from port to port only, and does not include any ground transportation or port service.

The Inbound Crude Oil Tanker Freight Index reflects changes in rates paid for the transportation of crude oil loaded from foreign countries and shipped to the U.S. on tanker vessels regardless of the nationality of either the shipper or the vessel operator/owner. This BLS index captures inbound shipments only. The U.S. Department of Commerce's Bureau of Economic Analysis (BEA) is the primary

user of the BLS import/export and inbound transportation services indexes. BEA uses these indexes to adjust the Balance of Payments Accounts and to deflate the gross domestic product (GDP).

### **Sample Design and Selection**

The Inbound Crude Oil Tanker Freight Index comprises the entire universe of tanker transactions reported to the U.S. Department of Energy (DOE). BLS receives a monthly file from DOE that includes data on all reported petroleum and tanker transactions into the U.S. over the previous period. This file is used to calculate both the Inbound Crude Oil Tanker Index and the Import/Export Crude Petroleum Index.

The Inbound Crude Oil Tanker Index is published in a lagged manner due to the availability of the data from DOE. The index is lagged by two months. The three previous months' index values are revised each period to capture all new data reported by the tanker companies to DOE in the intervening months. For example, the January tanker price index is published with the release of March import/export price indexes, and the tanker index numbers for October, November, and December also are recalculated at this time to reflect the most current data.

### **Pricing**

The tanker index is an average price index. A weighted average of transactions sharing

trade routes is used for comparison each month rather than comparing single transactions. Each tanker item is defined by transactions of the same region of origin and delivery. One item, for example, includes all tanker freight transactions from the Middle East to the U.S. Gulf of Mexico. For each item, the average price of all transactions delivered in a given month is compared over time. Transactions within each item are weighted by quantity of barrels and price per barrel.

### **Trade Value Weights**

The revenue weights used for index calculation are derived from a regression analysis based on one year's worth of tanker transactions from DOE. Trade value weights are updated every five years and currently reflect year 2005 dollar values.

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### **Additional Information**

Additional information on the U.S. Import/Export Price Indexes can be found in "International Price Indexes," *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, 1997), Chapter 15. This chapter also is available on the BLS Internet site (<http://www.bls.gov/mxp>) under the topic "Publications." You may contact the International Price Program of the BLS by telephone at (202) 691-7101 or by e-mail at [mxpinfo@bls.gov](mailto:mxpinfo@bls.gov).

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