

**Methodology**

**Foreign Trade Unit Value Index 2016-2019**

 **2015=100**

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**First: General background on the foreign trade index**

**1.1 Introduction**

Foreign trade is one of the basic elements in economic development, as it is a fundamental indicator that reflects the productive and competitive capacity of countries, and in light of the enormous economic changes taking place in our current era and due to the increase in the volume of foreign trade at the global level, including the Emirate of Dubai, so it was important to have measures that reflect these changes and developments, and indices are considered among the important statistical measures in measuring economic changes, which measure the development of foreign trade (imports, exports) through the ports of the Emirate of Dubai.

**2.1 Objectives of the project**

* The Foreign Trade Unit Value Index is used to study the changes that occur in the foreign trade price unit over time periods in order to identify the trends of international trade and to calculate the rates of trade exchange and its consistency with the general interest of the Emirate (and the country).
* The price index of the foreign trade unit is also used as an important indicator that reflects the extent of progress and development that occurs in foreign trade in one period of time compared to another.
* Providing data to decision makers, policy makers, and those interested in studies of all kinds.
* Measuring the performance of foreign trade.
* Provide updated unit value statistics for Foreign Trade Unit Value Index for exports and imports
* Fulfilling international, regional and local requirements

**Second: The target population and the sample frame**

**1.2 Target community**

* Detailed foreign trade data issued by Dubai Customs is relied upon, which is a major source of data. Which includes the details of foreign trade with the value and quantity of imports and exports by country through the emirate's land, sea and air ports, which in turn contributes to facilitating the automated processing followed by the Dubai Statistics Center in the installation and issuance of foreign trade indices.
* The statistics of foreign trade in the Emirate of Dubai consider the special trade system, according to which the incoming and outgoing goods for which the customs procedures have been completed and released are included in the foreign trade. Trade data depends on the customs declarations submitted by the concerned parties after being reviewed by the customs officials.

**The data included imports and exports of foreign trade according to the classification of the Harmonized System 2017 as follows**

01- Live Animals, animals products

02- Vegetable products

03- Animal and vegetable fats, oils and waxes

04- Prepared Foodstuffs

05- Mineral products

06- Products of chemical and allied industries

07- Plastics, rubber and articles thereof

08- Raw hides, skins, leather and articles

09- Wood and articles, cork and plating materials

10- Pulp of wood, paper products and waste paper

11- Textiles and textile articles

12- Footwear, headgear and umbrellas

13- Articles of stone, cement, asbestos, ceramics and glass

14- Pearls, precious stones and metals

15- Base metals and articles of base metals

16- Machinery, sound recorders, TV and electrical equipment

17- Vehicles, aircraft and vessels

18- Optical, medical equipments and watches

19- Arms, ammunition, parts and accessories

20- Miscellaneous manufactured articles not elsewhere classified

21- Art work, collectors pieces and antiques

\*Foreign trade data on which it was relied does not include any data on the trade of petroleum products.

**Third: Project sample**

**1.3 Sample**

At this stage, the base year and the type of trade (imports/exports) are determined through the index system, and the basic fields for selecting vocabulary are calculated and displayed, and they come as follows:

* + Price unit: It is calculated based on the classification of the customs tariff, for each commodity (value / quantity) on a monthly periodicity.
	+ Representation percentage: It is a percentage that is determined by the technicians, where the program excludes the goods outside the representation, while the goods within the representation are provided on the sampling screen (with the possibility of returning the excluded goods for the purposes of the study)
	+ Number of months of availability of the statement: a number that represents the number of months in which the price unit was available

**2.3 Sample units selection**

The sample for the research is selected based on the record data received from Dubai Customs, considering the coverage of all represented sections according to the classification of the Harmonized System at the level of the Emirate of Dubai, as the aim of the research is to comprehensively cover the sections included in the calculation of the index of the value of the foreign trade unit,

The foreign trade data for 2015 was chosen as the base year for foreign trade indices.

The proportions of representation of goods included in the index basket for the unit price index for 2015 are as follows:

* + 84.04% Imports representation
	+ 82.70% Exports representation

The following sections for Foreign Trade Imports by HS Classification 2017 includes:

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| 01- Live Animals, animals’ products |
| 02- Vegetable products  |
| 03- Animal and vegetable fats, oils and waxes |
| 04- Prepared Foodstuffs |
| 05- Mineral products  |
| 06- Products of chemical and allied industries |
| 07- Plastics, rubber and articles thereof |
| 08- Raw hides, skins, leather and articles |
| 09- Wood and articles, cork and plating materials |
| 10- Pulp of wood, paper products and waste paper |
| 11- Textiles and textile articles |
| 12- Footwear, headgear and umbrellas |
| 13- Articles of stone, cement, asbestos, ceramics and glass |
| 14- Pearls, precious stones and metals |
| 15- Base metals and articles of base metals |
| 16- Machinery, sound recorders, TV and electrical equipment |
| 17- Vehicles, aircraft and vessels |
| 18- Optical, medical equipment and watches |
| 20- Miscellaneous manufactured articles not elsewhere classified |

And the following sections for exports Foreign Trade According to the HS Classification 2017

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| --- |
| 01- Live Animals, animals’ products |
| 02- Vegetable products  |
| 03- Animal and vegetable fats, oils and waxes |
| 04- Prepared Foodstuffs |
| 05- Mineral products  |
| 06- Products of chemical and allied industries |
| 07- Plastics, rubber and articles thereof |
| 09- Wood and articles, cork and plating materials |
| 10- Pulp of wood, paper products and waste paper |
| 11- Textiles and textile articles |
| 13- Articles of stone, cement, asbestos, ceramics and glass |
| 14- Pearls, precious stones and metals |
| 15- Base metals and articles of base metals |
| 16- Machinery, sound recorders, TV and electrical equipment |
| 17- Vehicles, aircraft and vessels |
| 18- Optical, medical equipments and watches |
|  20- Miscellaneous manufactured articles not elsewhere classified  |

**3.3 Calculating Weights**

Once the basket of the represented commodities is selected, the system calculates the weights according to the relative importance of each commodity.

**Fourth: Project work stages**

**1.4 Design stage**

This stage included the preparation and review of the data received from Dubai Customs. It also included the design of the sample and its methodology, the preparation of a description of the variables, the design and approval of the rules of conformity, auditing and review, and methodologies for data processing and outputs for statistical systems.

**2.4 Build phase**

This stage includes developing, designing and approving systems for the process of uploading, reviewing and processing unit values, calculating the Foreign Trade Unit Value Index, and designing and building reporting tables for statistical systems.

**3.4 data processing stage**

Dubai Customs provides data on foreign trade for the Emirate of Dubai related to the quantities and values ​​of exports and imports by country. These data are processed, classified and published according to the approved international trade classifications.

The foundations have been laid for the installation of the index of the unit value of foreign trade and the development of appropriate solutions to the problems that may face calculating the index of foreign trade by adopting more than one method for analyzing the price units of goods.

 **4.4 Data processing stage**

It includes the data processing stage, which includes classification and coding of variables, application of audit rules, review and auditing of data, adoption of raw data, compensation for missing values ​​in cooperation with the Information Technology & Centralized Statistical Systems Department, calculating weights, calculating aggregate results from main and sub-data, and approving the semi-final database.

**5.4 analysis stage**

This stage includes extracting primary results, calculating primary indicators, overall auditing and comparison of results from previous statistics, checking other available data, analyzing results, reviewing results and applying their confidentiality levels. Approving and reviewing final results. At this stage, the general methodology and working methods used are documented and approved.

**6.4 Publishing stage**

The stage includes ascertaining the designs of all outputs and their ability to be published, coordinating with those concerned to agree on the results authorized to be published and determining the levels of dissemination, reviewing and approving the levels of dissemination, and building statistical packages and reports. At this stage, data is published on the packages that were designed in the Build phase, and includes publishing reports and versions Statistics electronically, as well as inventorying news, providing the media with press news about the index, and managing the center’s social media channels. It also includes receiving and delivering requests from the various concerned groups. Customers are also contacted by answering their inquiries after the data is published.

**7.4 evaluation stage**

At this stage, which comes at the end of the project, the statistical process is evaluated in coordination with the internal and concerned authorities, as well as an improvement plan is developed in coordination with the concerned internal authorities and their approval.

**Fifth: The basic records of the project**

Requires the provision of records that serve as the basis in order to build the unit value index of foreign trade and these records are:

**1.5: Records of unit values ​​for foreign trade**

* + 1. **The unit's record of foreign trade according to the classification of the HS (exports/imports)**

This register includes all commodities classified according to the Harmonized System classificationHS2017 whose values ​​are obtained from Dubai Customs.

**form language**: Arabic and English languages

**Contents:** An accurate description of the sections, chapters and categories in the unit value system for foreign trade in both Arabic and English, in addition to the weights by value for foreign trade, bearing in mind that the tab used is coded according to the classification of the Harmonized System, (HS2017).

The following is a detailed description of the components of this record as follows:

1. **Item Code**

The items in this record are classified according to the hierarchical tabulation used in the classification of the Harmonized System (HS2017), with details added as follows: Sections, Chapters, Clauses and Categories.

In general, the coding mechanism can be shown as:

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| 1 | Represents the department (live animals and animal products) |
| 01 | Represents the class (live animals) |
| 0101 | item (horses and donkeys, mules, and quails (mongols), live.) |
| 01012110 | Code HS (horses of Arab origin) |

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 The symbols used start from the sections with the symbol (1), ie the first term, and end with the HS symbol, which consists of eight digits.

The HS code was built according to the following mechanism:

* The first four digits from the left represent the item code.
* The last two digits represent the HS commodity notation
1. **HS Description**

It is an accurate description of sections, chapters, clauses, and categories.

1. **base period**

It represents the unit value of a commodity's foreign trade in the base period according to the HS classification

1. **Value weights for foreign trade**

The weight of the values ​​of foreign trade: It is the share of the sections, chapters, items and categories of the total foreign trade values ​​according to the classification of the Harmonized System. It is used in the calculations of the unit value index of foreign trade. Weight was calculated at the group level.

**5- English description**

It is the English text corresponding to the Arabic text for the sections, chapters, clauses and categories, but the texts are sufficient for the limits that will appear in the tables and bulletins related to the index numbers.

**Sixth: The stage of data processing**

 **1.6 Prepare data**

Dubai Customs provides data on foreign trade for the Emirate of Dubai related to the quantities and values ​​of exports and imports by country. These data are processed, classified and published according to the approved international trade classifications.

The foundations have been laid for the installation of the index of the unit value of foreign trade and the development of appropriate solutions to the problems that may face calculating the index of foreign trade by adopting more than one method for analyzing the price units of goods.

One of the most important problems that may face the calculation of foreign trade indices:

Absence or loss of an item.

 Changing commodity specifications, which leads to price fluctuations and the impact of the index.

Revising the classifications, where the classifications used in foreign trade are subject to modification from time to time by dividing some of the classification categories into multiple branches or by merging two or more categories into one category.

Heterogeneity in recording the values ​​and quantities of goods on the customs code that contains more than one type of goods.

Irregularity in the import and export of goods monthly or quarterly, as import and export operations are subject to time-varying deals so that data about the goods are received with irregular time based on local and external demand or the nature of goods, where they are dealt with over long periods.

 **2.6 Automated audit**

The extraction of audit and audit reports, anomalies or missing data are processed.

* Make a comparison between the price unit of a variety between two consecutive months and give a note when the price difference is ±20% or more (with the percentage specified).

Among the most important observations that should also be focused on during the development of automated audit programs are the following:

* Unreasonable changes in the price of an item compared to the price of the same item for the previous month.
* The disappearance of the price of an item.
* Monitor the emergence and disappearance of goods and services.

**Seventh: output tables**

 **1.7 extract results**

The program provides statistical reports for the price index of foreign trade by type (imports/exports) on a quarterly and annual level, as well as reports at the department level and the general index.

The reports include the following:

* Foreign Trade Unit Value Index (imports / exports)
* Quarterly percentage changes for the indices of the Foreign Trade Unit Value Index (imports/ exports)
* Annual change percentages for the indices of Foreign Trade Unit Value Export Index (imports / exports)

 **2.7 View and publish results**

After the results are extracted upon completion of the calculation of the index numbers, they are displayed in special tables and graphs, knowing that the process of data dissemination must be carried out in accordance with the controls agreed upon at the levels of confidentiality, considering specific standards and controls that take the following:

* Data Confidentiality Controls
* Specific controls for the limit to which it is published
* Controls for international publishing standards if the statistics are internationally committed to it

The results of the index of foreign trade unit values ​​are presented through:

* Intelligent statistical systems.
* Report of the Index of Foreign Trade Unit Values.
* Periodic press releases that review the most prominent results of the survey.

**3.7 data review**

 Corrections are made when corrected, revised or delayed information is applied to calculate the unit value index of foreign trade imports during a 6-month period, the unit value indices are corrected for the imports published for the previous period and the revised unit value indexes are published with the data of the next reporting period, with a note on the revision.

**Eighth: Definitions**

The definitions and classifications used were prepared based on international standards issued by the United Nations and some of its specialized agencies, and according to what is customary in the Dubai Statistics Center.

- Index of the unit value of foreign trade:

It is an indicator that measures changes in the price unit of foreign trade (imports, exports) according to the classification of the Harmonized System2017 between Two time periods.

**Base year:**

 The year or period to which the unit values ​​are attributed to the comparison year or the comparison period with their values, and when choosing the base year, it is considered that it is a normal period characterized by stability and distance from abnormal conditions such as economic crises and wars, and to be relatively close to the comparison period, usually twelve months.

**comparison period:**

The year or period whose values ​​are attributed to those of the base year in order to measure the change in values.

**Weights:**

It represents the relative distribution of the value of foreign trade (by type) for the Emirate of Dubai, distributed according to the approved classifications. These weights are used in arithmetic operations that depend on Lasper's equation.

**Harmonized systems:**

It is a number that includes the names, descriptions, and distinctions of goods and the categories of customs duties to which they are subject. It is one of the internationally recognized classification systems for commercial goods and is used in classifying goods and determining their customs tariffs.

**Imports:**

According to the foreign trade system, it is all commodities and goods imported to the country to cover local needs, and is subject to all customs procedures followed to complete the import of a commodity

**Exports:**

Exports of all goods fully produced or manufactured in the country or undergone some modifications that lead to a change in their shapes and values

**Lasper's formula:**

It is the well-known mathematical formula (by the statistician Laspere) that calculates the index using the weighted levels of the values ​​with the weights of the base period.

Ninth: improvement plan

* Extracting the indices of the unit value (imports and exports) according to the international classifications.
* Follow up on the latest international classifications, instructions and methodologies.