



Supply and use tables

Application in Selected Arab Countries

Part 2. State of Palestine



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Economic and Social Commission for Western Asia

Supply and use tables Application in Selected Arab Countries Part 2. State of Palestine



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Key messages

- *The compilation of supply and use tables (SUT) is essential in producing high-quality, consistent national accounts statistics that reflect the available data sources in an integrated framework and ensure better quality control and easier consistency checking.*

 - *The supply and use tables (SUT) provide integrated data and result analysis of economic, environmental and social accounts that can serve to inform and monitor the social, economic and environmental dimensions of the Sustainable Development Goals.*

 - *Palestinian experience in balancing supply and use tables was shown to contribute to better estimation as well as better quality and consistency of macroeconomic indicators of the national accounts. Tables are balanced manually or automatically to ensure the highest reliability of estimates, taking into account the quality of various data sources and resolving large discrepancies between supply and use of a particular product.*
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Contents

Key messages	iii
List of abbreviations	vii
Introduction	1
1. Process of compiling the supply and use tables	3
A. General framework	3
B. Phases of compilation	4
C. Palestinian classifications for the SUT	6
2. Construction of the supply and use tables	9
A. Supply table	9
B. Use table	15
C. Construction of the gross value added (GVA) quadrant	21
D. Balancing supply and use tables	22
3. The informal sector in SUTs	37
A. Introduction	37
B. Methods for estimating the informal sector	38
C. SUT: A framework for estimating the informal sector	39
4. Challenges of compiling SUTs and general recommendations	41
A. Challenges of compiling supply and use tables	41
B. General evaluation and recommendations	42
5. Conclusion	45
Annex 1. Palestinian national accounts' industry classification	47
Annex 2. Palestinian national accounts' product classification	50
References	57
List of tables	
Table 1. General structure of supply and use tables	2
Table 2. Main components of the database used for SUT in Palestine	5
Table 3. Palestinian supply table, 2017, simplified version	10
Table 4. Palestinian valuation matrix	12
Table 5. Palestinian balance of payments, 2019 (Value in million USD)	13
Table 6. Palestinian use table, 2017, simplified version	16
Table 7. Palestinian intermediate consumption matrix, 2017	17
Table 8. Distribution of household expenditure in the State of Palestine in Jordanian dinars by commodities and services groups and region, 2017	19
Table 9. Numerical example of 2017 unbalanced SUT	34
Table 10. Average monthly household expenditure and consumption in Jordanian dinars in the State of Palestine by commodity and service group and region, 2017	40

List of figures

Figure 1.	Phases of the GSBPM	3
Figure 2.	Units of the informal sector	38

List of abbreviations

BOP	Balance of payments
CFC	Consumption of fixed capital
CIF/cif	Cost, insurance, and freight
COICOP	Classification of Individual Consumption According to Purpose
CPC	Central Product Classification
FISIM	Financial intermediation services indirectly measured
FOB/fob	Free on board
GDP	Gross domestic product
GFCF	Gross fixed capital formation
GCF	Gross capital formation
GOS	Gross operating surplus
GSBPM	Generic Statistical Business Production Model
GVA	Gross value added
HFCE	Household final consumption expenditure
HS	Harmonized System
IAS	Integrated Accounting System
ISS	Institute of Social Studies
IC	Intermediate consumption
ILO	International Labour Organization
INSEE	National Institute of Statistics and Economic Studies
ISIC	International Standard Industrial Classification of All Economic Activities
LFS	Labour force survey
NPISH	Non-profit institutions serving households
NPIs	Non Profit Institutions
NSO	National Statistical Office

PCBS	Palestinian Central Bureau of Statistics
PECS	Palestinian Expenditure and Consumption Survey
SNA	System of National Accounts
SUT	Supply and use table
TTM	Trade and transport margins
UN	United Nations
UNRWA	United Nations Relief and Works Agency for Palestine Refugees
VAT	Value added tax
UNSD	United Nations Statistical Division

Introduction

Overview

Supply and use tables are one of the building blocks of economic accounting and a good quality assurance tool for GDP figures and other macroeconomic aggregates. They are a powerful tool to compare and contrast data from various sources and improve the coherence of economic information (System of National Accounts, SNA 2008).

As a statistical tool, SUTs provide a coordinating framework for checking the consistency of economic statistics obtained from various statistical sources, such as industrial surveys, household expenditure surveys, investment surveys and foreign trade statistics. Furthermore, they serve as a basis for calculating economic data in national accounts and detecting issues with economic data.

Supply and use tables are used in the analysis of markets and industries and to study productivity at a higher level of disaggregation.

SUTs have two interrelated tables: the supply table and the use table. The total supply of goods and services in the economy is divided into domestic production and imports. In turn, the total use of goods and services at purchasers' prices in the economy are divided into intermediate consumption, final consumption, gross capital formation and exports of goods and services.

SUTs consist of a rectangular matrix broken down by industry and product. In both supply and use

tables, products are presented as rows, and the supply of every product must equal the use of that product when measured at the same price.

The total supply (SB) of goods and services consists of:

- Output: domestic production of goods and services at base prices, classified by products and industries.
- Total imports classified by products including residents' consumption abroad.
- The adjustment columns added to obtain data at purchasers' prices (taxes less subsidies by product, trade and transport margins by product and CIF/FOB adjustments).

The total use of goods and services consists of:

- Intermediate consumption: the value of goods and services used as production inputs, classified by product and industry.
- Final consumption broken down into household final consumption expenditure, final consumption expenditure of non-profit institutions serving households (NPISH) and Government final consumption expenditure.
- Gross capital formation, which consists of gross fixed capital formation (GFCF) and change in inventory.
- Exports of goods and services.

The amount of a product available for use in the economy is supplied either by domestic production or imports. This same amount of the product entering an economy in an accounting period must be used for

intermediate consumption, final consumption, capital formation or exports. This is the concept of product balance, and as such every row of a supply and use table must be balanced accordingly.

The supply of every product must equal the use of that product when measured in the same prices (purchasers' prices), and the output of an industry must equal its cost of production: these two principles are used in balancing supply and use tables. Table 1 below shows a simplified supply and use table.

Palestinian supply and use tables: overview

The first supply and use table was compiled by the Palestinian Central Bureau of Statistics for

the year 1997 following the establishment of the bureau in the year 1993. This table used the first Population, Housing and Establishment Census in 1997 as well as related economic and social surveys.

SUTs were compiled for 2004 and 2013 using the available detailed data and assistance from technical missions. The SUTs for both 2004 and 2013 were compiled using rectangular supply and use matrices, with 54 industries and 87 product groups. Industries are defined in terms of the ISIC (revision 3) at a four-digit level classification of the basic data.

Recently, PCBS prepared supply and use tables for 2017 using the ERETES software.

Table 1. General structure of supply and use tables

		Supply table			Use table						
		Products			Industries			Final uses			
		Agricultural products	Industrial products	Services	Agriculture	Industry	Service activities	Final consumption	Gross capital formation	Exports	Total
Products	Agricultural products				Intermediate consumption by product and industry			Final uses by products and category			Total use by product
	Industrial products										
	Services										
Industries	Agriculture	Output of industries by product									Total output by industry
	Industry										
	Service activities										
Value added					Value added by component and industry						Total value added
Imports		Total imports by product									Total imports
Total		Total supply by product			Total output by industry			Total final uses by category			
	= not applicable.										

= not applicable.

1. Process of compiling the supply and use tables

A. General framework

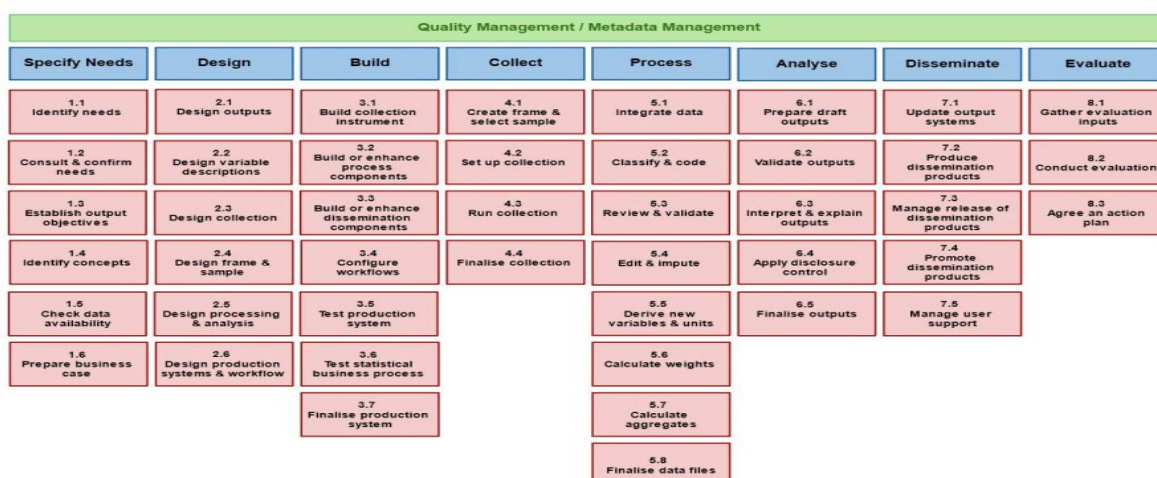
The compilation of SUTs must be considered as part of a statistical production process which runs from the identification of objectives and user needs to the final dissemination of the tables and the evaluation of the production process.

Therefore, the various stages of the compilation of SUTs in the Palestinian case followed the stages of the Generic Statistical Business Production Model (GSBPM).¹ This framework

identifies and organizes the compilation steps and the interdependencies between them in a generic statistical business process.

This model also helps to modernize statistical production processes and integrate data and metadata standards as a template for documentation and therefore for quality assessment and improvement. The GSBPM consists of a sequence of eight phases: (1) specify need; (2) design; (3) build; (4) collect; (5) process; (6) analyse; (7) disseminate and (8) evaluate.

Figure 1. Phases of the GSBPM



Source: Handbook on Supply, Use and Input-Output Tables with Extensions and Applications United Nations New York, 2018.

1 The Generic Statistical Business Process Model (GSBPM) describes and defines the set of business processes needed to produce official statistics. It was first developed in 2008 by the Joint UNECE/Eurostat/OECD Group on Statistical Metadata (METIS) based on the business process model used by Statistics New Zealand. <https://unstats.un.org/oslogroup/methodology/docs/escm-edited/ESCM%20Chapter%20a%20-%2020140423.docx>.

B. Phases of compilation

The compilation of SUTs requires effective institutional arrangements including agreements between the agencies involved in the process of compiling the SUT (UNSD, 2018).

These arrangements define the functions and responsibilities of the statistical agency within the statistical system and its relations with the various institutions involved.

Meanwhile, the process of compiling the SUT follows the phases of the GSBPM mentioned above and explained below in greater detail:

1. Phase 1: Specify needs, design and build

During this phase, the tasks related to the first three phases of the GSBPM are performed, which are to specify needs, design and build, covering the pre-collection activities of setting up the system.

The main tasks that were implemented during this stage were the following:

- Identify users in order to decide the size of the SUT.
- Conduct several meetings with partners in related ministries and data sources to reach an agreement about the structure of the SUT based on the availability of data, investigate the necessary classifications used and set up a formal memorandum of understanding with partners.
- Organize brainstorming meetings with the advisory committee² to determine the

structure of the SUT and the main strategic commodities.

- Check data availability internally at the PCBS and within the statistical system.
- Form the task team groups, the road map and the coordination process for the groups.

For this stage, a clear organizational structure of the staff including clear roles and responsibilities must be defined, after ensuring that staff are trained and skilled to undertake their various functions.

Check the data delivery, which means whether data really arrive at the time and as complete and detailed as agreed or expected.

2. Phase 2: Collect

During this phase, all data gathering activities are performed, from various sources in collaboration with the data sources. Data are then manipulated in order to fulfil the requirements of the SUT, which means transferring all data in the database with the classifications and the framework of the national accounts. The following tasks are performed during this phase:

- Collect the data from both the surveys and censuses (economic or social) in addition to the necessary detailed data from administrative records.
- Check the proper classifications used from different data sources and use bridge tables for cross classifications.
- Adapt all data to use the following template:

2 The Palestinian Economic advisory committee was established in 2004 from academics and economists.

Table 2. Main components of the database used for SUT in Palestine

Year	Region	Sector	SupUse	Transaction	Activity	Product	Value	Source
2017	1	11	S	P.11	CCC003	CCC003001	\$\$	Oil- presssurvey
2017	2	13	U	P.2	000001	CCC017001	\$\$	AdmRecords

Table 2 above represents an example for the main components of the database used for the SUT. The database must define the year, the region (1) West Bank (2) Gaza Strip), sector, SupUse (is it a supply or use), transaction (P.1, P.2, etc), activity classification and product as well as the value and source. Indicating the source in each cell facilitates the feedback process in the balancing stage.

3. Phase 3: Process

The main output for this phase is the unbalanced SUT, following a number of activities related to data cleaning and manipulation, with all data transformed into the SUT format using the ERETES software.³

This phase is very important and also sensitive, since it consists of two related steps:

1. Put all data into the initial unbalanced SUT, which involves data cleaning as well as the aggregation and disaggregation of the basic data to fit into the planned structure of the Palestinian SUT (the structure that was accepted and agreed upon with different partners).
2. Set up the requirements of the SUT at purchasers' and base prices and in current

and constant prices, and get the final format of this output.

In general, at this stage the initial SUT is ready to start the process of balancing and validating data.

4. Phase 4: Analyse

This phase refers to the activities of balancing (manual and automated) the SUT and providing feedback to resolve inconsistencies. This phase is closely connected with the previous one.

In this phase several tasks are performed:

1. Conduct brainstorming meetings with officials from the ministries and the data sources to participate in the process of balancing. These meetings are used to check and contrast the data from various sources and share views about the expected reasons for these imbalances. A good example of this is the balancing process for agricultural products, since here we receive different data from both the ministry of agriculture and the agricultural statistics at PCBS, and after several discussions with them, the imbalances were solved since the main differences between the two sources were

3 The acronym for "équilibre ressources-emplois et tableau entrées-sorties" (supply-use balances and input-output tables) – is a computer program designed to assist national accountants in compiling SUTs and integrated economic accounts (including sector accounts) that comply with the principles and guidelines set out by the SNA. ERETES was developed by INSEE and Eurostat.

because different prices were used. (This will be presented in the balancing section.)

2. Determine the main commodities that resulted in the imbalances and discuss them with the Advisory Committee since they have good knowledge of the particularities of the Palestinian economy and the different interlinkages within it.
3. The balancing process is conducted manually using the ERETES software, and the Palestinian experience here stresses the importance of also using macros within Excel for greater efficiency.

5. Phase 5: Dissemination and documentation

In this phase, the final SUT is disseminated. Once the supply and use sides are balanced, the resulting data are gathered within the framework of the SUT and the printed publication with the documentation of the balancing process is ready for dissemination.

As this is the final phase for preparing the SUT, an evaluation process starts after this stage to evaluate the production process as a whole and several workshops and meetings are conducted to promote the SUT among academics, students and other data users.

C. Palestinian classifications for the SUT

Standard international statistical classifications (such as ISIC, CPC and COICOP) should be used at appropriate levels of detail to ensure international comparability. Meanwhile, two levels should be taken into consideration when determining the aggregation of the classifications used, the first of which is the working level which needs the most detailed

level of classifications and the other is the publication level which tend to be at a more aggregated level, taking into consideration the user's needs and confidentiality.

Various aspects were considered in determining the level of detail of industries and products which include:

- Availability and quality of source data.
- Ability to distinguish between market and non-market activities.
- Level of industries allowed to deduct VAT or not.
- Subdivisions of industries by institutional sector.
- User need for research and visibility studies
- For some products, is it possible to identify whether they are used as intermediate consumption or final consumption?
- The importance of some industries and products and whether they are economically significant or relevant. For example, olive oil was identified separately from other vegetable oils as a need of data users since it is a significant product in the State of Palestine.
- The input structure of the economy by providing links between domestic supply and exports, in addition to the links between intermediate consumption and imports in order to study the import substitution strategies by researchers and policymakers.

Industry classification: The International Standard Industrial Classification of All Economic Activities (ISIC) is recommended for classifying industries and was therefore used by PCBS to classify the data from various data sources and in the final structure of the SUT. ISIC REV 4 was used for all sources to ensure consistency.

Product classification: The international reference that was used to classify all goods and services that are the result of production in the economy is the Central Product Classification, Version 2.1 (CPC Ver. 2.1) (see annex 1).

Bridge tables were prepared to provide the necessary links between the national accounts classification of product and other detailed goods classifications. The following are some examples of the bridge tables:

- Bridge tables were compiled between the CPC and some data sources that use the ISIC Rev.4 for six-digit classifications.

- Bridge tables were used to link between the national account classification of a product and the classification used by foreign trade statistics to classify goods (HS groups).
- Finally, a bridge table was prepared and used to link the COICOP used in the expenditure and consumption survey and the classification used for products in the SUT.

Based on the above aspects, and after several meetings with users, the SUT 2017 was decided to use 87 products across 54 industries (annex).

2. Construction of the supply and use tables

The steps for constructing an unbalanced version of the SUT are as follow:

- Construct the initial supply table: domestic production, imports of goods and services and valuation matrices.
- Constrain the initial use table which covers intermediate consumption and final uses.
- Construct the gross value added quadrant.
- Balance the tables.

There is a significant amount of interdependency in the compilation process of the SUT. For example, the valuation matrix is necessary to transform the total supply of products at base prices to the total supply of products at purchasers' prices.

A. Supply table

The supply table shows the supply of goods and services by type of product of an economy for a given period of time and distinguishes between the output of domestic industries and imports by product type (UNSD 2018).

1. Domestic production matrix

The domestic production matrix contains information on the supply of products by different industries. The Palestinian production matrix classifies production according to two dimensions: the rows represent the type of the products (based

on the CPC Ver 2.1) and the columns represent the industries (Based on ISIC Rev 4).

Different data sources were used to product the production matrix, including:

(a) Structural surveys

- Annual economic surveys collect data from the statistical unit and ensure the consistency and coherence of data. These annual surveys cover all private and non-profit institutions for six main activities (manufacturing, construction, trade, transport, telecommunication, services) and their scope depends on the 2017 general census.
- The main variables obtained from the surveys are: sales of goods and services, purchases of goods and services, change in inventories, capital expenditures, employment data, purchases and sales of goods and services for resale without any further processing, and these variables help to compute the trade margins.
- Other surveys such as the Transport Outside Establishments Survey provide information on the activities of the informal sector according to (ISIC-4) for both non-scheduled passenger land transport and freight transport by road.⁴
- Palestinian expenditure and consumption survey for household production and own account data. This survey is conducted every five years with the detailed data necessary the compile the SUT.

4 See Palestine - Transport Survey Outside Establishments Sector 2019. <https://www.pcbs.gov.ps/PCBS-Metadata-en-v4.3/index.php/catalog/628/study-description>.

Table 3. Palestinian supply table, 2017, simplified version

Supply in products	Total supply at purchaser's price	Total supply at base price	Domestic Production by industries						
			Agr	Man	Const	Wholesale and retail trade	Services	Total of Industries	Imports
Agriculture	3,065	2,793	2,208	6		2		2,216	578
Manufacturing	15,571	13,160		5,808	7	193	10	6,018	7,142
Construction	2,929	2,416			2,414	2	0	2,416	
Wholesale and retail trade services	3,390	4,077		67	5	3,928	77	4,077	
Services	10,659	10,792		48	5	6	9,949	10,008	784
	35,614	33,238	2,208	5,929	2,432	4,130	10,036	24,735	8,503

(b) Administrative records

- Agricultural statistics based on data from the Ministry of Agriculture and PCBS estimates based on ministry data.
- Ministry of finance data pertaining to VAT and custom duties.
- Government data for the central, local government and government abroad.
- Financial data from banks and Central Bank.

However, if certain data are not available in the official statistical system, other sources are checked first to reach estimates for the missing data. For example, the production of household enterprises was estimated based on the calculations of the chamber of commerce and trade association in addition to some modelling techniques which will be introduced later in the discussion of balancing issues.

These sources provide the main variables to construct the domestic production matrix:

- Principal and secondary dairy production (primary activity of an industry is reported on the diagonal of the matrix).
- Market output, output produced for own final use and other non-market output.
- Formal and informal production.
- Trade and transport margins.

2. Valuation vectors

In the first step in compiling the initial supply table and the domestic production matrix at base prices, the valuation vectors of trade and transport margins and taxes less subsidies on products are added to total supply at base prices to reach the total supply at purchasers' prices.

The valuation matrix bridges the difference in valuation between the supply table at base prices and the use tables at purchasers' prices.

3. Trade margins

Trade margins represent the difference between sales of goods purchased for resale and the costs of those same goods purchased for resale. The compilation of the trade margin matrices in the SUTs may in principle be started either from the supply side or from the use side. In general, especially when compiling a benchmark SUT, the preferred approach is to start with estimating trade margins on the supply side resulting in data on the total amount of trade margins by products.

Data sources for trade margins:

Estimates on trade margins by product earned by wholesalers and retailers are collected via annual economic surveys. These surveys provide data on the total output of trade margins by industry (including sub-industry), which are then transformed into margins by product.

Economic surveys do not provide estimates about the distribution channels of goods, and therefore specific estimates will be made.

Each product's share of the total supply was used to estimate the margins ratio to prorate the total trade margins. The trade margin for each product can be estimated by multiplying this ratio (calculated using the formula above) by the total margins of the product at base prices.

The result by product must be checked against the total trade margins by industry.

4. Transport margins

Transport margins represent freight services of products when invoiced separately by the seller. Transport margins are transport charges paid separately by the purchaser to take delivery at the required time and place. The size of the transport margins, and even of the total output of freight services, is usually much smaller, relatively speaking, than the trade margins.

The method used is to concentrate on those products where significant transport services are involved – normally agricultural products, energy products, iron and steel products and products related to construction – and then collect information about transport margins from the selected activities in selected enterprises.

Data sources for transport margins:

- Annual economic surveys which include transportation companies.
- Statistical studies about transportation activities in the following industries: manufacturing, energy, construction and trade.

5. Taxes and subsidies on products

A tax on a product is a tax that is payable per unit of some good or service. The tax may be a specific amount of money per unit of a good or service, or it may be calculated ad valorem, as a specified percentage of the price or value of the goods or services transacted. A tax on a product usually becomes payable when it is produced, sold or imported, but it may also become payable in other circumstances, such as when a good is exported, leased, transferred, delivered or used for own consumption or own capital formation.

Three types can be distinguished:

- Value added taxes (VAT).
- Taxes on imports.
- Other taxes on products.

The taxes and subsidies on products are all linked to the amount or value of market goods and services produced or sold.

Three major varieties can be distinguished:

- Taxes accrued at the time of circulation: These taxes affect the sale of goods and services or their transportation, often with rates based on the value. In some cases, such as VAT, some buyers can deduct it.
- Taxes or specific subsidies on certain products: Taxes on tobacco, petroleum products, shows, etc; subsidies for basic necessities.
- Taxes or subsidies on exports: Exports are often exempt from previous taxes. On the other hand, they may be affected by special

taxes (in particular, on expensive raw materials); or there may be subsidies to promote them (ESCWA, 2020).

In the Palestinian case, taxes on products can be broken down into:

- Import duties (customs duties).
- Non-deductible VAT.

Government statistics are the main source for figures on VAT and subsidies, and through specific memoranda of understanding the detailed data by product is provided for compilation of the SUT.

Meanwhile, custom duties are obtained directly from customs statistics which present these duties by production according to HS classification. The bridge table between HS and the product's classification adopted in the SUT is used to produce the vector of import duties by product.

Table 4. Palestinian valuation matrix

		Valuation Matrices			Total supply at base price
Supply in products	Total supply at purchaser's price	Trade Margins	Transport Margins	Taxes less Subsidies	
Agriculture	3,065	145	33	93	2,793
Manufacturing	15,571	964	11	1,436	13,160
Construction	2,929	418	96		2,416
Wholesale and retail trade services	3,390	-1,527		840	4,077
Services	10,659		-139	6	10,792
	35,614			2,375	33,238

6. Transactions with the rest of the world: Imports and exports

Imports and exports belong to different sides of the supply and use table (with imports presented on the supply side and exports presented on the use side).

Imports of goods and services consist of transactions from non-residents to residents, and exports vice versa. The transactions need not be sales, as barter, gifts and grants are also included.

Imports and exports of goods occur when there are changes of ownership between residents and non-residents (SNA 2008). The transaction must be registered at the time of the change of ownership.

Data on imports by product from foreign trade statistics are most commonly valued at CIF prices; these prices are used to evaluate imports by product; however, total imports is valued FOB as well as exports by product.

Data sources for imports and exports:

The main sources for imports and exports data in Palestine are foreign trade statistics (which obtain the data directly from the customs statistics in the ministry of finance) for goods; and the balance of payments for services.

(a) Customs statistics

Data on imports and exports of goods are obtained from customs declarations, which record imports and exports of goods at a very detailed level using the HS classification.

(b) Balance of payments

The main source for services is the balance of payments, which records the imports and exports of services. National accounts and the balance of payments are compatible since the balance is prepared in accordance with the latest edition of the IMF Manual.

Table 5. Palestinian balance of payments, 2019 (Value in million USD)

Indicator	2019
Current account (net)	-1,779.9
Goods (net)	-5,509.6
Exports (fob)	1,747.9
Imports (fob)	7,257.5
Services (net)	-992.8
Exports	911.4
Transportation services	8.4
Travel services	726.0
Communications services	15.9
Construction services	93.8

Indicator	2019
Other business services	14.2
Government services	21.5
Others	31.6
Imports	1,904.2
Transportation services	251.9
Travel services	1,434.5
Communication services	12.9
Insurance services	36.9
Other business services	126.7
Government services	31.8
Others	9.5
Income (net)	3,030.9
Receipts	3,211.9
Compensation of employees	2,970.3
Of which from Israel	2,945.8
Investment income	241.6
Payments	181.0
Current transfers (net)	1,691.6
Inflows	2,265.5
To the government sector	628.2
of which from donor transfers	398.6
To the other sectors	1,637.3
of which from donor transfers	170.8
Outflows	573.9
Capital and financial account (net)	1,690.9
Capital account (net)	284.4
Capital transfers (net)	284.4
Inflows	284.4
To the government sector	14.9
of which from donor transfers	14.9

Indicator	2019
To other sectors	269.5
Outflows	0.0
Acquisition/disposal of non-produced, non-financial assets (net)	0.0
Financial account (net)	1,406.5
Foreign direct investment (net)	188.4
Change in investment abroad (net)	56.5
Change in investment in State of Palestine (net)	131.9
Foreign portfolio investment (net)	-35.5
Change in assets (net)	-12.5
Change in liabilities (net)	-23.0
Foreign other investment (net)	1,374.1
Change in assets (net)	892.4
Of which loans to non-residents	20.6
Of which currency and deposits	846.2
Change in liabilities (net)	481.7
Of which loans to non-residents	187.0
Of which currency and deposits	288.6
Net errors and omissions	89.0
Overall balance	120.5
Financing	-120.5
Exceptional financing	0.0
Change in reserve assets (- = increase/ + = decrease)	-120.5

PCBS: BOP, 2019 according to BPM6.

B. Use table

The use table shows the use of goods and services by product and type of use for intermediate consumption by industry, final consumption expenditure, gross capital

formation and exports. The use table also shows the components of GVA by industry for compensation of employees, other taxes less subsidies on production, consumption of fixed capital, net operating surplus and net mixed income.

Table 6. Palestinian use table, 2017, simplified version

Products	Total use at purchaser's price	Intermediate consumption of industries					Exports	Final consumption	GCF
		Agri	Man	Constr	Trade	Services			
Agriculture	3,392		17	2,444	51	230	11	574	65
Manufacturing	15,553	505	2,142	1,406	407	1,686	1,891	6,074	1,444
Construction	6,762		7	1	9	502	1	3,449	2,793
Trade	1,259					25		1,089	146
Services	10,773	109	397	72	443	1,978	375	7,399	
Total	37,739	614	2,562	3,923	910	4,420	2,278	18,585	4,447

Listed below are the components of the initial Palestinian use table:

1. Palestinian intermediate consumption matrix

The data used for the construction of initial estimates for the intermediate consumption part of the Use table come from various data sources which provide a complete picture of the inputs by product:

- Annual economic surveys covering all private and non-profit institutions for six main activities (manufacturing, construction, trade, transport, telecommunication, services). Those surveys in turn are based on the 2017 general census.
- The informal sector survey for transport activities.
- Government statistics.
- Administrative records of local government and government abroad.

- Budget data for UNRWA and NPIs.

Intermediate consumption refers to the actual use of goods and services in the production process, i.e. it does not cover the acquisition of products for IC purpose kept in stock.

The main objective of the use table is to identify the cost structures of industries and the input structure of final uses. The input approach is implemented in the Palestinian use matrix by obtaining survey data on the main cost structures. The sources for the input approach are the establishment survey, the expenditure survey and government statistics.

Intermediate consumption is broken down by industry according to ISIC Rev.4 and by institutional sector. Data are also broken down into market and non-market since they have different input structures and different trade margins on their inputs since they use different trade channels and taxation rules.

Table 7. Palestinian intermediate consumption matrix, 2017

Products	Total use at purchaser's price	Intermediate consumption of industries					Total of Industries
		Agriculture	Manufacturing	Construction	Trade	Services	
Agriculture	3,065	542	1,048		2	36	1,628
Manufacturing	15,553	505	2,142	1,406	407	1,686	6,145
Construction	2,834		5	13	7	15	40
Trade	3,390	23	98	79	5	72	277
Services	10,773	109	397	72	443	1,978	2,999
Total	35,614	1,178	3,689	1,570	864	3,787	11,088

2. Gross fixed capital formation (GFCF (P.51))

Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds up to the value of non-produced assets (2008 SNA, para. 10.32). Gross capital formation is measured by the total value of gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables (2008 SNA, para. 10.31).

It is important to note that the acquisitions of lands and valuable objects do not appear in the GFCF.

Two methods are used to estimate gross fixed capital formation:

- Demand approach: consists of all demand of sectors for GFCF product, with information collected from statistical surveys and administrative returns for the public sector;
- Supply approach: based on the available product devoted to the GFCF in the supply of fixed assets from domestic production and imports.

The two methods are integrated and regularly tested to check the consistency and comparability between them.

(a) Demand approach

The data used in the 'demand approach' to calculate GFCF derive from the following sources:

- Annual economic surveys for non-agricultural and non-financial corporations broken down by activity; these surveys provide the GFCF by product.
- Data of financial companies, which are used to estimate the GFCF of financial corporations by category of assets.
- Administrative records for government and non-profit institutions pertaining to the use of assets.
- Building permit statistics are used to compute the market GFCF of households on dwellings.
- Acquisition of machinery and equipment by the agricultural sector available from the previous agriculture census for determining the structure of those assets, and the

agricultural statistics for the total amount of assets used.

(b) Supply approach

The GFCF is calculated based on the information available by product from the establishment census and also annual economic surveys, and those sources provide the expected list of products likely to be used, and therefore an estimate of the potential supply of products.

The main data sources for the supply of the assets are the foreign trade statistics about the imported capital goods.

3. Changes in inventories

Changes in inventories correspond to the difference between the inflows and outflows of inventories during the period considered, valued at the market price on the day of the transaction (the same good can then be accounted for at the entrance and exit at different prices).

Changes in inventories by product are estimated using the data from annual economic surveys.

4. Household final consumption expenditure

Household final consumption expenditure mainly covers the expenditures borne by resident households to purchase consumer goods and services. In practice, it also includes goods and services received as in-kind income, although it is not the households that spend it. The household final consumption expenditure (HFCE) by product is derived from household spending on goods and services which is essentially based on the Palestinian expenditure and consumption survey.

This survey provides information about household consumption expenditures on goods and services, with considerable detail in the categories used. Information on consumption by households usually starts from household surveys. In these surveys, household expenditure is classified according to COICOP and therefore there is a table linking data on the final consumption expenditures by purpose and products.

The methodology of the survey is summarized as follows:

- The duration of the survey was 12 months, and consequently, the design of the consumption and expenditure survey took into consideration seasonal changes in expenditure on fruit, vegetables and clothes.
- Each household was provided with a registration book (diary) to record daily consumption and expenditures by household. A female fieldworker visited each household 8-10 times to ensure data was credible.
- The recording period for each household was restricted to one month. Households with longer recording periods were given less variance in expenditure and consumption patterns. The disadvantage of a longer recording period is the high percentage of non-response because households get bored or forget to fill in the diary. The United Nations and ILO recommend a recording period of three to four weeks. PCBS selected a four-week recording period to cover household expenditures on goods and services that are repeated during the month.
- Different time references were adopted for the items of household expenditure and consumption. Daily expenditure on food

and transportation means cars were given a one-month reference period, while durable goods and educational fees were given a 12-month reference period, excluding personal transportation which was extended to the previous three years. One month and one-year reference periods were used for income.

The classification of the list of commodities is based on the recommendation of the United Nations for the SNA under the name Classification of Individual Consumption according to Purpose. The list includes 50 groups of expenditure and consumption, with each assigned a number based on its importance to the household, starting with food goods, clothing groups, housing, medical treatment, transportation and communication and durable goods. Groups 1-21 include goods pertinent to food, drinks and cigarettes. Group 22 includes goods that are home-produced and consumed by the household. Groups 23–45 include all items except food, drinks and cigarettes. Groups 50–55 include durable goods. The data are collected based on different reference periods to represent expenditure during one year.

5. Government final consumption expenditure (GFCE)

General government final consumption expenditure consists of expenditure, including expenditure whose value must be estimated indirectly, incurred by general government on both individual consumption goods and services and collective consumption services (2008 SNA, para. 9.114). Final expenditures therefore can be seen as the sum of compensation of employees and purchases of goods and services, and the consumption of fixed capital.

The main data sources used to calculate Government final consumption expenditure are as follow:

- General budget of Palestine.
- Local government data from the budget.

A simple equation to calculate GFCE is:

$$P3 = P1 - \text{Current sales of the government.}$$

Where P1 is Output and P3 is Final consumption expenditure.

Table 8. Distribution of household expenditure in the State of Palestine in Jordanian dinars by commodities and services groups and region, 2017

Commodities and services groups	Expenditure
Number of households in the sample	3,739
Average Household Size	5.5
A-Food cash expenditure	30.5
Bread and cereals	4.7
Meat and poultry	7.4
Fish and sea products	0.6
Dairy products and eggs	2.7

Commodities and services groups	Expenditure
Oils and fats	0.9
Fruits and nuts	2.5
Vegetables, legumes and tubers	4.5
Sugar and confectionery	1.5
Non-alcoholic beverages	1.6
Other foods	1.6
Take away food and meals in restaurant	2.5
D-Non-food cash expenditure	55.0
Clothing and footwear	5.2
Housing	8.7
Furniture and utensils	3.3
Household operations	1.3
Medical care	3.5
Transport	14.2
Communications	4.3
Education	4.1
Recreation	1.5
Personal care	2.1
Tobacco and cigarettes	5.4
Alcoholic beverages	0.0
Other non-food expenditure	1.1
Social protection	0.1
H-Cash transfer	7.6
I-Taxes	0.7
J-Non-consumption expenditure	6.2
Total cash expenditure (A+D+H+I+J)	100.0

Source: PECS, 2017.

6. Final consumption expenditure of non-profit institutions serving households (NPISH)

Final consumption expenditure of NPISHs consists of the expenditure, including expenditure whose value must be estimated indirectly, incurred by resident NPISHs on individual consumption goods and services and possibly on collective consumption services (2008 SNA, para. 9.115).

Data for the expenditure of NPISH by product is classified by CPC, and the main sources of data are:

- Annual economic surveys for the NPIs, since this survey allows for the classification of sectors and identification of non-profit institutions.
- Administrative records for the activities of non-profit institutions from the Ministry of Interior.
- UNRWA budget.

C. Construction of the gross value added (GVA) quadrant

Gross value added measures the contribution to GDP made by individual producers, industries or actors. Gross value added is measured as the value of output less intermediate consumption. Once the intermediate consumption of the use table has been estimated, it is possible to calculate the GVA for each industry. The GVA at base prices is estimated as total output at base prices from the supply table minus total intermediate consumption at purchasers' prices from the upper part of the use table (UNSD, 2018).

The GVA can be broken down into the following components:

- Compensation of employees.
- Other taxes less subsidies on production.
- Gross operating surplus and gross mixed income.

In the SNA, wages, salaries and employers' social contributions are referred to as **compensation of employees**. The compensation of the suppliers of capital services is the residual portion of output, a balancing item, and is called **gross mixed income** or **gross operating surplus**. The latter term is used if the producer is incorporated, while the former term is used if the producer is unincorporated.

1. Compensation of employees (D.1)

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work performed during the accounting period (2008 SNA, para. 7.5). Compensation of employees has two main components: wages and salaries payable in cash or in kind; and social insurance contributions payable by employers (actual and imputed) (2008 SNA, para. 7.42).

Data drawn from both the labour force survey (quarterly) and the establishment survey provide values for wages and salaries in industries and other data related to employment.

2. Other taxes on production and other subsidies on production

The other component of GVA at base prices consists of other taxes less subsidies on production, which may be shown separately. Other taxes on production consist of all taxes except taxes on products that enterprises incur as

a result of engaging in production (2008 SNA, para. 7.97). Similarly, other subsidies on production consist of subsidies except subsidies on products that resident enterprises may receive as a consequence of engaging in production. There are different types of taxes and subsidies on production. They may include taxes or subsidies on payroll or workforce, subsidies to reduce pollution, recurrent taxes on land, buildings or other structures and others (2008 SNA).

In Palestinian national accounts, budget statistics and local government accounts are used to determine other taxes and subsidies on production and their breakdown by industry.

3. Gross operating surplus and gross mixed income (B2/B3)

The value of “gross operating surplus and gross mixed income” is obtained as a residual when compensation of employees and other taxes and subsidies are subtracted from GVA at base prices by industry.

D. Balancing supply and use tables

Balancing is an essential step in the compilation of SUTs, since it enables the national accountant to investigate the consistency of data obtained from different data sources with different classifications and different definitions in order to obtain GDP in the three approaches which are likely to be different.

The main issue in balancing SUTs is how to reconcile various sources of information into one consistent SUT. Two approaches (the production and expenditure approaches) are used to compile GDP in the State of Palestine, which as a result of the statistical and non-statistical errors associated with their sources produce different

results. The SUT framework represents a structure that enables statistical offices to confront those sources in a coherent way, with the aim of achieving a single measure of GDP.

1. The analytical phase of balancing SUTs

PCBS has produced SUTs with balanced accounts for 54 separate industries and 87 products.

Different types of sources were used: survey data and administrative data. The SUT represents the accounts in terms of both industries and products. For products, the supply and use relationship is represented clearly in the tables.

The balancing process must follow the basic identities of the national accounts and the SUT compilation; the following are general identities that it must follow:

For each Product p:

Total supply_p = Total use_p such that,

Domestic supply_p + Imports_p + Margins_p + Taxes on products_p – Subsidies on products_p = Intermediate consumption_p + Final consumption_p + Gross capital formation_p + Exports_p.

For industries, the relationship is slightly more complicated, since it is represented in terms of gross value added (GVA).

For each Industry i:

GVA (Production)_i = GVA (Income)_i such that,
Total output_i – Total intermediate consumption_i = Compensation of employees_i + Mixed income_i + Gross operating surplus_i + Taxes on production_i – Subsidies on production_i.

The SUT is balanced on a product-by-product basis and requires adjusting one or more variables in the equation. The challenge of achieving product balance is to determine what variables are more likely to be causing the imbalances. For example, there was too much production for the estimated uses for some products, meanwhile there is little use to absorb production and imports.

This stage is heavily reliant on the compilers' experience and the deep understanding of the data and their sources to achieve reliable balances.

Several meetings are held with data sources and with the advisory committee to investigate the reasons for the imbalances.

There is no general theory of balancing, however a number of useful instruments are available in a supply and use system to tackle problems. Basic identities checks on plausibility and credibility, automatic procedures and error-search procedures help solve problems. A basic requirement for consistency is that basic identities for current and constant prices must be met. Every difference between total supply (including margins and taxes) and total use (at current and constant prices) for any product points to an inconsistency. This observation is the starting point for going back to the data and analysing the problem in detail. In the search for causes of the inconsistencies, it can be helpful to carry out a number of credibility checks. In fact, this evaluation is a search for unexpected relationships within the data. If something appears to be implausible, one has to look for an acceptable explanation by analysing the underlying sources and discussing the data with experts in the concerned area (EUROSTAT 2012).

In the Palestinian case, the differences between supply and use for each product were analysed and discussed with the experts together with the compilers of the data. There was no separate team allocated specifically to balancing the supply and use tables; instead, those involved are the compilers of the basic data, since they bring with them an understanding of the data used in the supply and use framework.

The main challenges in balancing the supply and use tables is manual balancing, where one person is assigned to each area of the economy. Such areas should ideally consist of a complex of industries and categories of final use with a high degree of interaction. All products and categories of use must belong to a complex to ensure that they are all checked. Each person is allowed to correct the master file within some limits and to restrict others' corrections within his/her area of responsibility. This process takes time because of the limited number of staff.

Focus groups of experts from the various areas were formed to discuss the balancing process and work on the surveys and data. Additionally, an advisory committee for the national accounts was formed with membership of academics and economists chosen for their expertise, knowledge and understanding of the structure of the economy and the interactions between sectors and actors in the economy.

Using software for the compilation of SUTs:

The compilation of SUTs depends on the availability of appropriate technological infrastructure and human resources. Major developments in the use of software facilitate the compilation of statistics and enhance the timeliness of statistical outputs, including SUTs.

Therefore, it is important to set up a clear plan for the IT requirements of all phases of the compilation process. In the Palestinian case, different software programs were used to compile and balance the SUT.

- The 2004 SUT used the program IAS (Integrated Accounts System), which was developed by a group associated with the Institute of Social Studies (ISS) in the Netherlands and is used in Caribbean countries. This software was used with ACCESS as a tool for storing the databases.
- Both the 2013 and 2017 SUTs used the program ERETES, which was designed to assist national accounts to compile SUTs and integrated economic accounts in accordance with the principles and guidelines set out by the SNA. It was developed by the French NSO (INSEE) and EUROSTAT.

This software facilitates the compilation process and also presents the product imbalances as a starting point for the manual balancing.

Both ERETES and IAS include three elements:

- Use of database software (SYBASE, ORACLE and PROGRESS).
- Selection of SNA and compilation attributes (transaction categories, sector and industry categories, identification of current or constant prices, data source, etc.).
- Worksheets and tables for data conversion and reconciliation.

When choosing the software to support the compilation of SUTs as part of the National Accounts system, different issues have to be taken into consideration: first, the database environment and its flexibility, second, the resources and costs; third, the dissemination

platform; and finally, the human resources and training programme needed in order to build and maintain the capacity of staff.

Skilled and trained human resources are an essential requirement for the compilation, and this capacity should be increased through training programs and experience transfer between the different generations and levels of the National Accountants.

In addition to capacity-building, documentation should be prepared for each phase of using the software by summarizing the findings of all activities.

Elaboration of supply and use balances:

During the balancing process, it was possible to determine better quality based on the availability of data. For instance, data derived from administrative records were recognized as solid data, while, due to the lack of data, estimates were made for smuggling and household enterprises which were then discussed with the experts and the advisory committee.

The investigation process requires that the compiler maintain certain structures as stable as possible, for example the input-output ratio for producing a given product, such as dairy for example in the Palestinian case.

For instance, if the amount of milk available to produce dairy products in the economy appears to be unreliable due to technical coefficients, adjustments may be needed to the production or imports of milk, or adjustment of the milk production as it is an intermediate consumption for producing dairy products.

CC003001	Olive oil	No prod. ch.	Domestic + imports	PLSTN2017	No Quantity Unit	
	Completed basic price	Transport margins	Trade margins	Net taxes	Non deductible VAT	Purchaser's price
TOTAL SUPPLY	171190		68			171258
TOTAL USE						135162
Princ. Market OUTPUT.	712606					
Princ. Non-Market OUTPUT	243600					
Second. Market OUTPUT						
Secnd. Non-Market OUTPUT.						
IMPORTS CIF	704					
TAX on Imports						
Transport MARGIN						
Trade MARGIN			68			
TAX on exports						
TAX on products						
Subsidies on products						
Non deductible VAT						
Intermed. Consumption						
Purchased Final Cons						97308
FCEXP NMD Household						
FCEXP NMD Gov						
FCEXP NMD NPISH						
GFCF						
Ch. Inv. In-progss.						
Ch. Inv. Fnshd						
Ch. Inv. Gds. RESALE						
Ch. Inv. MAT&Supp.						
Chq Inv. Military						
Acquis.Valuab.						
EXPORTS						37854

2. The synthetic phase of balancing SUTs

To balance SUTs, national accountants must systematically investigate any inconsistencies therein. The first step is to identify the major inconsistencies. The second step is to carry out a critical search of the data used in compiling the national accounts.

In the Palestinian SUT, the major products with the highest imbalances were chosen to start the balancing process.

ERETES is being used for the compilation of the 2017 SUT, allowing for SUTs to be balanced using an iterative and decentralized approach, and for product imbalances to be presented in a systematic manner.

On the SUT, the amount of a product available for use within the economy must have been supplied either by domestic production or by imports. The same amount of product entering an economy in an accounting period must be used for intermediate consumption, final consumption, capital formation or exports. This is the basic for the product balance (SNA 2008).

Output + Imports = Intermediate consumption + Final consumption + Gross Capital Formation + Exports

The compiler of National Accounts can use his/her judgment based on the most reliable sources to reach a balance by adjusting the components as necessary. In SUTs, the goods and services account for the total economy is broken down along two dimensions: in the rows by products and in the columns by industry and category of final use.

The above product balance identity must be applied for each product.

The main restrictions on the level of detail are the availability of required data and the quality of available data. The first verification of data is carried out by the compilers of the original data within the rows (products) of the supply and use table. The compilers can identify areas of inconsistency between various sources, which can then be investigated.

Three main areas (products) were identified in the Palestinian SUT for 2017, which have led to improved data quality.

Some of those products were related to other products, which helped investigate the original data and the interrelation between them.

In balancing the SUT, it was found that livestock, milk and olives were the products with the largest discrepancies, and related products such as meat products, dairy products and olive oil recorded similar discrepancies. As a result, the balancing process was able to take into consideration the interrelationship between these products.

Below is a presentation of the balancing process for the products with the largest discrepancies:

(a) Oversupply of livestock

The unbalanced SUT had a large oversupply of livestock and a large undersupply of the product of the slaughtering industry. This can be presented using product balances as follows:

Supply and use of livestock (Values in USD thousands)

Supply		Use			
Output	\$257,736	Intermediate consumption	\$25,967		
Imports	\$108,309	Final consumption	\$22,687		
TTM	\$18,884	Export	\$52		
Other changes*	-	Change in inventories	\$346		
Total supply	\$384,929	Total use	\$49,052	= Discrepancies	\$335,877

* Other changes refers to changes in purchasers' prices.

To balance this product, we need to use the corresponding related product, i.e. meat.

The supply and use of meat presents the opposite picture, since the use of meat is higher than its supply. These discrepancies call for reviewing the data sources to check the accuracy of both the original data and its classifications.

The following checks were performed:

1. Agricultural statistics were reviewed to ensure that the accurate prices were used, and the quantities of all types of livestock were checked.
2. Slaughterhouses were consulted to confirm the number of livestock reaching them in addition to the input-output ratio for meat industries.

Supply and use of meat (Values in USD thousands)

Supply		Use			
Output	\$17,104	Intermediate consumption	\$1,943		
Imports	\$14,087	Final consumption	\$290,104		
TTM	\$49,457	GCF	-		
Other changes*	\$7,570	Change in inventories	131		
		Exports	\$1,542		
Total supply	\$88,218	Total use	\$293,720	= Discrepancies	-\$205,502

* Other changes refers to changes in purchasers' prices.

It was noticed in the Agricultural and Economic Survey data that livestock production did not match the intermediate consumption of livestock, and meat production did not take slaughtering into consideration. This issue likely resulted from the classification of slaughtering, since most slaughtering activities are classified in economic surveys as trade activities while they are actually an industrial activity. This misclassification leads to underreporting in the

production of meat under the industrial activity and the intermediate consumption of livestock.

Reallocating the discrepancies between livestock and meat results in the following balance:

Livestock Product:

The discrepancy of \$335,877 was allocated to intermediate consumption:

Balancing livestock

Supply		Use			
Output	\$257,736	Intermediate consumption	\$25,967	+\$335,877	
Imports	\$108,309	Final consumption	\$22,687		
TTM	\$18,884	GCF	-		
		Change in inventories	\$346		
		Exports	\$52		
Total supply	\$384,929	Total use	\$384,929	= Discrepancies	-

Meat Product:

The discrepancy of \$205,502 was allocated to output.

Balancing meat

Supply		Use			
Output	\$17,104 +\$205,502	Intermediate consumption	\$1,943		
Imports	\$14,087	Final consumption	\$290,104		
TTM	\$49,457	GCF	-		
Other changes	\$7,570	Change in inventories	131		
		Exports	\$1,542		
Total supply	\$293,720	Total use	293,720	= Discrepancies	-

(b) Milk and dairy products: Attempts to measure household enterprises' activities

Household enterprises are important in the Palestinian economy since they create employment opportunities and contribute to production.

Measuring the activities of household enterprises is not always obvious; therefore, supply and use tables try to capture them based on the implications of each activity, and the

knowledge about the share of household enterprises in each activity.

Production of dairy products is one of the major industries where the household enterprises perform. The supply and use components of both the milk and dairy products and the interrelation between these two products lead to a better understanding of the role of household enterprises in this regard.

The following tables show the supply and use for both milk and dairy products:

The supply and use of raw milk

Supply		Use			
Output	\$288,165	Intermediate consumption	\$37,440		
Imports	\$5,770	Final consumption	\$5,245		
TTM	\$1,203	GCF	-		
Other changes	-	Change in inventories	-		
		Exports	-		
Total supply	\$295,138	Total use	\$42,685	= Discrepancies	\$252,453

The supply and use of dairy

Supply		Use			
Output	\$96,922	Intermediate consumption	20,796		
Imports	\$73,739	Final consumption	\$238,842		
TTM	\$65,421	GCF	-		
		Change in inventories	-		
		Exports	\$4,502		
Total supply	\$236,082	Total use	\$264,140	= Discrepancies	-\$28,058

The input-output ratio of milk and dairy products was calculated, showing a large production of milk and a small proportion used as intermediate consumption for producing dairy and other products.

On the other hand, the production of dairy products is underestimated since it covers only the production of industrial enterprises registered under the annual economic surveys without taking into consideration the production of household enterprises.

Discussion with data sources and specialists in the Palestinian economy suggest that the intermediate consumption of milk should be increased by the amount of the discrepancy to match the input-output ratio and cover the inputs used by household enterprises. Similarly, the production of dairy products should be increased by the amount added to the inputs of milk, in the proportion of the input-output ratio, under dairy production of household enterprises.

Additionally, prices used by the Ministry of Finance were compared with those used by agricultural statistics. It was found that different prices were used even though the official prices used must be those from the PCBS. Prices deriving from agricultural statistics were unified to produce consistent data.

Additional discrepancies were reallocated to the remaining components of the use side of dairy products according to their share in the total use, and figures were double checked against the Palestinian expenditure and consumption survey.

The following are the balancing results for both milk and dairy products:

Milk:

On the supply side, output prices were changed and TTM were added. On the use side, the discrepancy of \$235,103 was added to the intermediate consumption for dairy products as an input for household enterprises:

Balancing milk

Supply		Use			
Output	\$248,125	Intermediate consumption	\$37,440	+\$235,103	
Imports	\$5,770	Final consumption	\$5,245		
TTM	\$23,893	GCF	-		
Other changes	-	Change in inventories	-		
		Exports	-		
Total supply	\$277,788	Total use	\$277,788	= Discrepancies	-

Dairy Products:

The above discrepancy of \$28,058 was added under output for household enterprises, and the

remaining discrepancy allocated to the components of the use side based on their share of the total use.

Balancing dairy products

Supply		Use			
Output	\$96,922 +\$225,078	Intermediate consumption	\$20,796	+\$8,000	
Imports	\$73,739	Final consumption	\$238,842	+\$99,158	
TTM	\$18,559	GCF	-		
		Change in inventories			
		Exports	\$4,502	+\$43,000	
Total supply	\$414,298	Total use	\$414,298	= Discrepancies	-

(c) Olives and olive oil products: Double check process

Data on olive production comes from agricultural statistics and derives from an annual survey of olive presses operating in the State of Palestine. This survey asks the quantity of olives pressed and quantity of olive oil extracted on a daily basis. This survey was implemented based on a comprehensive census of all statistical units (olive presses) and therefore this survey is free of statistical sampling errors (Olive Presses Survey, 2017).

The quantity of olive production recorded in agricultural statistics for 2017 was 78,000 tons, while the olive press survey showed that 76,000 tons were used as intermediate consumption to produce olive oil. This was a useful approach to double check the consistency of the data within the supply and use tables.

Assuming that the remaining olive production goes directly to households, any discrepancies are checked and estimates produced of any under coverage of the data.

The following tables show the supply and use for olives and olives oil:

The supply and use of olives

Supply		Use			
Output	\$165,360	Intermediate consumption	\$46,000		
Imports	\$70	Final consumption	\$5,720		
TTM	\$7,232	GCF	-		
Other changes	-	Change in inventories	-		
		Exports	-		
Total supply	\$172,662	Total use	\$51,720	= Discrepancies	\$120,942

The supply and use of olive oil

Supply		Use			
Output	\$150,414	Intermediate consumption	-		
Imports	\$700	Final consumption	\$72,000	Supply is larger than use	
TTM	\$55	GCF	-		
Other changes		Change in inventories	-		
		Exports	\$37,300		
Total supply	\$151,169	Total use	\$109,300	= Discrepancies	\$41,869

The above tables show the balancing issues for olives and olive oil. All data sources were checked and the data was correct, and so we must find other sources to absorb this discrepancy.

The above supply and use tables were for the West Bank, while the Gaza Strip only has limited olive production. Upon checking the supply and use tables for the Gaza Strip, it was found that

they showed the opposite story than in the West Bank, i.e. with more olive oil used than produced. Thus, to balance the two supply and use tables, the discrepancy was resolved by assuming production from the West Bank was used in the Gaza Strip.

The following are the supply and use tables for olive oil in the Gaza Strip:

The supply and use of olive oil in the Gaza Strip

Supply		Use			
Output	\$5,958	Intermediate consumption	\$700		
Imports	-	Final consumption	\$20,623	Supply is larger than use	
TTM	-	GCF	-		
Other changes	\$1,329	Change in inventories	-		
		Exports	-		
Total supply	\$7,287	Total use	\$21,323	= Discrepancies	-\$14,036

The above balancing process for olive oil in the two regions recorded an intra trade of about \$8,414, which absorbs and solves the problem of the olive oil discrepancy between the regions.

As for olives, since 40,000 tons (out of 128,000 tons) went to households, the discrepancy was absorbed by assuming that part of it (around \$2,000) was used by households as gifts to their families, while the remaining \$26,688 was used as inputs for household enterprises. These inputs were calculated based on the following equation:

$$\text{Value} = \text{Price} * \text{Quantity} \\ (\$0.702 * 38,000) = \$26,688.$$

The following are the balancing results for olives and olive oil:

Olives:

The discrepancy of \$26,688 was added to intermediate consumption for olive oil produced by household enterprises and the remaining \$2,000 was added as gifts:

Balancing olives

Supply		Use			
Output	\$100,750	Intermediate consumption	\$46,000	+ For household enterprises: \$52,660	
Imports	\$150	Final consumption	\$5,720	+ Gifts of \$502	
TTM	\$3,982	GCF	-		
Other changes	-	Change in inventories	-		
		Exports	-\$		
Total supply	\$104,882	Total use	\$104,882	= Discrepancies	-

Olive oil:

\$14,036 was added as intra trade between the West Bank and the Gaza Strip.

Balancing olive oil

Supply		Use			
Output	\$141,608	Intermediate consumption	\$6,427	Intra trade with the Gaza Strip of \$14,036	
Imports	\$700	Final consumption	\$80,600		
TTM	\$55	GCF	-		
Other changes		Change in inventories	\$4,000		
		Exports	\$51,336		
Total supply	\$142,363	Total use	\$142,363	= Discrepancies	-

In the SUT the three approaches (production, expenditure and income) are combined to produce a consistent estimate of GDP. As operating surplus is calculated as a residual

item in the Palestinian SUT, the expenditure approach and the production approach give the same result for GDP, so in effect two distinct approaches are balanced.

Table 9. Numerical example of 2017 unbalanced SUT

Supply table and valuation matrix

Products	Total supply at purchaser's price	TTM	VAT, CustomDut	Total supply at base price	Agriculture	Manufacturing	Construction	Trade	Services	Total of industries	Imports
Agriculture	2,181	70	87	2,024	1,667	5		1		1,674	350
Manufacture	16,050	2,206	3,067	10,777		4,672	7	131	9	4,819	5,958
Construction	2,005			2,005			2,005			2,005	
Trade	417	-2,276		2,692		56	5	2,579	53	2,692	
Services	7,893	-135	6	8,022		43	5	3	7,401	7,452	571
Total	25,386	-135	3,159	25,521	1,667	4,777	2,021	2,715	7,462	18,642	6,880

Use Table

Products	Total use at purchaser's price	Agriculture	Manufacturing	Construction	Trade	Services	Total of industries	Export	Final consumption	GFC
Agriculture	2,324	408	794		1	19	1,222	156	881	65
Manufacture	14,394	425	1,654	1,072	334	1,092	4,577	1,214	6,906	1,697
Construction	2,005		4	10	6	12	31			1,973
Trade	417	19				6	25		392	
Services	9,867	338	63	351	1,327	2,184	4,263	215	5,389	
Total	29,006	1,190	2,515	1,432	1,669	3,313	10,119	1,585	13,567	3,734

Total value added	8,522,429
Valuation matrix	3,024,864
GDP	11,547,293

Final consumption	13,567,383
G.C.F.	3,734,494
Export	1,585,379
Import	6,879,512
GDP	25,766,768

3. The informal sector in SUTs

A. Introduction

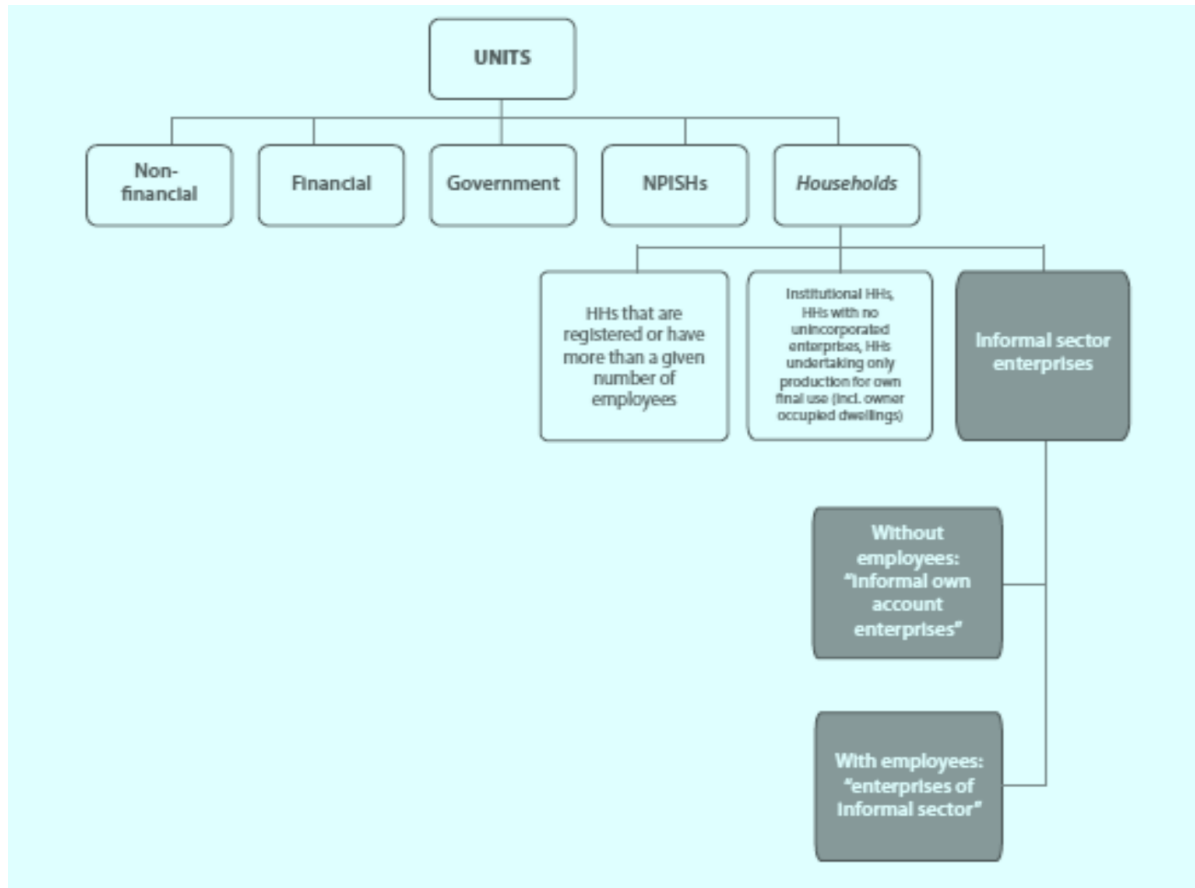
The System of National Accounts, 2008 (2008 SNA) and the Handbook on the Non-Observed Economy both follow the international definition of the informal sector as developed by the International Conference of Labour Statisticians as “consisting of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations— where they exist—are based mostly on casual employment, kinship or personal and social relations...”

The informal sector therefore reflects economic activities that are undertaken by individuals and households as a source of income and are not formally registered as a separate business enterprise. Informal activities provide goods and

services that may be perfectly legal as the goal may not necessarily be to evade taxes and social security contributions, or to bypass government regulations. However, in the process, these activities may in fact bypass regulations and avoid taxes. Informal activities are therefore characteristically small-scale in nature with few or no employees. The informal sector is considered a subset of the household sector and the assets associated with informal activities are usually not differentiated from household consumer durables. Therefore, the activities associated with the informal sector relate mainly to transactions in goods and services (trade; travel; transport), and current transfers. It should be noted that informal activity is not a perfect subset of the NOE and some informal activities may be covered as part of the regular statistical inquiries (UNSD, 2018).

The following graph shows the units of the informal sector in the economy:

Figure 2. Units of the informal sector



Source: EUROSTAT, 2012.

B. Methods for estimating the informal sector

Several methods can be used to estimate informal activities, depending on the data requirements, the statistical system, the financial and human resources and user needs, especially policymakers.

In the Palestinian case, two methods are being used to estimate those activities:

1. Direct methods

- Direct methods based on surveys and tax audits are used to construct estimates of total economic activity. The following direct methods were used to estimate the informal sector:
- Two regular surveys were conducted covering informal activities within transport and construction.
- The annual economic survey was double checked against data from the tax authority.

- The coverage of existing surveys such as the labour force survey and the Palestinian expenditure and consumption survey was expanded with information pertaining to the informal sector.
- Mixed household-enterprise surveys were conducted (1-2 surveys).

2. Indirect methods

Indirect methods are macroeconomic methods that combine various economic variables and a set of assumptions to produce estimates of total economic activity. The following indirect methods were used:

- Discrepancy methods: These methods are based on differences between the different approaches for compiling GDP, in particular the production and expenditure approaches. Additionally, data from various sources are compared and contrasted such as data from economic surveys and administrative records from the taxation department at the Ministry of Finance.
- Quantity method: Used for essentially all agricultural activities, this method compares the quantity of agricultural products produced with those reported in surveys to have been used as intermediate consumption.
- Model method: This method uses econometric modelling and behavioural equations to estimate the gap in the economy due to informal activities.

C. SUT: A framework for estimating the informal sector

Estimating missing data is particularly relevant in many countries where informal activities are not well covered in statistical surveys. Very

often supply and use do not balance because informal supply and/or use are not properly accounted for. Bringing the two sides into balance provides an opportunity to improve coverage of the informal sector.

It should be noted that the vast majority of informal sector activities provide goods and services whose production and distribution are perfectly legal (in contrast to criminal activities or illegal production). There is also a difference between the concept of the informal sector and that of the hidden or underground economy, because informal sector activities are not necessarily performed with the deliberate intention of evading the payment of taxes or social security, but rather with the goal of reducing production costs (EUROSTAT, 2012).

Within supply and use tables, any difference between the total supply and total use of any product points to an inconsistency in the system and calls for special review of each product and industry in order to capture the causes for this inconsistency. As part of this review, national accountants investigate products and discuss data with experts.

During the balancing process, several informal activities were captured, summarized by the following:

1. Household unincorporated enterprises: These enterprises produce goods or services for sale or barter on the market and can be engaged in virtually any kind of productive activity: agriculture, mining, manufacturing, construction, retail distribution and more. These are production units and can be divided based on the types of employment into:
 - Informal own-account enterprises, which basically represent household enterprises,

and which may employ contributing family members and employees on an occasional basis but not employees on a continuous basis and which have the characteristics described in the definition. In the Palestinian case the data pertaining to own-accounts use from agriculture, manufacturing and construction is obtained from the expenditure survey.

- Enterprises of informal employers: household enterprises that employ one or more employees on a continuous basis.
- The SUT is a good framework for capturing these activities, especially activities and products that are largely consumed by households.
- As mentioned in the balancing process section when talking about dairy products, SUTs enable us to capture household enterprises since there was excess demand for dairy products beyond that recorded by formal enterprises. By comparing with the

household expenditure survey it was found that households also consume dairy products from household enterprises and not only from formal dairy producers.

2. Unregistered trade: The supply and use table showed that there was excess use of some products that are not domestically produced. With the collaboration of the national accountant, this enables foreign trade statistics to capture smuggling of such products from Israel.
3. Unrecorded consumption: Some commodities within the Palestinian economy are consumed by non-residents, and these data were not recorded or even captured as an export of goods. Therefore, with the collaboration of the satellite accounts statistics and national accounts, data was obtained on inbound tourists (one-day visits) and estimates were compiled for their consumption and purchases of goods.

Table 10. Average monthly household expenditure and consumption in Jordanian dinars in the State of Palestine by commodity and service group and region, 2017

Commodity and service group	State of Palestine
Number of households in the sample	3,739
Average household size	5.5
Own-produced food in kind	5.3
Own-produced non-food in kind	142.8
Total cash expenditure	934.9

4. Challenges of compiling SUTs and general recommendations

A. Challenges of compiling supply and use tables

The elaboration of SUTs is challenging and complex process, and producing such a complex tool is not an easy task even in countries which have well developed statistical systems.

Generally, the major problems faced by PCBS are similar to those faced by other agencies in the Arab region: the lack of reliable and detailed data, the shortage of staff with appropriate technical expertise and financial constraints.

1. Lack of detailed data

The compilation of supply and use tables requires a lot of data; therefore, the most challenging issue in compiling SUTs is the lack of data at the level necessary for the SUT. On the other hand, data from administrative records do not necessarily follow the classifications and recommendations of the SUT.

To overcome those challenges, PCBS took the following actions:

- Conducted several workshops with data sources at ministries to build capacities and reach a common language by unifying classifications using internationally accepted definitions.

- Organized visits to enterprises to get an idea about the production chain, the inputs used and the ratio between input and output.
- Discussed gaps and imbalances with experts on the Palestinian economy and consulted the Advisory Committee about the structures of inputs within a given industry.
- Used ratios from similar economies to estimate input-output ratios.

2. Lack of human resources

The lack of human resources is the most serious challenge encountered by NSOs and is due to the high turnover of national accountants. The public sector is unable to compete with international agencies and the private sector in terms of the salaries offered, leading to a loss of human resources and capacities.

PCBS attempted to overcome this issue by allowing employees from partner departments such as the expenditure survey department, annual surveys department and foreign trade statistics to participate in this process from the beginning in order to circulate the knowledge with the large number of staff, within our strategy for capacity-building.

3. Financial constraints

Financial constraints limit the ability to conduct annual surveys at the level of detail necessary for the SUT. To address financial constraints, PCBS has implemented a strategy wherein

detailed surveys are compiled for years when an SUT is planned, and the SUT is conducted in years when the establishment census is conducted. (The establishment census is conducted regularly every 5 years.)

B. General evaluation and recommendations

While the compilation of the SUT faced certain challenges, there were also strong points as summarized below:

1. A robust capacity-building program at PCBS, especially the statistical capacity-building process in National Accounts. This is an ongoing, continuous and cumulative process involving the following practices:

Appointment of qualified staff

The appointment of qualified staff in National Accounts is a prerequisite for efficient and effective work, in addition to well-tailored training programmes. This be achieved through the implementation of a range of training programmes through the Palestinian Statistical Training Center, and the participation in the different training activities organized by international organizations. Furthermore, National Accounts staff are trained by former managers with extensive experience at work, in addition to the participation in the different training programmes (nationally and internationally) on the implementation of the System of National Accounts 2008 and subsequently national accountants that move from a theoretical background to practical methods for compiling SUTs.

Internal job mobility

Internal job mobility for national accounts staff within the statistical institute provides them with a good opportunity to gain more experience and contributes to their effectiveness. Internal job mobility is concentrated in departments that are the main data sources for national accounts. For example, job mobility allows national accounts staff to get a full picture of the work process (data collection, processing and quality assurance within the economic surveys department, and the balance of payments within the foreign trade department). Meanwhile, other staff from those departments are engaged in the SUT compilation process and were trained in the national accounts, which is an opportunity to compensate for the turnover of national accountants.

2. Testing the use of different software programs for the compilation of SUTs:

The Palestinian SUTs were compiled using different programs and databases which give the national accounts the needed flexibility to test different programs and evaluate the best one to use.

When building the SUT, it is recommended to:

- Set up a road map for preparing the SUT. We recommend following the GSBPM approach since it is well described and defines the compilation process from the start.
- Strengthen the collaboration between the statistical office and related ministries for sharing and making use of data through entering into memoranda of understanding and participating in focus groups and the work team.

- Enhance relationships with data sources through different meetings and workshops to develop a common understanding about the requirements of the SUT.
- Set up an advisory committee, which is a supporting power for the national accountants in providing general knowledge about the economy.
- Decide on the number of rows and columns of the SUTs according to the availability of detailed data sources and the size of staff involved in producing these tables.
- Decide the IT requirements and the proper software to be used.
- Prepare proper documentation throughout the various compilation stages and in particular during the stage of balancing and adjustment. The steps and links between the source data through to the balanced data should be recorded and documented separately and reviewed in subsequent balancing exercises to investigate source data incoherence, bias and other factors.

5. Conclusion

The supply and use tables (SUT) are useful tools for checking the consistency of statistics on flows of goods and services on the principle that the total supply of each product is equal to its total uses.

For many countries, the introduction of SNA 2008 underlines the importance of supply and use tables as an essential part of their integration system.

The main conclusions that can be drawn from the Palestinian experience in balancing the supply and use tables are the following: First, the balancing process contributes to better estimates as well as better quality and consistency. Second, the supply and use tables very clearly reflect the available source data in an integration framework, provide a better quality control system for the data from its sources and make it easier to analyse the results and check consistency.

Tables can be balanced manually or automatically. The manual method is preferred to ensure the highest reliability of the estimates taking into account the quality of the various source of data. Large discrepancies between supply and use of a product are analysed and subject to discussions between the national accountants and the data source specialists.

National accountant normally do not change data on domestic output, and instead find solutions by cooperating with specialists. The results are also checked by the specialists to confirm the validity of results.

Finally, supply and use tables not only help produce national accounts statistics of high quality and consistency but also facilitate integrated analyses of economic, environmental and social statistics.

Annex 1. Palestinian national accounts' industry classification

Industry_id	Industry_name
AAA	Agriculture, forestry and fishing
AAA001	Growing cereals, vegetables, and fruits
AAA002	Live animals and animal products
BBB	Mining and quarrying
BBB001	Quarrying Stone, sand, and clay
CCC	Manufacturing
CCC001	Processing and preserving of meat and fish
CCC002	Manufacturing of vegetable and fruits
CCC003	Manufacturing of oils and fats
CCC004	Manufacturing of dairy products
CCC005	Manufacture of starches, starch products and grain mill product
CCC006	Manufacture of food products including bakery
CCC007	Manufacture of prepared animal feeds
CCC008	Manufacture of beverages
CCC009	Manufacture of tobacco products
CCC010	Manufacture of textiles
CCC011	Manufacture of clothes
CCC012	Manufacture of leather
CCC013	Manufacture of Footwear
CCC014	Manufacture of wood except furniture
CCC015	Manufacture of paper
CCC016	Printing and reproduction of recorded media
CCC017	Manufacture of refined petroleum products

Industry_id	Industry_name
CCC018	Manufacture of basic chemicals, fertilizers and nitrogen compounds, plastics and synthetic rubber in primary forms
CCC019	Manufacturing of medical care products
CCC020	Manufacture of rubber and plastics products
CCC021	Manufacture of other non-metallic mineral products
CCC022	Manufacture of basic metals, and fabricated metals products
CCC023	Manufacture of machinery and equipment
CCC024	Manufacture of furniture
CCC025	Other manufacturing (jewellery, sport goods, games and toys...)
CCC026	Repair and installation of machinery and equipment
DDD	Electricity, gas, steam and air conditioning supply
DDD001	Electricity, gas, steam and air conditioning supply
EEE	Water collection, treatment, supply and sewerage
EEE001	Water collection, treatment and supply and Sewerage
FFF	Construction
FFF001	Construction
GGG	Wholesale and retail trade services
GGG001	Wholesale and retail trade and repair of motor vehicles and motorcycles
GGG002	Wholesale trade services, except of motor vehicles and motorcycles
GGG003	Retail trade services, except of motor vehicles and motorcycles
HHH	Transportation and storage
HHH001	Transportation and storage
III	Accommodation and food services activities
III001	Accommodation and food service activities
JJJ	Information and communication
JJJ001	Information and communication
KKK	Financial and insurance activities
KKK001	Financial and insurance activities
LLL	Real estate activities
LLL001	Real estate activities

Industry_id	Industry_name
MMM	Professional, scientific and technical activities
MMM001	Professional, scientific and technical activities
NNN	Administrative and support service activities
NNN001	Administrative and support service activities
000	Public administration and defence; compulsory social security
000001	Public administration and defence; compulsory social security
PPP	Education
PPP001	Education
QQQ	Human health
QQQ001	Human health
RRR	Arts, entertainment and recreation
RRR001	Arts, entertainment and recreation
SSS	Other service activities
SSS001	Activities of membership organizations
SSS002	Other personal services including repair of personal goods
TTT	Activities of households as employers
TTT001	Activities of households as employers
UUU	Extra-territorial organisations
UUU001	Extra-territorial organisations
XMC	Territorial correction
XMC000	Territorial correction

Annex 2. Palestinian national accounts' product classification

Product_id	Product_name
AAA	Agriculture, forestry and fishing
AAA001	Growing cereals, vegetables, and fruits
AAA001001	Cereals and rice
AAA001002	Vegetables and Flowers
AAA001003	Fruits
AAA001004	Olives
AAA001005	Other products and support activities for agriculture production
AAA002	Live animals and animal products
AAA002001	Raw milk
AAA002002	Poultry
AAA002003	Live animals
AAA002004	Fish and sea products
AAA002005	Eggs, honey, wool and other animal products not classified elsewhere
BBB	Mining and quarrying
BBB001	Quarrying Stone, sand, and clay
BBB001001	Quarrying stone, sand, and clay
BBB001002	Other ores and minerals
CCC	Manufacturing
CCC001	Processing and preserving of meat and fish
CCC001001	Processed meat and fish
CCC002	Manufacturing of vegetable and fruits
CCC002001	Processed fruit and vegetables
CCC003	Manufacturing of oils and fats
CCC003001	Olive oil

Product_id	Product_name
CCC003002	Vegetable and animal oils and fats other than olive oil
CCC004	Manufacturing of dairy products
CCC004001	Dairy products
CCC005	Manufacture of starches, starch products and grain mill product
CCC005001	Wheat flour
CCC005002	Starches and grain mill products except flour
CCC006	Manufacture of food products including bakery
CCC006001	Bread and other bakery products and Sweets, kunafe, baklava and eastern sweets
CCC006002	Sugar and cacao and chocolate and sweet products
CCC006003	Macaroni, noodles and couscous
CCC006004	Coffee, tea, salt and spices
CCC007	Manufacture of prepared animal feeds
CCC007001	Animal feeds
CCC008	Manufacture of beverages
CCC008001	Beverages
CCC009	Manufacture of tobacco products
CCC009001	Tobacco products
CCC010	Manufacture of textiles
CCC010001	Textiles
CCC011	Manufacture of clothes
CCC011001	Clothes
CCC012	Manufacture of leather
CCC012001	Leather products
CCC013	Manufacture of Footwear
CCC013001	Footwear
CCC014	Manufacture of wood except furniture
CCC014001	Wooden products other than furniture
CCC015	Manufacture of paper
CCC015001	Paper products
CCC016	Printing and reproduction of recorded media

Product_id	Product_name
CCC016001	Printing and recording media
CCC017	Manufacture of refined petroleum products
CCC017001	Refined petroleum products
CCC018	Manufacture of basic chemicals, fertilizers and nitrogen compounds, plastics and synthetic rubber in primary forms
CCC018001	Chemicals; fertilizers, paints, raw plastic and rubber and chemical gases
CCC018002	Soap, detergents, and perfumes
CCC019	Manufacturing of medical care products
CCC019001	Pharmaceutical and medical care products
CCC020	Manufacture of rubber and plastics products
CCC020001	Rubber and plastics products
CCC021	Manufacture of other non-metallic mineral products
CCC021001	Cement, lime, concrete, and plaster
CCC021002	Finished stones
CCC021003	Other non-metallic mineral products
CCC022	Manufacture of basic metals, and fabricated metals products
CCC022001	Basic Metals
CCC022002	Fabricated metal products, except machinery and equipment
CCC023	Manufacture of machinery and equipment
CCC023001	Computer, electronics and optical products
CCC023002	Electrical equipment
CCC023003	Machinery and equipment not classified elsewhere
CCC023004	Motor vehicles, cars, and vehicles parts
CCC024	Manufacture of furniture
CCC024001	Furniture
CCC025	Other manufacturing (jewellery, sport goods, games and toys...)
CCC025001	Other manufacturing (jewellery, sport goods, games and toys...)
CCC026	Repair and installation of machinery and equipment
CCC026001	Repair and installation of machinery and equipment

Product_id	Product_name
DDD	Electricity, gas, steam and air conditioning supply
DDD001	Electricity, gas, steam and air conditioning supply
DDD001001	Electricity, gas, steam and air conditioning supply
EEE	Water collection, treatment, supply and sewerage
EEE001	Water collection, treatment and supply and Sewerage
EEE001001	Water collection, treatment and supply
EEE001002	Sewerage, waste, collection and treatment
FFF	Construction
FFF001	Construction
FFF001001	Buildings (residential and non-residential)
FFF001002	Civil engineering
FFF001003	Specialized construction
GGG	Wholesale and retail trade services
GGG001	Wholesale and retail trade and repair of motor vehicles and motorcycles
GGG001001	Wholesale and retail trade of motor vehicles and motorcycles
GGG001002	Repair of motor vehicles and motorcycles
GGG002	Wholesale trade services, except of motor vehicles and motorcycles
GGG002001	Wholesale trade services, except of motor vehicles and motorcycles
GGG003	Retail trade services, except of motor vehicles and motorcycles
GGG003001	Retail trade services, except of motor vehicles and motorcycles
HHH	Transportation and storage
HHH001	Transportation and storage
HHH001001	Passengers transport
HHH001002	Freight transport
HHH001003	Warehousing and storage
HHH001004	Courier and postal services
III	Accommodation and food services activities
III001	Accommodation and food service activities
III001001	Accommodation activities and hotel services
III001002	Food services and restaurants

Product_id	Product_name
JJJ	Information and communication
JJJ001	Information and communication
JJJ001001	Publishing activities, Radio and T.V
JJJ001002	Information and communication
KKK	Financial and insurance activities
KKK001	Financial and insurance activities
KKK001001	Financial service, except FISIM
KKK001002	Financial intermediation services indirectly measured (FISIM)
KKK001003	Insurance, reinsurance and pension funding, except compulsory social security
KKK001004	Activities auxiliary to financial service and insurance
LLL	Real estate activities
LLL001	Real estate activities
LLL001001	Real estate activities
MMM	Professional, scientific and technical activities
MMM001	Professional, scientific and technical activities
MMM001001	Legal, accounting, consultancy, engineering services
MMM001002	Scientific research and development
MMM001003	Advertising, veterinary and other professional, scientific and technical services
NNN	Administrative and support service activities
NNN001	Administrative and support service activities
NNN001001	Rental and leasing (machines, personal goods, etc.)
NNN001002	Travel agencies and related services
NNN001003	Other administrative and support service activities (cleaning, security, current maintenance)
000	Public administration and defence; compulsory social security
000001	Public administration and defence; compulsory social security
000001001	Public administration and defence; compulsory social security
PPP	Education
PPP001	Education
PPP001001	Education

Product_id	Product_name
QQQ	Human health
QQQ001	Human health
QQQ001001	Human health
RRR	Arts, entertainment and recreation
RRR001	Arts, entertainment and recreation
RRR001001	Arts, entertainment and recreation
SSS	Other service activities
SSS001	Activities of membership organizations
SSS001001	Services produced by membership organizations
SSS002	Other personal services including repair of personal goods
SSS002001	Other personal services including repair of personal goods
TTT	Activities of households as employers
TTT001	Activities of households as employers
TTT001001	Activities of households as employers
UUU	Extra-territorial organisations
UUU001	Extra-territorial organisations
UUU001001	Extra-territorial organisations
XMC	Territorial correction
XMC000	Territorial correction
XMC000000	Territorial correction

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