

# Measuring Price Change for Air Freight in the U.S. Import/Export Price Indexes



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The Bureau of Labor Statistics (BLS) Import/Export and Inbound/Outbound Air Freight Indexes measure changes in rates for air transportation of freight to and from the United States. BLS first began to publish the air freight indexes in the early 1990s on a quarterly basis, converting to monthly publications in January 2006. BLS also publishes international services price indexes for 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>).

The international transportation services indexes published by BLS include import and export indexes, reflecting the cross-border payments and receipts for services, and inbound and outbound indexes, reflecting changes in transportation costs by flight direction.

The import and export indexes are derived under the assumption that the final recipient of the freight, located in the country of destination, pays for the transportation service. Thus, the Import Air Freight Index measures changes in rates paid for the transportation of freight from foreign countries to the U.S. on foreign air carriers. For example, the rate from Paris to New York on Air France would be included in the Import Air Freight index, since the U.S. recipient of the freight would pay a French air carrier for the service. The Export Air Freight Index measures changes in rates paid for the transportation of freight from the U.S. to foreign countries on U.S. air carriers. For example, the rate from New York to Paris on Delta would be included in the Export Air Freight Index, since the French recipient of the freight would pay a U.S. air carrier for the service. Using the same logic, the Export Air Freight Index also includes freight transportation between two foreign countries provided by U.S. air carriers. Regional groupings follow the definitions set

by the U.S. Department of Transportation's World Area Codes. The U.S. Department of Commerce's Bureau of Economic Analysis (BEA) is a primary user of the Import/Export Air Freight Indexes. The BEA uses these indexes to adjust the Balance of Payments Accounts and to deflate the Gross Domestic Product.

BLS publishes the Inbound/Outbound Air Freight Indexes as an alternative to the Import/Export Air Freight Indexes. The Inbound Air Freight Index measures changes in rates paid for the transportation of freight from foreign countries to the U.S. on any air carrier. The Outbound Air Freight Index measures changes in rates paid for the transportation of freight from the U.S. to foreign countries on any air carrier. For example, the rates from New York to Paris on both Delta and Air France would be included in the Outbound Air Freight Index, while the rates from Paris to New York on both Delta and Air France would be included in the Inbound Air Freight Index. The Inbound and Outbound Air Freight Indexes can be used for analyses of international trade, examining U.S. and foreign carriers' market performance, and measuring changes in transportation costs for moving air freight to and from the U.S.

## Sample Design and Selection

BLS uses the U.S. Department of Transportation's (DOT) T-100 International Market file as the sampling source for the Import/Export and Inbound/Outbound indexes. The route-specific data contained in this file include: origin and destination airports, air carrier's name and nationality, and amount of cargo transported.

A sample of company-routes representative of international air freight transportation is selected by probability methods from the T-100 file. A company-route is composed of an air carrier transporting freight internationally between a specific origin and destination. Each air freight item in these indexes is

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defined by the following characteristics: air carrier nationality, origin and destination airports, type of rate, shipment weight, dimensions and packaging of shipment, type of commodity shipped, and type of buyer of the service. The samples for the import and export air freight indexes are subsets of the samples selected for the inbound and outbound indexes, respectively.

## Pricing

Air freight consists of both consolidated shipments and individual packages tendered to an airline for transportation. Freight does not include mail or passenger baggage. The scope of the service measured is air transportation only. Therefore, the service being priced is from airport to airport only and does not include any ground transportation or port service.

Pricing data for the air freight indexes are obtained directly from air carriers on a monthly basis, reflecting transaction prices for the first week of the month. To determine a net price for the service, the freight rate (e.g. contract, express, market, tariff, etc.) is reported along with information about commissions, discounts, and surcharges. Fuel, security, and other surcharges that apply to the selected routes are included in the air freight prices.

## Trade Value Weights

The revenue weights used for index calculation are derived from a regression analysis based on data from entry documents filed with the U.S. Customs and Border Protection and the DOT's T-100 International Market file. The trade dollar value weights are updated annually with a two year lag.

## Access the Data

The most recent data for this industry can be found on Table 8 of the U.S. Import and Export Price Indexes News Release

(<http://www.bls.gov/news.release/ximpim.t08.htm>).

Historical index values can be found at <http://www.bls.gov/web/srv1.htm>. These data are available in a variety of other formats on the BLS website (<http://www.bls.gov/mxp>).

## 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 BLS by telephone at (202) 691-7101 or by e-mail at [mxpinfo@bls.gov](mailto:mxpinfo@bls.gov).

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