



ARTEMIS

Information Management

Since 1991

**STATUS ON THE IMPLEMENTATION OF NEW/UPDATED THE IMTS
2010 RECOMMENDATIONS IN THE CARICOM REGION
GUIDELINES TO DATA VALIDATION, QUALITY PROCESSING AND
OUTLIERS DETECTION**

CARICOM – 10TH EDF/STATS/R.1.6.1.1.2/SER/13.14

JUNE 2015



Artemis Information Management S.A.

Capital: EUR 93 750
RCS Luxembourg B36 326 - TVA: LU 18747036
Bank Account: BIL LU89 0027 1936 4368 6600
BGL-BNP PARISPAS LU42 0030 5011 9934 0000

1, rue Bender
L-1229 Luxembourg

Tel: +352 45 91 45 - 1
Fax: +352 45 91 45- 71
Email: artemis@artemis.lu



Contents

1	Introduction.....	3
2	Status of Implementation of the new or updated Recommendations / Encouragements in the IMTS 2010.....	3
2.1	Questionnaire Structure.....	3
2.2	Findings.....	4
	New Indicators.....	4
2.2.1	Availability of Customs Procedure Codes in basic data.....	4
2.2.2	FOB-type value for Imports:	4
2.2.3	Country of consignment for Imports/Exports	5
2.2.4	Breakdown by Mode of Transport:	5
2.2.5	<i>Seasonally adjusted data</i> (monthly or quarterly data)	6
2.2.6	Data by enterprise characteristics (Linking Trade and Business Statistics).....	6
	Trade to be separately identify	6
2.2.7	Goods for processing and goods for processing without change of ownership	6
2.2.8	Goods which cross borders as a result of transactions between related parties:	7
2.2.9	Re-imports and Re-exports:	7
2.2.10	Goods for repair (excluded but separately identified).....	7
	Additional Recommendations	8
2.2.11	Use of the General Trade System	8
2.2.12	Inclusion of goods for military use	8
2.2.13	Inclusion of electricity, ships, and aircraft.....	8
2.2.14	Inclusion of fish catch, goods procured in ports and airports for imports and exports..	9
2.2.15	Goods simply transported through a country are excluded (temporary admission or temporary exports):	9
2.2.16	Production of external trade indices (unit value and volume indices):	11
2.3	Recommendations - Actions to be taken in countries	11
3	Data Quality.....	12
3.1	Quality reporting	12
3.2	Data Validation	12
3.3	Mirror Statistics Analysis	13
3.4	Outlier's detection (using Eurotrace DBMS module)	14
4	EXAMPLES OF STUDIES ON DATA QUALITY – Findings and Recommendations	21
4.1	Asymmetry Study - Mirror analysis between EU and MED partner countries.....	21
4.2	Project undertaken to access data quality – the south Mediterranean Partner Countries..	21



1 INTRODUCTION

Within the framework of the project “Consultancy on Merchandise Trade”, Artemis Information Management organized with the CARICOM Secretariat a workshop in St Vincent and the Grenadines from January 26th to February 5th 2015. During this workshop, several presentations on the main changes introduced in the revised International Merchandise Trade Statistics: Concepts and Definitions 2010 (IMTS2010) were provided.

In addition, sessions on quality reporting, data validation and and mirror statistics as well as examples of studies on data quality and mirror statistics were provided by a Senior Statistician.

The present document contains:

- The status of implementation, in the CARICOM Member’ States, regarding to the some of the new recommendations (Recommendations and /or Encouragements) of IMTS2010;
- Guidelines on Data Quality - checks and processes (including the outliers detection procedure under Eurotrace DBMS).

2 STATUS OF IMPLEMENTATION OF THE NEW OR UPDATED RECOMMENDATIONS / ENCOURAGMENTS IN THE IMTS 2010

During the above mentioned workshop, a questionnaire on the implementation of main new or updated IMTS recommendations/encouragements was provided to participants. The objective of the questionnaire was to establish the status of implementation of these recommendations/encouragements in countries and to recommend actions to be taken relative to those recommendations/encouragements still be be implemented.

2.1 QUESTIONNAIRE STRUCTURE

The questionnaire was designed according to the following structure:

- New Indicators
 - Availability of Customs Procedure Codes in basic data
 - FOB-type value for Imports
 - Country of consignment for imports
 - Country of consignment for exports
 - Breakdown by mode of transport
 - Seasonally adjusted data (monthly or quarterly data)
 - Data by enterprise characteristics (Linking Trade and Business Statistics)
- Trade to be separately Identified
 - Goods for processing and goods for processing without change of ownership
 - Goods which cross borders as a result of transactions between related parties
 - Re-imports and re-exports
 - Goods for repair (excluded but separately identified)



■ Additional Issues

- Use of the General Trade System
- Inclusion of goods for military use
- Inclusion of electricity, ships, aircraft
- Inclusion of fish catch, goods procured in ports and airports for imports AND exports
- Goods simply transported through a country are excluded (temporary admission or temporary exports)
- Production of external trade indices (unit value and volume indices)

2.2 FINDINGS

NEW INDICATORS

2.2.1 AVAILABILITY OF CUSTOMS PROCEDURE CODES IN BASIC DATA

IMTS 2010 RECOMMENDATIONS (AVAILABILITY OF CUSTOMS PROCEDURE CODES)

“Information about applied customs procedures. IMTS 2010 (para. 2.19) recommends that information about the customs procedure applied to individual transactions (or the nature of transaction) be included in the data set for trade statistics in order to facilitate the identification of re-exports and re imports but also of other types of trade, such as goods for processing, trade between related parties, goods on consignment etc. as far as possible. It further recommends that, if the customs is not the agency compiling trade statistics, this information be regularly included in the data set provided by customs to the agency responsible for the compilation of trade statistics of a country. IMTS 2010 (para. 8.6) reiterates this recommendation and recommends that information about the customs procedures applied to individual transactions be part of the data set provided by customs to the agency responsible for the compilation of international merchandise trade statistics.”

STATUS IN THE CARICOM REGION (AVAILABILITY OF CUSTOMS PROCEDURE CODES)

Twelve (12) Members States (Antigua and Barbuda, Barbados, Dominica, Grenada, Guyana, Belize, Montserrat- even if not reported, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago) receive CPC in the Customs dataset. The Bahamas and Jamaica are not collecting CPC codes from Customs.

2.2.2 FOB-TYPE VALUE FOR IMPORTS:

IMTS 2010 RECOMMENDATION (FOB-TYPE VALUE FOR IMPORTS)

“Countries that compile only CIF-type values for imported goods are encouraged to compile separate data for freight and insurance, at the most detailed commodity and partner level possible (the separate collection of data on freight and insurance can improve the data quality). It is recognized that the compilation of imports on the FOB-type basis and the separate compilation of data for freight and insurance may entail a significant additional burden respondents and merchandise trade statistics compilers and should be undertaken based on national situations and needs. However, countries are encouraged to explore additional methods which can facilitate the compilation of FOB-type values of imports (examples will be provided in the updated IMTS Compilers Manual).”



STATUS IN THE CARICOM REGION (FOB TYPE VALUE FOR IMPORTS)

Only St. Vincent and the Grenadines is estimating FOB imports. Four (4) countries (Dominica, Guyana, The Bahamas and Trinidad and Tobago) expect to do so in the future.

2.2.3 COUNTRY OF CONSIGNMENT FOR IMPORTS/EXPORTS

IMTS 2010 RECOMMENDATION (COUNTRY OF CONSIGNMENT FOR IMPORTS/EXPORTS)

“Country of consignment. Since the partner data compiled on the basis of the country of origin (for imports) and the country of last known destination (for exports) are very often not comparable and in view of the needs for internationally comparable partner data for analytical purposes as well as for trade data reconciliation studies, it is recommended that country of consignment be recorded for imports as the second partner country attribution, alongside country of origin. Considering, in the case of exports, that countries often do not differentiate the country of last known destination and the country of consignment and that their separate recording could create a significant additional data-reporting and data-processing burden, the compilation of export statistics on the country of consignment basis is only encouraged, depending on a country’s needs and circumstances. It is recognized that the compilation of country of consignment for exports may be considered by some countries as a longer-term objective.”

STATUS IN THE CARICOM REGION (COUNTRY OF CONSIGNMENT FOR IMPORTS)

This information is available in nine (9) countries (Antigua and Barbuda, The Bahamas, Dominica, Grenada, Guyana, St. Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago). Three (3) other countries (Belize, Jamaica and Dominica) envisage publishing this data in the future.

STATUS IN THE CARICOM REGION (COUNTRY OF CONSIGNMENT FOR EXPORTS)

Four (4) countries (St. Kitts and Nevis, Saint Lucia and Trinidad and Tobago) can provide this data. Three (3) other countries (Dominica, Guyana and Jamaica) plan to do collect this data in the future.

2.2.4 BREAKDOWN BY MODE OF TRANSPORT:

IMTS 2010 RECOMMENDATION (BREAKDOWN BY MODE OF TRANSPORT)

“Compilation of mode of transport. The availability of trade data by mode of transport is very important for many purposes, including the monitoring of international transport routes, the formulation of transportation policy, the assessment of the impact of trade on the environment etc. It is recommended that countries compile and disseminate international merchandise trade statistics by mode of transport at the most detailed commodity level (as a separate data dimension) in order to provide information on transportation arrangements and for other analytical purposes. It is further recommended that the mode of transport that should be recorded is the means of transport used when goods enter or leave the economic territory of a country. Diversions from this recommendation, which can, for example, be related to the application of the special trade system, should be indicated in the country’s metadata.”

STATUS IN THE CARICOM REGION (BREAKDOWN BY MODE OF TRANSPORT)

Eleven (11) countries (Antigua and Barbuda, The Bahamas, Barbados, Dominica, Grenada, Guyana, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago), publish data on mode of transport. Jamaica does not publish but the data is available and Belize intent to collect this information from the Customs Department.



2.2.5 SEASONALLY ADJUSTED DATA (MONTHLY OR QUARTERLY DATA)

IMTS 2010 RECOMMENDATION (SEASONALLY ADJUSTED DATA)

“Need for seasonally adjusted data. Monthly and quarterly data on international merchandise trade statistics are an important tool for economic policymaking, business cycle analysis, modelling and forecasting. However, they are often characterized by seasonal fluctuations and other calendar or trading-day effects, which mask other characteristics of the data that are of interest to analysts. Seasonal adjustment is a process of estimating and removing seasonal or calendar influences from a time series in order to achieve a better knowledge of the underlying behaviour. Countries are encouraged to compile and publish, where appropriate, seasonally adjusted monthly and quarterly international merchandise trade data on a regular basis.”

STATUS IN THE CARICOM REGION (SEASONALLY ADJUSTED DATA)

Only Trinidad and Tobago produces monthly seasonally adjusted data with a delay. There is no plan to introduce such treatment in other responding countries and training is requested by The Bahamas for such production.

2.2.6 DATA BY ENTERPRISE CHARACTERISTICS (LINKING TRADE AND BUSINESS STATISTICS)

IMTS 2010 RECOMMENDATION (LINKING TRADE AND BUSINESS STATISTICS)

“Countries are encouraged to integrate their trade register with their business register and to take steps towards establishing an integrated system of economics statistics for data compilation and analysis. Further examples of the applications of linking trade and business statistics will be provided in the updated version of IMTS Compilers Manual.”

STATUS IN THE CARICOM REGION (LINKING TRADE AND BUSINESS STATISTICS):

Data by enterprise characteristics are available in 4 countries (St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago) sometimes with limitations (Trinidad and Tobago and Suriname).

TRADE TO BE SEPARATELY IDENTIFY

2.2.7 GOODS FOR PROCESSING AND GOODS FOR PROCESSING WITHOUT CHANGE OF OWNERSHIP

IMTS 2010 RECOMMENDATION (GOODS FOR PROCESSING AND GOODS FOR PROCESSING WITHOUT CHANGE OF OWNERSHIP)

“It is recommended that in all cases, goods for processing and goods resulting from such processing (compensating products in customs terminology), are to be included in the merchandise exports and imports of the countries at their full (gross) value²⁸ (see para. 4.15(e) below for details) unless those goods fall into the category of goods temporarily admitted or dispatched and goods for repair and maintenance which are excluded from merchandise trade statistics”

STATUS IN THE CARICOM REGION (GOODS FOR PROCESSING AND GOODS FOR PROCESSING WITHOUT CHANGE OF OWNERSHIP)

Only four (4) countries (Guyana, Jamaica, St. Vincent and the Grenadines and Trinidad and Tobago) are able to identify these transactions. Other countries will face difficulties to determine the transition to the item “goods” according to National Accounts and Balance of Payments concepts.



2.2.8 GOODS WHICH CROSS BORDERS AS A RESULT OF TRANSACTIONS BETWEEN RELATED PARTIES:

IMTS 2010 RECOMMENDATION (GOODS WHICH CROSS BORDERS AS A RESULT OF TRANSACTIONS BETWEEN RELATED PARTIES)

“Goods which cross borders as a result of transactions between related parties. These are goods in cross-border transactions between related parties, including parties related by ownership and/or control. Countries are encouraged to use the definition of related parties as provided in Article 15(4) of the WTO Valuation Agreement (see annex D). These goods should be included following all IMTS 2010 recommendations. Countries are further encouraged to separately identify (code) such goods and types of the relationships in order to be able to review their valuation and to provide information on these transactions to users. It is acknowledged, however, that depending on their specific data needs and overall compilation strategies, countries may find it more appropriate, rather than identifying such goods in their regular trade data compilations, to estimate their share in imports/exports by conducting periodic surveys of companies that have foreign affiliates or are affiliates of the foreign companies. Countries should describe their practices in this respect in their metadata to ensure proper use of their statistics and to assist in international comparisons.”

STATUS IN THE CARICOM REGION (GOODS WHICH CROSS BORDERS AS A RESULT OF TRANSACTIONS BETWEEN RELATED PARTIES)

Only two (2) countries (Jamaica and Trinidad and Tobago) are able to identify transactions between related parties. Here also difficulties will be faced in the transition to BOP and National Accounts.

2.2.9 RE-IMPORTS AND RE-EXPORTS:

IMTS 2010 RECOMMENDATION (RE-IMPORTS AND RE-EXPORTS)

“Information about applied customs procedures. It is recommended that information about the customs procedure applied to individual transactions (or the nature of transaction) be included in the dataset for trade statistics in order to facilitate the identification of re-exports and reimports but also of other types of trade, such as goods for processing, trade between related parties, goods on consignment etc. as far as possible. Further, it is recommended that, if the customs is not the agency compiling trade statistics, this information be regularly included in the dataset provided by customs to the agency responsible for the compilation of trade statistics of a country.”

STATUS IN THE CARICOM REGION (RE-EXPORTS AND RE-IMPORTS)

Seven (7) countries (Antigua and Barbuda, Barbados, Grenada, Jamaica, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines) are in a position to identify re-imports and re-exports in data transmitted by Customs.

Six (6) countries (Belize, The Bahamas, Dominica, Guyana, Suriname and Trinidad and Tobago) are in a position to identify re-imports in data transmitted by Customs.

2.2.10 GOODS FOR REPAIR (EXCLUDED BUT SEPARATELY IDENTIFIED)

IMTS 2010 RECOMMENDATION (GOODS FOR REPAIR)

“Goods recommended for exclusion but to be separately recorded. Certain categories of goods that are recommended to be excluded from IMTS for conceptual and practical reasons are required to be included in the totals of international merchandise trade compiled under BPM6 and the 2008 SNA. In addition, information on certain categories of goods is required for other purposes. Countries are



encouraged to undertake efforts to collect the relevant data to the extent possible or to make estimates of trade in such goods for use in balance of payments and national accounts and other purposes. The cooperation of several agencies may be required to obtain such data or estimates. 1.57. Goods for repair or maintenance. This category comprises goods temporarily crossing borders for repair or maintenance abroad. Such activities reinstate or maintain the quality of the goods and do not result in the creation of a new product. This category does not include goods 26 temporarily admitted or dispatched and goods for processing. The identification of goods for repair or maintenance should be determined in cooperation with balance of payments compilers.”

STATUS IN THE CARICOM REGION (GOODS FOR REPAIR EXCLUDED BUT SEPARATELY IDENTIFIED)

Only three (3) countries (Guyana, St. Vincent and the Grenadines and Trinidad and Tobago) are able to identify separately goods for repair but this trade is generally excluded from trade statistics (according to IMTS concepts).

ADDITIONAL RECOMMENDATIONS

2.2.11 USE OF THE GENERAL TRADE SYSTEM

IMTS 2010 RECOMMENDATION (USE OF THE GENERAL TRADE SYSTEM)

“Use of the general system. General imports provide the most comprehensive record of the goods entering the economic territory of a compiling country and increasing the stock of its material resources, while general exports provide the most comprehensive record of the goods leaving its territory and thus decreasing that stock. It is recommended, therefore, that countries use the general trade system for compilation of both their import and export statistics.”

STATUS IN THE CARICOM REGION (USE OF THE GENERAL TRADE SYSTEM)

Five (5) countries (Antigua and Barbuda, The Bahamas, Barbados, Saint Lucia and Suriname) use the general trade system.

2.2.12 INCLUSION OF GOODS FOR MILITARY USE

IMTS 2010 RECOMMENDATION (INCLUSION OF GOODS FOR MILITARY USE)

“Goods for military use. Even if recording goods for military use might pose practical difficulties, they should be included following all IMTS 2010 recommendations.”

STATUS IN THE CARICOM REGION (INCLUSION OF GOODS FOR MILITARY USE)

These goods are included in eight (8) countries (Antigua and Barbuda, The Bahamas, Barbados, Grenada, St. Vincent and the Grenadines, Jamaica, Suriname and Trinidad and Tobago). This was relevant for two (2) countries (St. Kitts and Nevis and Saint Lucia).

2.2.13 INCLUSION OF ELECTRICITY, SHIPS, AND AIRCRAFT

IMTS 2010 RECOMMENDATION (INCLUSION OF ELECTRICITY, SHIPS, AND AIRCRAFT)

“Ships and aircraft. These goods are to be included in international merchandise trade statistics when the general guideline is not applicable or sufficient based on the change of economic ownership between residents and non-residents. In this context, the acquisition of a ship or aircraft is treated as adding to the material resources of a country (the reverse also applies). The concerned ships and



aircraft are included whether they enter/leave the economic territory of the involved countries or remain in international waters or are used in international flights. Frequently, such transactions are not recorded by customs. In the absence of customs documents, they should be recorded using non-customs data sources, such as registry additions and deletions or enterprise surveys, as appropriate”

“Electricity, gas, oil and water. International sales and purchases of electricity, gas, oil and water, although not always recorded by the customs authorities of some countries, constitute international transactions in goods and should be included in international merchandise trade statistics. Countries are encouraged to establish appropriate procedures to ensure that records of this trade are as accurate as possible. It is also important that trading partners in such transactions record these flows using the same method to improve international comparability”

STATUS IN THE CARICOM REGION (INCLUSION OF ELECTRICITY, SHIPS, AND AIRCRAFT)

These specific goods are included in five (5) countries (Jamaica, Saint Lucia, St Vincent and the Grenadines, Suriname and Trinidad and Tobago).

2.2.14 INCLUSION OF FISH CATCH, GOODS PROCURED IN PORTS AND AIRPORTS FOR IMPORTS AND EXPORTS

IMTS 2010 RECOMMENDATION (INCLUSION OF FISH CATCH, GOODS PROCURED IN PORTS AND AIRPORTS FOR IMPORTS AND EXPORTS):

“Fish catch, minerals from the seabed and salvage. These goods landed from vessels of one country in national ports of another country or acquired by vessels of one country on the high seas from vessels of another country are in the scope of IMTS 2010 for both exports and imports and should be recorded where economically or environmentally significant. It is recognized that data collection in respect of this category of goods may be challenging; however, countries are encouraged to develop over time the necessary data-collection and/or estimation procedures in view of the important policy needs for such data, including assessment and monitoring of the environmental impact of such trade and related activities.”

STATUS IN THE CARICOM REGION (INCLUSION OF FISH CATCH, GOODS PROCURED IN PORTS AND AIRPORTS FOR IMPORTS AND EXPORTS):

These goods are included in seven (7) countries (Barbados, Grenada, Guyana, Jamaica, Saint Lucia, St. Vincent and the Grenadines and Trinidad and Tobago), at least partly.

2.2.15 GOODS SIMPLY TRANSPORTED THROUGH A COUNTRY ARE EXCLUDED (TEMPORARY ADMISSION OR TEMPORARY EXPORTS):

IMTS 2010 RECOMMENDATION (GOODS SIMPLY TRANSPORTED THROUGH A COUNTRY ARE EXCLUDED):

- “Goods simply being transported through a country. Goods are considered as simply being transported through a country if they (a) enter and leave the compiling country solely for the purpose of being transported to another country, (b) are not subject to halts not inherent to the transportation and (c) can be identified when both entering and leaving the country.”
- “Goods simply being transported include goods under “in transit” or “in transshipment” customs procedures but are not limited to them. It may be administratively easier for traders to declare goods, not as being in transit, but as regular imports on arrival and exports on departure. Irrespective of the customs procedure applied when goods cross the compiling country’s



border, if it is known that their destination is a third country the goods should be treated as simply being transported through the country and excluded. However, goods that are not under “in transit” or “transshipment” customs procedure and change ownership after entering the economic territory of a country should be recorded as imports and re-exports if they leave the country in the same state as imported. Countries are encouraged to make efforts to identify such movements, using both customs and non-customs sources of data, and to exclude them from trade statistics. To ensure data consistency, it is recommended that the statistical authorities treat good movements as being simply transported only if reliable criteria are established.”

- *“Goods temporarily admitted or dispatched. It is recommended that goods are considered as temporarily admitted/dispatched if at the time of admission/dispatch it is known that their intended stay in the receiving country is temporary (as defined by the statistical authority of a country) and after their stay they can be withdrawn/returned in the same state (except for normal wear and tear). This category includes, but is not limited to, goods identified in the Kyoto and Istanbul Conventions as goods covered by the “temporary admission subject to re-exportation in the same state” customs procedure. Such goods include display equipment for trade fairs and exhibitions; art exhibits, commercial samples and pedagogic material; animals for breeding, show or racing; packaging, means of transport, containers and equipment connected with transport; and equipment for the working of lands adjacent to the border by persons resident abroad. In cases where movements of goods are not covered by a specific customs procedure, the statistical authorities should establish criteria for determining whether the goods movement should be considered temporary. Goods for processing and goods on financial lease are not covered by this recommendation (see paras 1.19-1.20 and 1.28) (see also paras. 1.51 and 1.57 below for exclusion of goods under operating lease and goods for repair or maintenance).”*
- *“It may be not known whether admitted or dispatched goods are expected to be brought back within a limited time period. In this case, goods should be treated as exports (imports) and imports (exports) when returned. It is recognized that customs records may not exist or may not provide enough information to allow reliable identification of temporary admission/dispatch. Therefore, countries’ statistical authorities are encouraged to establish criteria for the identification of such goods. For example, countries may wish to use one year (or less) of stay as an approximation for temporary admission. Such criteria should be developed in cooperation with customs or other authorities, as required, especially for the goods admitted to and dispatched from the premises for customs warehousing or customs free zones. To ensure data consistency, it is recommended that statistical authorities treat goods movements as temporarily admission/dispatch only if reliable criteria are established.”*

STATUS IN THE CARICOM REGION (GOODS SIMPLY TRANSPORTED THROUGH A COUNTRY ARE EXCLUDED (TEMPORARY ADMISSION OR TEMPORARY EXPORTS)):

Eight (8) countries (Antigua and Barbuda, Barbados, Grenada, Guyana, Jamaica, Saint Lucia, St Vincent and the Grenadines and Trinidad and Tobago) state the exclusion of these transactions.

This question would need more clarification with some countries.



2.2.16 PRODUCTION OF EXTERNAL TRADE INDICES (UNIT VALUE AND VOLUME INDICES):

IMTS 2010 RECOMMENDATION (PRODUCTION OF EXTERNAL TRADE INDICES (UNIT VALUE AND VOLUME INDICES)):

- *“Need for external trade indices. Many users need more information than trade values by country or by commodity, and require information on prices and volumes as well. The information on the development of prices and volumes is generally presented in the form of indices. It is recommended that all countries produce and publish, on a monthly, quarterly and annual basis, both volume (quantum) indices and either price or unit-value indices for their total imports and exports. Countries are also encouraged to calculate and publish such indices for commodity groups of particular importance to countries at least quarterly and annually.”*
- *“Price and unit value indices. Two kinds of indices may be produced to reflect prices for imports and exports: unit-value indices that are based primarily on customs documents and export/import price indices that are based on survey data. Both approaches have strengths and weaknesses. Although price indices are generally preferred on methodological grounds, in practice countries may not have the resources available to compile that information. Many countries compile only unit-value indices, while others compile and use both price and unit-value indices in a complementary manner”*

STATUS IN THE CARICOM REGION (PRODUCTION OF EXTERNAL TRADE INDICES (UNIT VALUE AND VOLUME INDICES)):

Four (4) countries (The Bahamas, Jamaica and Saint Lucia and Trinidad and Tobago) produce price indices (unit value or survey based). Five (5) other countries (Dominica , Guyana, St. Kitts and Nevis, St. Vincent and the Grenadines, Jamaica plan to produce such indices in the future.

2.3 RECOMMENDATIONS - ACTIONS TO BE TAKEN IN COUNTRIES

To be in line with the IMTS Recommendations, Artemis information Management S.A. recommends that the Member States, as far as possible, widen the scope of the data collected from the Customs Departments (when possible) to include the missing indicators in the data processing (freight, net weight, insurance, mode of transport, etc..). The General Trade system should be applied in the Member States that are still using the Special Trade system. This will harmonise the Merchandise Trade statistics in the CARICOM Region and will enable the CARICOM Secretariat to disseminate consistent data, based on the same trade system.

The production of Trade Indices should be launched in all countries. The use of the WinTim software should enable the Member States to produce Price Indices and Unit value Indices. The process towards meeting the IMTS Recommendations will have impacts on the data processing systems currently in use in the Member States. Updating of the contents of the datasets can be handled by the Member States' own staff in the countries using Eurotrace; the Center of Excellence, which is being established by the CARICOM Secretariat, will provide support.



3 DATA QUALITY

3.1 QUALITY REPORTING

The IMTS2010 outlined several recommendations on the issue of on data quality as follows:

- The development of quality standards and related good practices covering the institutional arrangements, the statistical processes and outputs.
- The development of a standard for regular quality reports which cover the full range of statistical processes and their outputs. Quality reports should be updated at least every five years or more frequently if significant methodological changes or changes in the data sources occur.
- Quality reports should be based on a set of quantitative and qualitative indicators for international merchandise trade statistics and on a checklist covering data collection, processing and dissemination to allow for an assessment of strengths and weaknesses in the statistical process and to identify possible quality improvement actions.

RECOMMENDATION ON QUALITY REPORTING:

- Need to keep and improve the coherence with international recommendation
- Links to be developed with users using tools such as opinion survey, meetings, etc
- Attention to be paid to revised international recommendations in the trade domain, in particular about the new trade indicators
- awareness about the new international recommendations published in related domains (BOP and National Accounts), which entails need to develop the cooperation with institutions in charge of BOP and National Accounts statistics, and communication with users about the possible discrepancies between these domains
- Proceed periodically to asymmetry studies with main partners of each country
- Publish at national level all the relevant metadata about trade statistics
- Improve the transparency of the information by publishing National Quality reports, in accordance with the UNSD recommendations

3.2 DATA VALIDATION

Data validation should not only focus on individual elements of the data such as reported commodity, value, quantity, quantity unit, and trading partner (input data) but also address general issues of coverage and comprehensiveness of recording (output data).

The following typology of validation rules is proposed:

Input data:

- controls of the presence of information
- Basic coherence (numeric or alphabetic fields, codes belonging to current versions of classifications, etc.)
- Links between variables (eg. Products versus country of origin, mode of transport versus partner country, etc.)



- Reliability (outliers' detection), preferably based on robust methods using medians, interquartile ranges, Median Absolute Deviation, etc.

Output data:

- format validity
- output coherence
- reliability (outliers detection)
- mirror analysis
- comparison with other sources (business statistics, BOP data, fiscal data,...)

RECOMMENDATION ON DATA VALIDATION

Input data:

- Basic Data checking should be carried out at the closest point to the declaring party (importing/exporting company or customs broker). Systematic errors should be reported to the declarant and possibly fined even if they have only statistical consequences.
- Use automatic corrections as far as possible (in particular for low value records)
- Manual data validation should be limited to the high value declarations
- Use of in-house IT tool or of standard software (Eurotrace)
- Errors are significantly reduced when an online declaring system is used by Customs
- More sophisticated validation rules should be applied preferably at the Statistical Institution level (precise average price control, outliers' detection, comparison with other sources, etc.
- Reporting on errors identified (type and magnitude) and validation should be produced and included in a quality report
- The validation process must be described in detail in the internal documentation

Output data:

- Validation of output data is also of great importance before publication
- Use of outliers detection and mirror analysis can help to improve the accuracy of aggregates

3.3 MIRROR STATISTICS ANALYSIS

Generally, trade between two countries, A and B, should be a mirror image of each other. That is, exports of Country A to Country B should be the same as Country B imports from Country A. It is often the case that statistics produced by countries on their Merchandise Trade with the rest of the world differs from the statistics published by their trading partners. These differences reflect both legitimate conceptual differences between import and export statistics as well as genuine errors or discrepancies in the data.

A reconciliation study can be undertaken to investigate the causes of the differences in the trade statistics between countries. It is important to note that the results of this study do not constitute revisions to any country's official statistics; however, they may help to improve the understanding of the trade statistics of the respective countries and to the production of a more harmonised trade data.

In the short term therefore, this exercise aims to *identify, explain and assess* the causes of discrepancies between the trade data of two countries. The long-term objective can be viewed as the



harmonisation of the conceptual frameworks of Member States. The reconciliation exercise will improve the quality of the data through the revealing of measurement errors and gaps, providing trade negotiators and analysts with more reliable and consistent data. This exercise could also lead to the development of new procedures in the compilation of foreign trade statistics.

The reasons for asymmetries in the international trade in goods can be grouped into the following categories:-

- Trade System
- Coverage
- Under reporting
- Identification of Partner countries
- Valuation
- Time of recording
- Others

3.4 OUTLIER'S DETECTION (USING EUROTRACE DBMS MODULE)

Outliers are values that seem extreme compared to the majority of other values in a given set of records. Extreme outlier values can be errors, however all the outliers cannot be considered as error. Therefore, it is necessary to identify the outliers to enable a checking process by the statisticians.

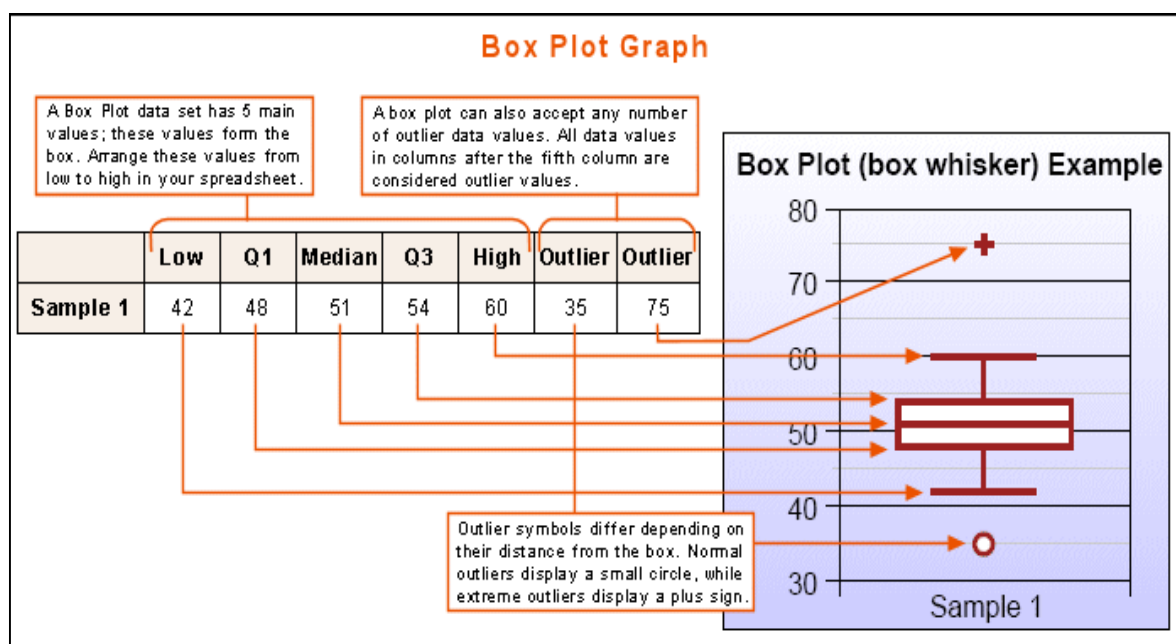
Eurotrace DBMS contains a module which enables the outlier detection from any dataset of a domain.

Consequently, it is possible to run outlier detection on detailed data set (Customs data) or on aggregated data sets (Derived datasets).

The outlier's detection is based on the use of the distribution quadrants:

The median and standard deviation are estimated from the first and third Quadrants

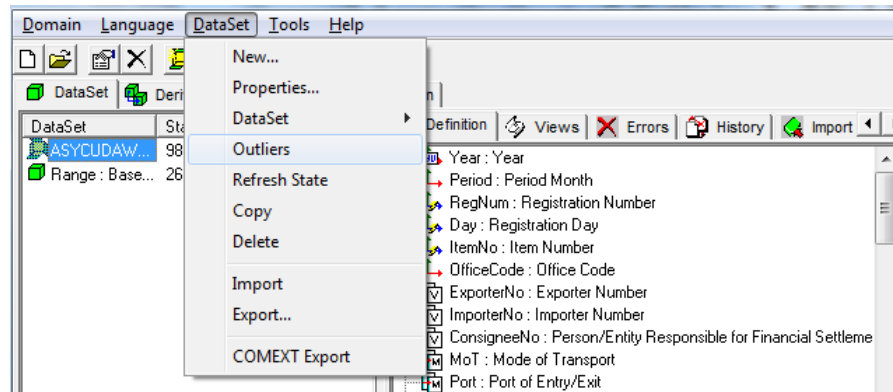
$$\mu = (Q1 + Q3)/2 \quad \sigma = Q3 - Q1 = IQR \text{ (Interquartile range)}$$



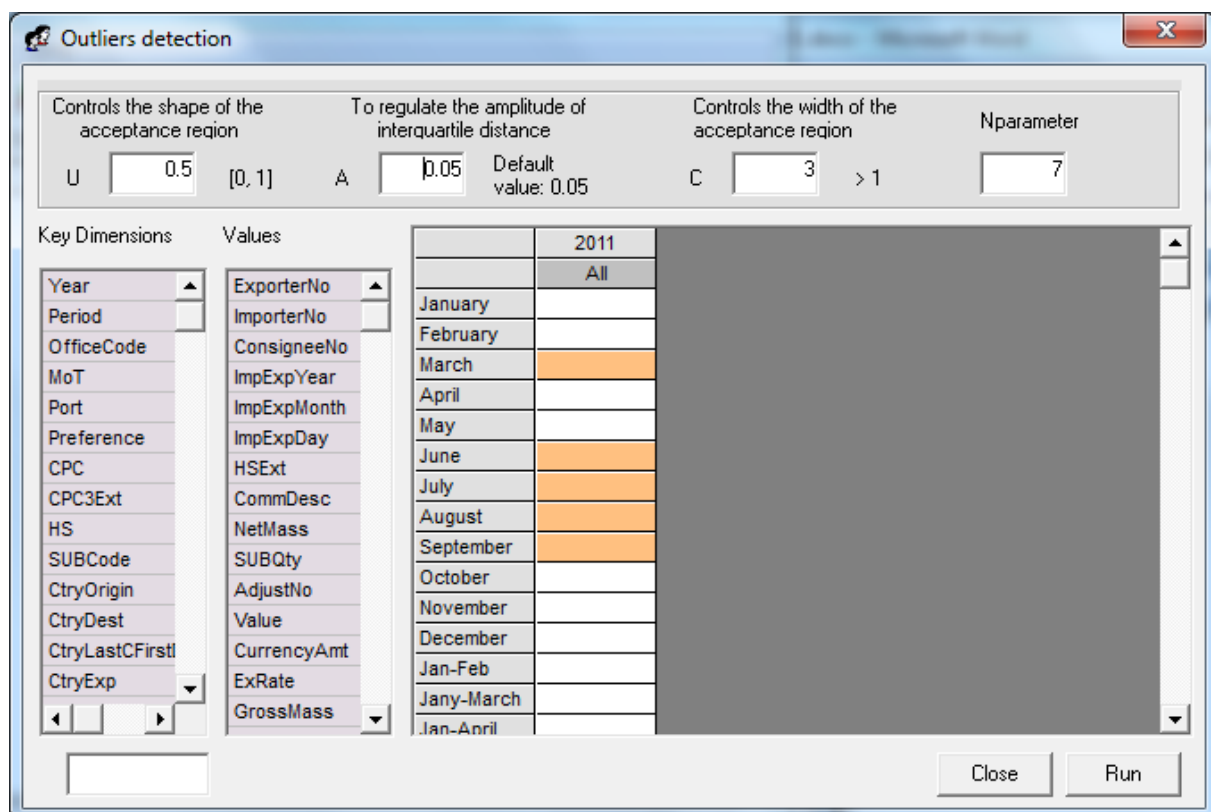


PROCEDURE TO RUN AN OUTLIER DETECTION PROCESS IN EUROTRACE DBMS

From any dataset of a domain, the contextual menu enables the selection of the option “outliers”.



The Outliers function will display the following dialog in order to define the dimensions and values on which the outliers will be computed:



Selection of the Parameters for the outliers detection

On the top there are the parameters specific for the calculation:

U This parameter controls the shape of the acceptance region. The value must be included in the range (0, 1)

A is a suitable positive number introduced in order to avoid the detection of too many outliers when the values are concentrated around their median; is set by default at 0.05



C is a parameter used for calibrating the acceptance region width. The value must be > 1 .

Nparameter is the minimum number of records to be taken into account for the outlier detection range of acceptable values. A too small number of records selected will not enable a good (reliable) range of acceptable values.

Selection of the dimensions and values for the outliers detection

The Key Dimensions and Values lists contain the dimensions of the dataset. You have to select the keys and values for which detect the outliers.

Key Dimensions	Values
Year	ExporterNo
Period	ImporterNo
OfficeCode	ConsigneeNo
MoT	ImpExpYear
Port	ImpExpMonth
Preference	ImpExpDay
CPC	HSExt
CPC3Ext	CommDesc
HS	NetMass
SUBCode	SUBQty
CtryOrigin	AdjustNo
CtryDest	Value
CtryLastCFirst	CurrencyAmt
CtryExp	ExRate
	GrossMass

The outliers detection will be launched on the following Key dimensions:

- HS codes
- Flow
- Partner country

The value (indicators) which will be used for computation will be:

- Value
- NetMass

Selection of the Period on which the Outliers detection will be processed:

The right side of the dialog contains the years and periods for which the datasets contains data.



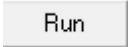
	2011
	All
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	
Jan-Feb	
Jan-March	
Jan-April	

In the above example, June and July 2011 have been selected for the Outlier checking.

Note: It is possible to select one single period clicking on the corresponding cell, or one year clicking on the *All* cell.

The periods selected will be displayed in green.

Outliers detection run

Click on Run button  to start the process.

Note: The computation can take some time, depending on the size of the dataset and the periods selected.

Outliers detection Results

Outliers computation results														
AdjustNo	Value	CtryOrigin	CtryDest	CtryLastCFirstD	CtryExp	CtryTrading	Currency	CurrencyAmt	ExRate	GrossMass	TransNature	Quota	Quality	PlaceLoadDisch
EXDamt	EXRcode	EXRate	EXRamt	DutyCode	DutyRate	DutyAmt	L01code	L01rate	L01amt	L02code	L02rate	L02amt	MVTcode	MVTrate
MVTamt	STDcode	STDrate	STDamt	STHcode	STHrate	STHamt	SurchargeRate	SurchargeAmt	VATcode	VATRate	YearAcct	MthAcct	DayAcct	PortRecode
VATamt	TotalTax	DecRegime	Container	NoPackage	ModeRecode	Class	Flow	PartnerC	ImpExpNo	OutlierNetMass	NetMassC	OutlierSUBQty	SUBQtyC	Date
YearAcct	MthAcct	DayAcct	PortRecode	ModeRecode	Class	Flow	PartnerC	ImpExpNo	OutlierNetMass	NetMassC	OutlierSUBQty	SUBQtyC	Date	Year
A045642	25	27	POS	V110635	1	TTPTS	0	0	0	////	4000			
C400	02071490	000	GFS RAW CHICKEN	149.24	149.24	KGM	5	4794.2	US	TT	US			
US	02071490	000	GFS RAW CHICKEN	149.24	149.24	KGM	5	4794.2	US	TT	US			
0	EXD	0	0	EXR	0	0	ICD	40	1917.68	L01	0	0	L02	0
0	MVT	0	0	STD	0	0	STH	0	0	SUR	0	0	VAT	0
0	1917.68	IM4	0	0	CT	131574-27	A046744	20110912	2011	09	12			
9	1	10	i	US	V110635	0	149.24	0	149.24	5/21/2015 11:35:21 AM	2011	08		
04069000,1,US,NETMASS														
RegNum	Day	ItemNo	OfficeCode	ExporterNo	ImporterNo	ConsigneeNo	MoT	Port	ImpExpYear	ImpExpMonth	ImpExpDay	Preference	CPC	CPC3Ext
AdjustNo	Value	CtryOrigin	CtryDest	CtryLastCFirstD	CtryExp	CtryTrading	Currency	CurrencyAmt	ExRate	GrossMass	TransNature	Quota	Quality	PlaceLoadDisch
EXDamt	EXRcode	EXRate	EXRamt	DutyCode	DutyRate	DutyAmt	L01code	L01rate	L01amt	L02code	L02rate	L02amt	MVTcode	MVTrate

At the end of the process, the results are displayed in the Outliers computation dialog.

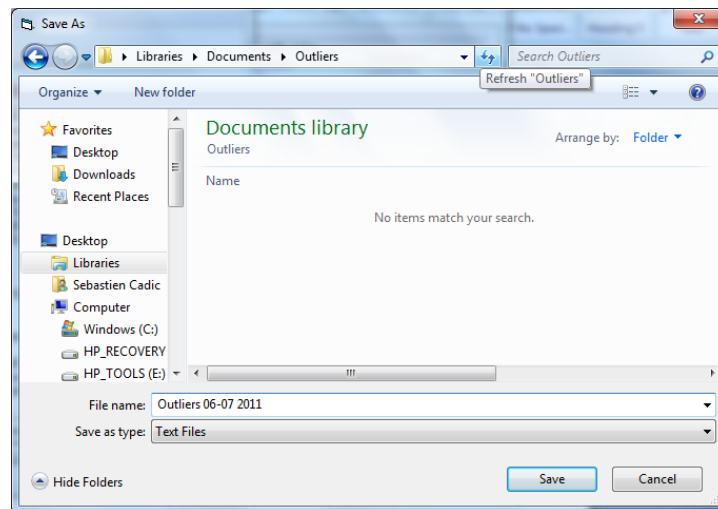


This dialog displays the entire records that have been detected as Outliers (according to the given parameters). When the dataset contains many dimensions (for ex Asycuda dataset), the information cannot be easily analysed in this dialog.

Therefore, it is recommended to export the results.

Exporting the records detected as Outliers.

To export the results click on the **Browse** button to select path and name for the output file.



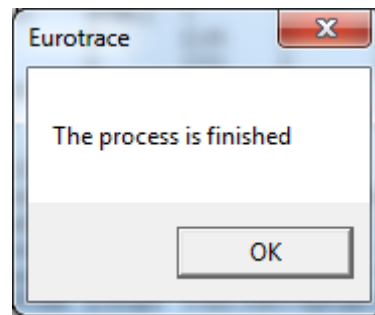
Outliers computation results

AdjustNo	Value	CtryOrigin	CtryDest	CtryLastCFirstD	CtryExp	CtryTrading	Currency	CurrencyAmt	ExRate	GrossMass	ABTCode	ABTRate	ABTamt	EXDcode	EXDrate	EXDamt	EXRcode	EXRrate	EXRamt
TransNature	Quota	Quality	PlaceLoadDisch	Freight	Insurance	OtherCosts	LO1code	LO1rate	LO1amt	LO2code	LO2rate	LO2amt	MVTcode	MVTrate	MVTamt	VATcode	VATrate	VATamt	TotalTax
YearAcct	MthAcct	DayAcct	PortRecode	ModeRecode	Class	Flow	PartnerC	ImpExpNo	OutlierNetMass	NetMassC	AssessNum	AssessDate							
OutlierSUBQty	SUBQtyC	Date	Year	Period															
A045642	25	27	POS	V110635	1	TTPTS	0	0	0	4000									
C400	02071490	000	GFS RAW	CHICKEN	149.24	149.24	KGM	5	4794.2	US	TT	US							
US	US	TTD	4794.2	1	165.82	0	0	0	0	ABT	0	0							
0	EXD	0	0	EXR	0	0	ICD	40	1917.68	LO1	0	0	LO2	0	0	VAT	0	0	0
0	MVT	0	0	STD	0	0	STH	0	0	SUR	0	0							
0	1917.68	IM4	0	0	CT	131574-27	A046744	20110912	2011	09	12	08							
9	1	10	i	US	V110635	0	149.24	0	149.24	5/21/2015 11:35:21 AM	2011	08							
04069000.I.US.NETMASS																			
RegNum	Day	ItemNo	OfficeCode	ExporterNo	ImporterNo	ConsigneeNo	MoT	Port	ImpExpYear	NetMass	SUBQty	SUBCode							
ImpExpMonth	ImpExpDay	Preference	CPC	CPC3Ext	HS	HSExt	CommDesc	NetMass	SUBQty	SUBCode									
AdjustNo	Value	CtryOrigin	CtryDest	CtryLastCFirstD	CtryExp	CtryTrading	Currency	CurrencyAmt	ExRate	GrossMass	ABTCode	ABTRate	ABTamt	EXDcode	EXDrate	EXDamt	EXRcode	EXRrate	EXRamt
TransNature	Quota	Quality	PlaceLoadDisch	Freight	Insurance	OtherCosts	LO1code	LO1rate	LO1amt	LO2code	LO2rate	LO2amt	MVTcode	MVTrate	MVTamt	VATcode	VATrate	VATamt	TotalTax

C:\Users\Sebastien.OLYMPÉ\Documents\Browse...

CloseExport

Click on the Export button, and when the process is finished you will be prompted with a message:





Analysing the Outliers

The results has been exported into a text file. Such text file can be open with a text browser, MS Excell or imported into an MS ACCESS database.

34022030,D,VC,VALUE								
RegNum	Day	ItemNo	OfficeCode	ExporterNo	ImporterNo	ConsigneeNo	MoT	Port
E021644	17	8	POS	V100403				1 TTPOS
E020819	9	7	POS	V100403				1 TTPOS
E022153	22	11	POS	V100403				1 TTPOS
E021371	15	6	POS	V100403				1 TTPOS
E022733	25	8	POS	V100403				1 TTPOS
E007967	30	1	SFO	V102702				1 TTPTS
34022040,D,GD,VALUE								
RegNum	Day	ItemNo	OfficeCode	ExporterNo	ImporterNo	ConsigneeNo	MoT	Port
E021292	12	1	POS	V100403				1 TTPOS

The outliers are displayed according to the selected dimensions. In the example displayed above, the outliers detection identified the following Outliers:

34022030,D,VC,VALUE

HS: 34022030

Flow: D

Partner Country: VC

Indicator: Value

For this specific sets of data, the following records have been identified:

RegNum	Day	ItemNo	OfficeCode	ExporterNo	ImporterNo	ConsigneeNo	MoT	Port
E021644	17	8	POS	V100403				1 TTPOS
E020819	9	7	POS	V100403				1 TTPOS
E022153	22	11	POS	V100403				1 TTPOS
E021371	15	6	POS	V100403				1 TTPOS
E022733	25	8	POS	V100403				1 TTPOS
E007967	30	1	SFO	V102702				1 TTPTS



The outliers can be further analyzed by a statistician and, when relevant, corrections can be applied, using the export procedure to the Eurotrace Editor.

4 EXAMPLES OF STUDIES ON DATA QUALITY – FINDINGS AND RECOMMENDATIONS

4.1 ASYMMETRY STUDY - MIRROR ANALYSIS BETWEEN EU AND MED PARTNER COUNTRIES

Asymmetry studies were carried out during phase II of program MEDSTAT (2006-2009) and phase III (2010-2013) between the EU and eight (8) countries partners and also internal asymmetries studies between four (4) partner countries (Egypt, Israel, Jordan, Palestine).

The studies have been carried out with a common methodology, leading to comparable results. The “Top-down” approach was used. This involved the identification of the main chapters leading to asymmetries and analyzing these at more detailed level by product and partner country.

Based on the detailed analysis of the data, **the main reasons for the differences between the EU and MPCs** were:

- Differences in the trade systems;
- Difficulties with measuring trade involving Free zones;
- Confidentiality concerning the partner country in some EU countries (in particular for HS27);
- Non-use of registers to measure trade in vessels and aircraft (HS88 and HS89);
- Difficulties with measuring trade in diamonds (HS71);
- Registration of the country of origin for used cars in accordance with international recommendations;
- Possible under-declaration of values.

Some of the recommendations that were provided to countries are as follows:

- Adopt the international classifications (of products and partner countries);
- Check for full coverage;
- Adopt the ‘general trade system’;
- Improve the information on trade via Free zones;
- Continue and step up the cooperation with customs authorities;
- Lay down new rules on confidentiality;
- Make better use of registers for vessels and aircraft (HS 88 and HS 89);
- Improve checks for under-declared trade values;
- Check processing activity, particularly in the textile, car and jewellery sectors;
- Organise national workshops;
- Re-organise customs procedures, adopting the Kyoto Convention;
- Proceed periodically with new asymmetry studies.

4.2 PROJECT UNDERTAKEN TO ACCESS DATA QUALITY – THE SOUTH MEDITERRANEAN PARTNER COUNTRIES

MEDSTAT III was a programme funded by the EU and implemented from April 2010 to December 2013, aiming at strengthening the statistical capacity of the relevant authorities in the South Mediterranean Partner Countries (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, and Tunisia). A specific action dealing with Quality assessment was included in the MEDSTAT Work programme. To achieve this, a Quality questionnaire was designed in coordination with MED partner countries and sent to all Mediterranean partners in November 2012.

Below are the findings from the project.

(Relevance): **Do you carry out users’ satisfaction survey specific to trade data?**



A majority of the MPCs use users satisfaction surveys or specific meetings with users to get a feedback from users, but generally not on a regular basis

(Relevance): **What are the main gaps between users needs and compiled trade statistics?**

The most frequently quoted gaps between users needs and compiled trade statistics are the following:

- lack of detail : some users would need information by product at a more detailed level that what is available in the product classification;
- the need expressed by some users to get information at company level cannot be satisfied due to the confidential status of individual data
- lack of information on price (or unit value) indices
- lack of seasonally adjusted data at aggregated level: except Israel and Morocco, other MPCs do not produce seasonally adjusted data, despite the seasonal pattern of monthly data

(Methodological Soundness): **Compliance with UNSD recommendations**

- A limitation of this ratio is that all issues raised are treated equally
- The ratio does not allow comparisons between countries but could be used to the convergence of each country according to time
- Answers to UNSD questionnaires should be checked periodically

(Methodological Soundness): **Main conceptual divergences with UNSD recommendations**

The most frequent divergences with international recommendations are the following:

- use of the “special trade” system instead of the recommended “general trade” system
- exclusion of the military equipment
- lack of coverage
- provision of new indicators (mode of transport, country of consignment, seasonally adjusted data,...)

(Accuracy): **Levels of Customs Thresholds**

- Only 3 countries apply a threshold below which Customs declarations are not processed
- The level of the threshold is very low. Consequently, there is no need to apply any adjustment to data

(Accuracy): **Trade not collected from Customs data**

- In some cases, there is no provision of a Customs declaration for specific goods (electricity, ships, aircrafts...). In other cases, a direct declaration from the importing/exporting company provided more accurate data than Customs records (e.g: oil products)
- The table shows the share of trade collected from sources other than Customs declarations

(Accuracy): **Share of non observed trade (non response or informal trade)**

- In case of presence of non observed trade, it is recommended to estimate and include this trade, if significant, at least in total trade data.
- It seems that this unobserved trade is either limited in MPCs (except in PS), or difficult to estimate.



(Accuracy): **Impact of revisions:** discrepancy (in %) between the first monthly release and last data available (yearly average)

- The level of revision of trade statistics in the MPCs is generally limited at aggregated level.
- When present, the revisions have always a positive sign, meaning that revised figures are higher than in the first publication.

(Accuracy): **Frequency of revisions and delay of availability of the final data**

- Revisions are applied either with a monthly or a yearly frequency (TN). Monthly periodicity of revisions allows to get quicker a good level of update.
- Final data for the past year are available within 6 months in a majority of MPCs

(Accuracy): **Share of electronic declarations**

- The data quality is more ensured when input Customs data are collected by electronic systems. Consequently, the share of electronic declarations can be considered as a quality indicator

(Accuracy): **Control procedures**

- All MPCs carry out validity and credibility checks, as well as a validation of main outputs before publication. Comparison with external sources is more unusual.

(Accuracy): **results of the validation process**

- The result of the validation process is different according to the situation of the country, and depends on the access or not to the Customs basic declarations and on the quality of these data.
- The quality of basic data depends significantly on the integration of validation rules at the level of data entry systems used by the Customs administrations

(Accuracy): **Impact of confidentiality, 2010-2011**

- MPCs either apply the passive confidentiality principle, or make all data public without limitations (except for some very specific goods, such as military equipment).
- Consequently, the effect of confidentiality on Quality is limited, except in Israel where passive confidentiality is applied on a limited number of items, but with a significant share in total trade

(Accuracy): **Confidentiality rules**

- When passive confidentiality is applied, it concerns the detailed product level, and also partner country in 2 PPM (EG and IL)

(Timeliness): **Average time lag** between the end of the reference month and the release date of the **first provisional results**, measured in working days

- A majority of MPCs disclose monthly data within the following month. This delay is shorter than the average delay observed in the EU. The time lag is generally compatible with the delay recommended by the IMF in the SDDS (8 weeks) or with the IMTS-2010 encouragement (45 days for monthly aggregates).



- Some MPCs have longer delays due to structural problems in the access to basic data (treatment of VAT data in trade between Israel and Palestine)

(Timeliness): **Average time lag** between the end of the reference month and the release date of the **final results**, measured in months

- Final results (meaning data which are not anymore subject to revision) are disclosed within a maximum of 6 months delay (with the exception of Palestine, due again to the specific collection system based on VAT)

(Accessibility): **Dissemination of international trade statistics**

- All countries publish a monthly press release at aggregated level.
- In almost all countries, a database is accessible at more detailed level by product and partner country

(Accessibility): **On line access to trade data**

- In almost all countries, the interface allows users to define their own extraction parameters and it is possible to download extractions

(Clarity): **Access to metadata**

A majority of MPCs provide metadata, either on paper or on electronic publications

(Clarity): **Publication of a National Quality Report**

- National quality reports are not yet produced in MPCs, even if some quality issues are presented in some reports (see IMTS recommendations on Quality).

(Comparability): **Trade Systems**

- Various Trade Systems are used (like in the EU)
- General Trade System available only in EG, LB, and TU

(Comparability): **Asymmetries between MPCs and the EU**

- Significant differences in the level of asymmetry according to the various MPCs
- Specific asymmetry studies have been carried out with several MPCs in the frame of the MEDSTAT programme and reports with detailed findings are available

(Comparability over time): **Main changes in the national methodology**

- Main changes quoted by MPCs are linked to the selection of the Customs procedures to be included in the frame of trade statistics and the introduction the revised versions of the product HS classification

(Coherence): **Transition from Trade Statistics to BOP item “Goods”**

- Main adjustments are related to CIF/FOB adjustment of imports value, goods procured in ports and airports
- Quantitative transition tables have been provided by some MPC (IL, MA, PS)
- Table more complex after implementation of BPM6



The main recommendations of the project were:

- Improve the coherence with international recommendations
- Develop links with users thanks to all possible tools (opinion survey, meetings...)
- Pay attention to revised international recommendations in the trade domain, in particular about the new trade indicators
- Be aware about the new international recommendations published in related domains (BOP and National Accounts), develop the cooperation with institutions in charge of BOP and National Accounts statistics, and communication with users about the possible discrepancies between these domains
- Proceed periodically to asymmetry studies with main partners of each country
- Publish at national level all the relevant metadata about trade statistics
- Improve the transparency of the information by publishing National Quality reports, in accordance with the UNSD recommendation