



UNITED NATIONS  
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION

**INTEGRATED LIST OF DATA ITEMS**

**FOR USE IN**

**BASIC ECONOMIC STATISTICS**

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## Contents

<b>1. Introduction.....</b>	<b>3</b>
<b>2. Integrated List of Data Items for Use in Basic Economic Statistics.....</b>	<b>5</b>
<b>3. Definitions of Data Items.....</b>	<b>20</b>

## 1. Introduction

1. The United Nations Statistics Division (UNSD) is developing a common integrated framework for the compilation of basic economic statistics with economy-wide coverage which will allow for a consistent compilation of harmonized statistics with reliability, flexibility and the level of details required to meet the needs of governments, business community, regional/international agencies and provide a solid foundation for the compilation of national accounts.

2. The purpose of this document is to present the first component of the common integrated framework - *Integrated List of Data Items* (Integrated List, ILDI). The Integrated List has been developed by UNSD with the aim of providing countries with a tool which can be used in building up their economic statistics programmes, including the development of statistical questionnaires and other data collection instruments. It is intended for use in the development of any industry-specific lists, thus ensuring coherence of concepts and definitions across activities, class sizes, geographical areas and ownership arrangements.

3. Section 2 of the document presents a draft of the Integrated List and its correspondence with the data items identified for use in industrial and distributive trade statistics. To ensure a cross industry/sector coherence of the compiled data, the Integrated List is built on an *output approach*, defining the data items (or variables) to be compiled and disseminated, as distinct from an *input approach*, describing national practices in collection of various basic data items through economic survey programmes which may include more detailed and country-specific variables. The use of the Integrated List, including use of standardized numbering of data items and harmonized definitions across all economic activities will make it possible to provide integrated statistical information for the analysis of the production system of any country.

4. The Integrated List contains data items pertinent to the structural type statistics. The structural statistics are production-related statistics that are collected, compiled, transmitted and evaluated to establish the structure, activity, competitiveness and performance of businesses at national, regional and international level. These statistics generally provide information referring to a whole reference year. They show changes from one year to the next, and can be used to judge the accuracy of infra-annual data, which is often produced from smaller sample sizes. The production figures from structural statistics can also be used to compare with product data from the commodity production surveys. Finally they can provide a benchmark population figure for analyzing infrequent, irregular or one-off surveys.

5. Statistics derived on the basis of Integrated List allow for four distinct types of analysis:

- *Activity analysis*, pertaining to the structure or business cycle of production of one activity or to the comparison of relative performance of several activities within or between reference periods;
- *Geographical analysis*, allowing for detailed analysis of performance between regions or sub-regions of an economic territory as compared to the national total;
- *Size class analysis*, showing the relationship between the various size classes of enterprises and their activity and performance, as well as the different size structures of the activities by providing an indication of the degree of concentration and competition. This type of analysis is particularly important for studying business demography;
- *Legal and ownership analysis*, allowing for comparison of performances across the various ownership and control types like public, private and foreign-owned enterprises by economic activity and between economic activities.

6. The data items in the Integrated List are applicable in practice to any economic statistics irrespective of the type of industry (economic activity). At present the Integrated List is linked to two industry-specific lists - the list of data items for industrial statistics and the list of data items for distributive trade statistics. Those lists and definitions of data items will be included in the revised UNSD International Recommendations on Industrial and Distributive Trade Statistics.

7. Section 3 of the document contains definitions of data items on the Integrated List, harmonized and consistent with existing international statistical standards which, if followed by countries, will facilitate the collection of internationally comparable economic statistics. The definitions of data items are primarily drawn from the existing international statistical guidelines and recommendations. They follow as closely as possible the actual wording of the *System of National Accounts, 2008* (2008 SNA), ISIC Rev. 4, as well as regulations on structural and short-term statistics of the European Economic Commission and relevant IMF, OECD and ILO manuals and databases. In some cases it has been necessary to deviate from the exact wording by adding to or slightly changing it in order to have self-contained definitions.

8. The Integrated List is directly linked to the UNSD present and planned data collection activities on economic statistics. It will be periodically updated with regards to both data items and their definitions in order to reflect the developments in the relevant general conceptual frameworks as well as the needs of industry-specific statistics.

## 2. Integrated List of Data Items for Use in Basic Economic Statistics

### A. Demography

#### 1. (a) Characteristics of Statistical units

Item number	Integrated list	IRIS	IRDTS
	Items		
1.1	Identification code	Identification code	Identification code
1.2	Location	Location	Location
1.3	Period of operation	Period of operation	Period of operation
1.4	Type of economic organization	Type of economic organization	Type of economic organization
1.4.1	Single-establishment enterprise	Single-establishment enterprise	Single-establishment enterprise
1.4.2	Multi-establishment enterprise	Multi-establishment enterprise	Multi-establishment enterprise
1.4.2.1	Number of establishments	Number of establishments	Number of establishments
1.5	Type of legal organization and ownership	Type of legal organization and ownership	Type of legal organization and ownership
1.5.1	Incorporated enterprises except limited liability partnerships and cooperatives	Incorporated enterprises except limited liability partnerships and cooperatives	Incorporated enterprises except limited liability partnerships and cooperatives
1.5.1.1	Public ownership	Public ownership	Public ownership
1.5.1.1.1	By central government	By central government	By central government
1.5.1.1.2	By state government	By state government	By state government
1.5.1.1.3	By local government	By local government	By local government
1.5.1.2	National private	National private	National private
1.5.1.3	Foreign controlled	Foreign controlled	Foreign controlled
1.5.2	Co-operatives and limited liability partnerships	Co-operatives and limited liability partnerships	Co-operatives and limited liability partnerships
1.5.2.1	Public ownership	Public ownership	Public ownership
1.5.2.1.1	By central government	By central government	By central government
1.5.2.1.2	By state government	By state government	By state government
1.5.2.1.3	By local government	By local government	By local government
1.5.2.2	National private	National private	National private
1.5.2.3	Foreign controlled	Foreign controlled	Foreign controlled
1.5.3	Non-profit institutions	Non-profit institutions	Non-profit institutions

Item number		Integrated list	IRIS	IRDTS
1.5.3.1		Public ownership	Public ownership	Public ownership
1.5.3.1.1		By central government	By central government	By central government
1.5.3.1.2		By state government	By state government	By state government
1.5.3.1.3		By local government	By local government	By local government
1.5.3.2		National private	National private	National private
1.5.3.3		Foreign controlled	Foreign controlled	Foreign controlled
1.5.4		Unincorporated enterprises Of which:	Unincorporated enterprises Of which:	Unincorporated enterprises Of which:
1.5.4.1		Informal sector enterprises	Informal sector enterprises	Informal sector enterprises
1.6	*	Size	Size	Size
1.7		Kind-of-activity	Kind-of-activity	Kind of activity
1.8		Type of unit	Type of unit	Type of unit
1.8.1		Principal producing unit	Principal producing unit	Principal producing unit
1.8.2		Ancillary unit	Ancillary unit	Ancillary unit
1.9		Type of operation		Type of operation
1.9.1		Wholesale trade		Wholesale trade
1.9.1.1		Wholesale trade on own account		Wholesale trade on own account
1.9.1.1.1		Specialised wholesale trade		Specialised wholesale trade
1.9.1.1.2		Non-specialised wholesale trade		Non-specialised wholesale trade
1.9.1.2		Commission trade		Commission trade
1.9.2		Retail trade		Retail trade
1.9.2.1		Retail trade in stores		Retail trade in stores
1.9.2.1.1		Specialised stores		Specialised stores
1.9.2.1.2		Non-specialised stores		Non-specialised stores
1.9.2.2		Retail trade not-in stores		Retail trade not-in stores
1.9.2.2.1		Retail trade via stalls or markets		Retail trade via stall or markets
1.9.2.2.2		Others		Others

### 1. (b) Number of Statistical units

Item number		Integrated list	IRIS	IRDTS
1.10	*	Number of enterprises	Number of enterprises	Number of enterprises
1.10.1	*	Multi-establishment enterprises	Multi-establishment enterprises	Multi-establishment enterprises
1.10.1.1		Number of establishments	Number of establishments	Number of establishments
1.10.2	*	Single establishment enterprises	Single establishment enterprises	Single establishment enterprises

## B. Employment

### 2. (a) Number of persons employed

Item number		Integrated list	IRIS	IRDTS
2.1	*	Total number of persons employed Of which:	Total number of persons employed Of which:	Total number of persons employed Of which:
2.1.1		Working proprietors	Working proprietors	Working proprietors
2.1.2		Unpaid family workers	Unpaid family workers	Unpaid family workers
2.1.3		Employees Of which:	Employees Of which:	Employees Of which:
2.1.3.1		Production workers, of which:	Production workers, of which:	
2.1.3.1.1		Employees engaged in research and development	Employees engaged in research and development	Employees engaged in research and development
2.1.3.1.2		Employees engaged in mineral exploration and evaluation	Employees engaged in mineral exploration and evaluation	***
2.1.3.1.3		Employees engaged in software & database development	Employees engaged in software & database development	Employees engaged in software and databases development
2.1.3.1.4		Employees engaged in production of artistic originals	Employees engaged in production of artistic originals	***
2.1.3.1.5		Employees engaged in own account fixed asset formation and major repair	Employees engaged in own account fixed asset formation and major repair	Employees engaged in own account fixed asset formation and major repair
2.1.3.2		Other employees	Other employees	
2.1.3.3		Outworkers on the pay-roll	Outworkers on the pay-roll	Outworkers on the pay-roll
2.2		Number of leased employees	Number of leased employees	Number of leased employees
2.3	*	Total number of persons employed in the informal sector	Total number of persons employed in the informal sector	Total number of persons employed in informal sector
2.3.1		Employees in the informal sector	Employees in the informal sector	Employees in the informal sector
2.3.2		Other persons employed in informal sector	Other persons employed in informal sector	Other persons employed in informal sector

**2. (b) Average number of persons employed**

<b>Item number</b>	<b>Integrated list</b>	<b>IRIS</b>	<b>IRDTS</b>
2.4	Average number of persons employed Of which:	Average number of persons employed Of which:	Average number of persons employed Of which:
2.4.1	Employees	Employees	Employees
2.4.1.1	Production workers	Production workers	***
2.4.1.2	Other employees	Other employees	***
2.4.1.3	Outworkers on the pay-roll	Outworkers on the pay-roll	***

**2. (c) Hours worked**

<b>Item number</b>	<b>Integrated list</b>	<b>IRIS</b>	<b>IRDTS</b>
2.5	Hours worked by employees Of which:	Hours worked by employees Of which:	Hours worked by employees Of which:
2.5.1	Hours worked by production workers Of which:	Hours worked by production workers Of which:	
2.5.1.1	Employees engaged in research and development	Employees engaged in research and development	Employees engaged in research and development
2.5.1.2	Employees engaged in mineral exploration and evaluation	Employees engaged in mineral exploration and evaluation	***
2.5.1.3	Employees engaged in software & database development	Employees engaged in software & database development	Employees engaged in software & database development
2.5.1.4	Employees engaged in production of artistic originals	Employees engaged in production of artistic originals	***
2.5.1.5	Employees engaged in own account fixed asset formation and major repair	Employees engaged in own account fixed asset formation and major repair	Employees engaged in own account fixed asset formation and major repair
2.5.2	Hours worked by other employees	Hours worked by other employees	
2.5.3	Hours worked by outworkers on the pay-roll	Hours worked by outworkers on the pay-roll	Hours worked by outworkers on the pay-roll
2.6	Hours worked by leased employees	Hours worked by leased employees	Hours worked by leased employees



## C. Compensation of employees

### 3. Compensation of employees

Item number	Integrated list	IRIS	IRDTS
3.1	Wages and salaries in cash and in kind of employees Of which:	Wages and salaries in cash and in kind of employees Of which:	Wages and salaries in cash and in kind of employees Of which:
3.1.1	Production workers	Production workers	
3.1.1.1	Employees engaged in research and development	Employees engaged in research and development	Employees engaged in research and development
3.1.1.2	Employees engaged in mineral exploration and evaluation	Employees engaged in mineral exploration and evaluation	***
3.1.1.3	Employees engaged in software & database development	Employees engaged in software & database development	Employees engaged in development of software and databases
3.1.1.4	Employees engaged in production of artistic originals	Employees engaged in production of artistic originals	***
3.1.1.5	Employees engaged in own account fixed asset formation and major construction	Employees engaged in own account fixed asset formation and major construction	Employees engaged in own account fixed asset formation and major construction
3.1.2	Other employees	Other employees	
3.1.3	Remuneration of outworkers on the pay-roll	Remuneration of outworkers on the pay-roll	Remuneration of outworkers on the pay-roll
3.2	Payments to directors of incorporated enterprises for their attending meetings	Payments to directors of incorporated enterprises for their attending meetings	Payments to directors of incorporated enterprises for their attending meetings
3.3	Social insurance contributions payable by employers	Social insurance contributions payable by employers	Social insurance contributions payable by employers

## D. Other expenditures

### 4. (a) Purchases of goods and services

Item number	Integrated list	IRIS	IRDTS
4.1	Cost of raw materials and supplies except gas, fuels and electricity Of which:	Cost of raw materials and supplies except gas, fuels and electricity Of which:	Cost of raw materials and supplies except gas, fuels and electricity Of which:
4.1.1	Purchases or receipts of raw materials and supplies from other enterprises	Purchases or receipts of raw materials and supplies from other enterprises	Purchases or receipts of raw materials and supplies from other enterprises

Item number		Integrated list	IRIS	IRDTS
4.1.2		Value of raw materials and supplies delivered by other establishments of the same enterprise	Value of raw materials and supplies delivered by other establishments of the same enterprise	Value of raw materials and supplies delivered by other establishments of the same enterprise
4.1.3		Cost of materials for own-account capital formation Of which:	Cost of materials for own-account capital formation Of which:	Cost of materials for own-account capital formation Of which:
4.1.3.1		for research and development	for research and development	for research and development
4.1.3.2		for mineral exploration and evaluation	for mineral exploration and evaluation	***
4.1.3.3		for software & database development	for software & database development	for software & database development
4.1.3.4		for production of artistic originals	for production of artistic originals	***
4.1.3.5		for own account fixed asset formation and major repair	for own account fixed asset formation and major repair	for own account fixed asset formation and major repair
4.2		Cost of gas, fuel and electricity purchased	Cost of gas, fuel and electricity purchased	Cost of gas, fuel and electricity purchased
4.2.1		Cost of individual fuels and gas purchased	Cost of individual fuels and gas purchased	Cost of individual fuels and gas purchased
4.2.2		Cost of electricity purchased	Cost of electricity purchased	Cost of electricity purchased
4.3		Cost of water and sewerage services	Cost of water and sewerage services	Cost of water and sewerage services
4.3.1		Cost of water purchased	Cost of water purchased	Cost of water purchased
4.3.2		Cost of wastewater services purchased	Cost of wastewater services purchased	
4.3.3		Cost of sewerage services purchased	Cost of sewerage services purchased	Cost of sewerage services purchased
4.4		Purchases of services except rental	Purchases of services except rental	Purchases of services except rental
4.4.1		Cost of industrial services purchased and also delivered by other establishments of the same enterprise Of which:	Cost of industrial services purchased and also delivered by other establishments of the same enterprise Of which:	Cost of industrial services purchased and also delivered by other establishments of the same enterprise Of which:
4.4.1.1		Repair and maintenance work	Repair and maintenance work	Repair and maintenance work
4.4.1.2		Contract and commission work	Contract and commission work	Contract and commission work
4.4.1.2.1		Fees paid for leased employment	Fees paid for leased employment	Fees paid for leased employment
4.4.2		Cost of non-industrial services purchased and also delivered by other establishments of the same enterprise	Cost of non-industrial services purchased and also delivered by other establishments of the same enterprise	Cost of non-industrial services purchased and also delivered by other establishments of the same enterprise
4.4.2.1		Communication services	Communication services	Communication services
4.4.2.2		Transport services	Transport services	Transport services
4.4.2.3		Advertising and promotional services	Advertising and promotional services	Advertising and marketing services
4.4.2.4		Financial services (excluding interest payments)	Financial services (excluding interest payments)	Financial services (excluding interest payments)

<b>Item number</b>		<b>Integrated list</b>	<b>IRIS</b>	<b>IRDTS</b>
4.4.2.9		Other non-industrial services	Other non-industrial services	Other non-industrial services
4.5		Purchases of goods and services for resale in the same conditions as received	Purchases of goods and services for resale in the same conditions as received	Purchases of goods and services for resale in the same conditions as received
4.5.1		Fuels bought for resale without further processing		Fuels bought for resale without further processing
4.5.2		Purchases of motor vehicle and motor cycle parts used solely in repair and servicing activities		Purchases of motor vehicle and motor cycle parts used solely in repair and servicing activities
4.5.3		All other goods bought for resale without further processing		All other goods bought for resale without further processing
4.5.4		Services purchased for resale without further processing		Services purchased for resale without further processing
4.6		Rental payments	Rental payments	Rental payments
4.6.1		Rental payments for machinery and equipments	Rental payments for machinery and equipments	Rental payments for machinery and equipments
4.6.2		Rental payments for dwellings and structures	Rental payments for dwellings and structures	Rental payments for dwellings and structures
4.7		Non-life insurance premiums payable on establishment property	Non-life insurance premiums payable on establishment property	Non-life insurance premiums payable on establishment property

#### **4. (b) Data items on quantity**

<b>Item number</b>		<b>Integrated list</b>	<b>IRIS</b>	<b>IRDTS</b>
Q4.1		Quantity of individually important materials and supplies	Quantity of individually important materials and supplies	
Q4.2		Quantity of individual fuels and gas purchased	Quantity of individual fuels and gas purchased	
Q4.2.1		Quantity of electricity purchased	Quantity of electricity purchased	
Q4.2.2		Quantity of electricity generated	Quantity of electricity generated	
Q4.2.3		Quantity of electricity sold	Quantity of electricity sold	
Q4.2.4		Total energy consumed (tera joules)	Total energy consumed (tera joules)	
Q4.3.1		Quantity of water purchased	Quantity of water purchased	
Q4.3.1.1		Quantity of water abstracted for own use	Quantity of water abstracted for own use	
Q4.3.1.2		Quantity of water sold	Quantity of water sold	
Q4.3.1.3		Total water used (cubic maters)	Total water used (cubic maters)	

Q4.3.2		Quantity of wastewater treated on site prior to discharge	Quantity of wastewater treated on site prior to discharge	
Q4.3.3		Quantity of wastewater discharged without treatment	Quantity of wastewater discharged without treatment	

**E. Turnover, sales, shipments, receipts for services and other revenues (excluding property income)**

**5. (a) Turnover, sales, shipments, receipts for services and other revenues**

Item number		Integrated list	IRIS	IRDTS
5.1		Sale/Turnover/Value of shipments, including transfers to other establishments of the same enterprise	Sale/Turnover/Value of shipments, including transfers to other establishments of the same enterprise	Sale/Turnover/Value of shipments, including transfers to other establishments of the same enterprise
5.1.1		Sale/Turnover/Value of shipments of goods produced by the establishment	Sale/Turnover/Value of shipments of goods produced by the establishment	Sale/Turnover/Value of shipments of goods produced by the establishment
5.1.1.1		Sale/Turnover/Value of shipments of goods produced to other enterprises	Sale/Turnover/Value of shipments of goods produced to other enterprises	
5.1.1.2		Transfers of goods produced to other establishments of the same enterprise	Transfers of goods produced to other establishments of the same enterprise	
5.1.1.3		Exported to customers and affiliated foreign branches	Exported to customers and affiliated foreign branches	
5.1.2		Sale/Turnover/Value of shipments of all goods and services purchased for resale in the same condition as received	Sale/Turnover/Value of shipments of all goods and services purchased for resale in the same condition as received	Sale/Turnover/Value of shipments of all goods and services purchased for resale in the same condition as received
5.1.2.1		Gift cards sales		Gift cards sales
5.1.3		Commissions and fees from selling goods and services on account of others		Commissions and fees from selling goods and services on account of others
5.1.4		Receipts for industrial work done or industrial services rendered to others Of which:	Receipts for industrial work done or industrial services rendered to others Of which:	Receipts for industrial work done or industrial services rendered to others
5.1.4.1		Contract and commission work	Contract and commission work	Contract and commission work
5.1.4.1.1		From units not resident in the country	From units not resident in the country	
5.1.4.2		Repair, maintenance and construction work	Repair, maintenance and construction work	Repair, maintenance and construction work
5.1.4.3		Installation work	Installation Work	Installation work
5.1.4.4		Research and development work of an industrial nature	Research and development work of an industrial nature	

5.1.4.5		Industrial services rendered to other enterprises	Industrial services rendered to other enterprises	
5.1.4.6		Industrial services rendered to other establishments of the same enterprise	Industrial services rendered to other establishments of the same enterprise	
5.2		Other revenues	Other revenues	Other revenues
5.2.1		Revenue from the rental or lease of machinery and equipment	Revenue from the rental or lease of machinery and equipment	Revenue from the rental or lease of machinery and equipment
5.2.2		Revenue from the rental or lease of buildings	Revenue from the rental or lease of buildings	Revenue from the rental or lease of buildings
5.2.3		Other revenues n.e.c.	Other revenues n.e.c.	Other revenues n.e.c.
5.3	*	Value of own-account fixed assets	Value of own-account fixed assets	Value of own-account fixed assets

#### 5. (b) E-commerce

Item number		Integrated list	IRIS	IRDTS
5.4		E-commerce sale/turnover/value of shipments/receipts for services or other revenues	E-commerce sale/turnover/value of shipments/receipts for services or other revenues	E-commerce sale/turnover/value of shipments/receipts for services or other revenues

#### 5. (c) Data items on quantity

Item number		Integrated list	IRIS	IRDTS
Q5.1		Quantity and value of individually important products	Quantity and value of individually important products	Value of Turnover by product categories

## F. Inventories

### 6. Inventories

Item number		Integrated list	IRIS	IRDTS
6.1	*	Total inventories	Total inventories	Total inventories
6.1.1		At the beginning of the period	At the beginning of the period	At the beginning of the period
6.1.2		At the end of the period	At the end of the period	At the end of the period
6.1.3	*	Change (plus or minus)	Change (plus or minus)	Change (plus or minus)
6.2		Inventories of materials, fuels and supplies	Inventories of materials, fuels and supplies	Inventories of materials and supplies
6.2.1		At the beginning of the period	At the beginning of the period	At the beginning of the period
6.2.2		At the end of the period	At the end of the period	At the end of the period
6.2.3	*	Change (plus or minus)	Change (plus or minus)	Change (plus or minus)
6.3		Work-in-progress	Work-in-progress	Work-in-progress
6.3.1		At the beginning of the period	At the beginning of the period	At the beginning of the period
6.3.2		At the end of the period	At the end of the period	At the end of the period
6.3.3	*	Change (plus or minus)	Change (plus or minus)	Change (plus or minus)
6.4		Inventories of finished goods	Inventories of finished goods	Inventories of finished goods
6.4.1		At the beginning of the period	At the beginning of the period	At the beginning of the period
6.4.2		At the end of the period	At the end of the period	At the end of the period
6.4.3	*	Change (plus or minus)	Change (plus or minus)	Change (plus or minus)
6.5		Inventories of goods purchased for resale in the same condition as received	Inventories of goods purchased for resale in the same condition as received	Inventories of goods purchased for resale in the same condition as received
6.5.1		At the beginning of the period	At the beginning of the period	At the beginning of the period
6.5.2		At the end of the period	At the end of the period	At the end of the period
6.5.3	*	Change (plus or minus)	Change (plus or minus)	Change (plus or minus)

## G. Taxes and subsidies

### 7. Other taxes and subsidies on production

Item number		Integrated list	IRIS	IRDTS
7.1		Taxes	Taxes	Taxes
7.1.1		Other taxes on production	Other taxes on production	Other taxes on production
7.2		Subsidies received	Subsidies received	Subsidies received
7.2.1		Subsidies on products	Subsidies on products	Subsidies on products
7.2.2		Other subsidies on production	Other subsidies on production	Other subsidies on production

## H. Output

### 8. Output

Item number		Integrated list	IRIS	IRDTS
8.1	*	Gross output at basic prices	Gross output at basic prices	Gross output at basic prices
8.1.1	*	Gross margin		Gross margin
8.2	**	Census output at basic prices	Census output at basic prices	

## I. Intermediate consumption and census input

### 9. Intermediate consumption and census input

Item number		Integrated list	IRIS	IRDTS
9.1	*	Intermediate consumption at purchasers' prices	Intermediate consumption at purchasers' prices	Intermediate consumption at purchasers' prices
9.2	**	Census input at purchasers' prices	Census input at purchasers' prices	

## J. Value added

### 10. Total value added and census value added

Item number		Integrated list	IRIS	IRDTS
10.1	*	Total value added at basic prices	Total value added at basic prices	Total value added at basic prices
10.2	**	Census value added at basic prices	Census value added at basic prices	

## K. Gross Fixed Capital formation

### 11. Assets, capital expenditures, retirements and depreciation

Item number		Integrated list	IRIS	IRDTS
11.1		Gross value of fixed assets (at acquisition cost) at the beginning of the period	Gross value of fixed assets (at acquisition cost) at the beginning of the period	Gross value of fixed assets (at acquisition costs) at the beginning of the period
11.1.1		Dwellings	Dwellings	Dwellings
11.1.2		Other buildings and structures	Other buildings and structures	Other buildings and structures
11.1.3		Machinery and equipment	Machinery and equipment	Machinery and equipment
11.1.3.1		Transport equipment	Transport equipment	Transport equipment
11.1.3.2		ICT equipment	ICT equipment	ICT equipment
11.1.3.3		Other machinery and equipment	Other machinery and equipment	Other machinery and equipment
11.1.4		Intellectual property products	Intellectual property products	Intellectual property products
11.1.4.1		Research and development	Research and development	Research and development
11.1.4.2		Mineral exploration and evaluation	Mineral exploration and evaluation	Mineral exploration and evaluation
11.1.4.3		Computer software and databases	Computer software and databases	Computer software and databases
11.1.4.4		Entertainment, literary and artistic originals	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals
11.1.4.5		Other	Other	Other
11.2		Capital expenditure on new and used fixed assets (acquisitions) during the period	Capital expenditure on new and used fixed assets (acquisitions) during the period	Capital expenditure on new and used fixed assets (acquisitions) during the period
11.2.1		Dwellings	Dwellings	Dwellings
11.2.2		Other buildings and structures	Other buildings and structures	Other buildings and structures
11.2.3		Machinery and equipment	Machinery and equipment	Machinery and equipment
11.2.3.1		Transport equipment	Transport equipment	Transport equipment
11.2.3.2		ICT equipment	ICT equipment	ICT equipment
11.2.3.3		Other machinery and equipment	Other machinery and equipment	Other machinery and equipment



<b>Item number</b>	<b>Integrated list</b>	<b>IRIS</b>	<b>IRDTS</b>
11.2.4	Intellectual property products	Intellectual property products	Intellectual property products
11.1.4.1	Research and development	Research and development	Research and development
11.1.4.2	Mineral exploration and evaluation	Mineral exploration and evaluation	Mineral exploration and evaluation
11.1.4.3	Computer software and databases	Computer software and databases	Computer software and databases
11.2.4.4	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals
11.2.4.5	Other	Other	Other
11.3	Gross value of fixed assets sold, retired and scrapped (disposal) during the period	Gross value of fixed assets sold, retired and scrapped (disposal) during the period	Gross value of fixed assets sold, retired and scrapped (disposal) during the period
11.3.1	Dwellings	Dwellings	Dwellings
11.3.2	Other buildings and structures	Other buildings and structures	Other buildings and structures
11.3.3	Machinery and equipment	Machinery and equipment	Machinery and equipment
11.3.3.1	Transport equipment	Transport equipment	Transport equipment
11.3.3.2	ICT equipment	ICT equipment	ICT equipment
11.3.3.3	Other machinery and equipment	Other machinery and equipment	Other machinery and equipment
11.3.4	Intellectual property products	Intellectual property products	Intellectual property products
11.1.4.1	Research and development	Research and development	Research and development
11.1.4.2	Mineral exploration and evaluation	Mineral exploration and evaluation	Mineral exploration and evaluation
11.1.4.3	Computer software and databases	Computer software and databases	Computer software and databases
11.3.4.4	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals
11.3.4.5	Other	Other	Other
11.4	Depreciation	Depreciation	Depreciation
11.4.1	Dwellings	Dwellings	Dwellings
11.4.2	Other buildings and structures	Other buildings and structures	Other buildings and structures
11.4.3	Machinery and equipment	Machinery and equipment	Machinery and equipment
11.4.3.1	Transport equipment	Transport equipment	Transport equipment
11.4.3.2	ICT equipment	ICT equipment	ICT equipment
11.4.3.3	Other machinery and equipment	Other machinery and equipment	Other machinery and equipment
11.4.4	Intellectual property products	Intellectual property products	Intellectual property products
11.1.4.1	Research and development	Research and development	Research and development
11.1.4.2	Mineral exploration and evaluation	Mineral exploration and evaluation	Mineral exploration and evaluation
11.1.4.3	Computer software and databases	Computer software and databases	Computer software and databases
11.4.4.4	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals
11.4.4.5	Other	Other	Other

Item number		Integrated list	IRIS	IRDTS
11.5	*	Gross value of fixed stock at the end of the period	Gross value of fixed stock at the end of the period	Gross value of fixed stock at the end of the period
11.5.1	*	Dwellings	Dwellings	Dwellings
11.5.2	*	Other buildings and structures	Other buildings and structures	Other buildings and structures
11.5.3	*	Machinery and equipment	Machinery and equipment	Machinery and equipment
11.5.3.1		Transport equipment	Transport equipment	Transport equipment
11.5.3.2		ICT equipment	ICT equipment	ICT equipment
11.5.3.3		Other machinery and equipment	Other machinery and equipment	Other machinery and equipment
11.5.4	*	Intellectual property products	Intellectual property products	Intellectual property products
11.1.4.1		Research and development	Research and development	Research and development
11.1.4.2		Mineral exploration and evaluation	Mineral exploration and evaluation	Mineral exploration and evaluation
11.1.4.3		Computer software and databases	Computer software and databases	Computer software and databases
11.5.4.4		Entertainment, literary and artistic originals	Entertainment, literary and artistic originals	Entertainment, literary and artistic originals
11.5.4.5		Other	Other	Other

## L. Orders

### 12. Orders

Item number		Integrated list	IRIS	IRDTS
		Items		
12.1		New orders received	New orders received	
12.2		Unfilled orders at the end of the inquiry period	Unfilled orders at the end of the inquiry period	

## M. Environmental protection

### 13. Environmental protection expenditures

Item number		Integrated list	IRIS	IRDTS
		Items		
13.1		Environmental protection expenditures	Environmental protection expenditures	

## References

\* This item will often be derived by the statistical office from other items of collected data. In some cases countries may prefer to include the item on the questionnaire, for example, to verify the accuracy of other figures supplied.

\*\* Measurements of 'census output', 'census intermediate consumption' and 'census value added' are not part of the present recommendations. If countries wish to maintain time series on these aggregates, they may opt for continuing their measurements.

\*\*\* The indicated data items are believed to be of limited significance for distributive trade units; therefore, they are not recommended to be part of the IRDTS list.

### **3. Definitions of Data Items**

1. The summary definitions of data items recommended for collection and publication, together with additional items of data derived from the basic system are presented here. Some of the data items may not be existent or they may be of minor importance for some of the economies. Compilers are encouraged to use the list of data items as reference in order to develop a list of data items in accordance with their own statistical circumstances, respondent load and available resources, and having determined the data items should consistently use the definitions presented.

#### **Understanding the links between business accounting and basic economic statistics**

2. The records of transactions maintained by businesses are the main source of basic economic statistics collected through statistical surveys. For designing questionnaires with appropriate terms, it is desirable therefore, to understand the links between the concepts used in business accounting and basic economic statistics, mainly for two reasons, namely<sup>1</sup>:

- Terms used in the questionnaires must be familiar to business accountants; and
- Understanding of business accounting is essential for conversion of data collected from businesses' records into economic data that can be used in basic economic statistics.

3. In basic economic statistics, the recording of costs of production must cover all costs of goods and services used in production during an accounting period. In business accounting these costs may be spread in different segments of the accounts depending on the country's business accounting tradition. While in some countries income and costs are recorded together, for others these are recorded in three different segments: (i) production (distribution or marketing in the case of distributive trade), (ii) general administration (enterprise overhead, advertising, distribution, etc.) and (iii) other incomes and other expenses. Also, it is important to know that most of the time, other operating revenues, which represent secondary incomes such as rental of buildings, charges for miscellaneous services which are recorded in business statistics as output and intermediate consumption, are recorded net (i.e., income receivable less costs incurred) in business accounting.

#### **Differences in terminology**

4. Terminology used in business accounting may vary greatly from one country to another. For example, while the word "turnover" means total sales in the UK and many

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<sup>1</sup> *Links between Business Accounting and National Accounting*, Studies in Methods, Series F, No. 76, United Nations, 2000

European countries, for OECD<sup>2</sup> "turnover" means the sum of gross sales plus some other incomes but excluding revenues from rental of real estate, contributions and gifts, etc.. However, in the Generally Accepted Accounting Principles (GAAP) of the United States, "turnover" is the number of times an asset is replaced during a financial period; often used in the context of inventory turnover or accounts receivable turnover. In securities, for either a portfolio or exchange, turnover is the number of shares traded for a period as a percentage of the total shares.

5. Another example of differences in terminology is the term "operating expense". In the UK, operating expense is limited to costs that vary strictly with the quantity produced such as raw materials and purchased components. In the United States and Canada however, operating expense refers to non-manufacturing, non-inventoriable cost such as selling, advertising, and administrative expenses. This means that manufacturing costs are not operating expenses.

### **Differences in business accounting rules**

6. Business accounting principles may be the same in many countries but accounting rules vary from one country to another. These rules affect the adjustment required to be made to the data collected from business accounts in order to use them for the purpose of basic economic statistics. For example:

- (a) Some countries' rules require accountants to expense expenditures on software (developed in-house or purchased) while others allow capitalization of the same. In countries where capitalization is not allowed, the expenses need to be imputed as output which are then treated as gross capital formation.
- (b) In business accounting in most countries, net assets are valued as the sum of the historical value of gross capital formation less depreciation (based on historical value). Therefore, one cannot derive gross capital formation by deducting values of assets in two adjacent periods because assets in business statistics are to be valued at replacement costs in terms of economic accounting standards.

### **A. Demography**

7. The demographic characteristics provide information about the period of economic activity of a given unit and include the date of commencement and cessation of its activity. Given the dynamics of creation (birth)/cessation (death) of units in the economy, the demographic characteristics have also their significance for identifying units as a target population for statistical surveys. Moreover, where the statistics about the demography of units exists on a regular basis, it can provide useful information on the rate of creation of new units, the chance of units' survival and the differences in dynamics of units between ISIC activities. Such indicators allow trends in the population to be analysed.

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<sup>2</sup> Compilation Manual for an Index of Service Production, OECD, 2007 available at [http://www.oecd.org/findDocument/0,2350,en\\_2649\\_34257\\_1\\_119669\\_1\\_1\\_1,00.html](http://www.oecd.org/findDocument/0,2350,en_2649_34257_1_119669_1_1_1,00.html)

8. In principle, the date of recognition (the birth or other creation date) of the unit exists and is stored in the business register or area frame. However, due to the slow administrative process of registering death/cessation of a unit's activity or the intention of the unit to resume its activity after an indefinite period of time, it is more difficult to obtain information about the date (period) at which the unit actually ceases its activity. Therefore, between the period of operation and death of the unit, there might be a period of inactivity, during which the unit will be considered as temporarily inactive (dormant). The information on births and deaths of units may also be obtained from administrative sources such as fiscal or juridical authorities, social security or an update of area frames through inter census enumeration; while statistical surveys will detect the status of the unit, i.e., whether the unit is active, temporarily inactive (dormant), or ceased its activity.

### **1. (a). Characteristics of statistical units**

9. Statistical units engaged in economic activities may be distinguished and classified following different criteria and variables. In addition to the financial and production data, each statistical survey aims at collecting detailed information associated with the statistical unit itself and asks for its location, period of operation, type of ownership and economic organization, kind-of-activity, size, etc.

10. Most of the items included in this heading are generally set forth for purposes of cross tabulation of the data. It should be noted that, in the case of multi-establishment enterprises, some of these items refer more appropriately to the enterprise of which the unit under reference (establishment, local unit, etc.) is a component and, depending on how this problem is handled in the operational design of the survey, may be collected at the enterprise level for subsequent allocation to the statistical units supporting it.

#### ***Identification code (item 1.1)***

11. The identification code is a unique number assigned to a statistical unit which may comprise digits identifying its geographic location, kind of economic activity, whether a unit is a principal producing unit or an ancillary unit, link to its subsidiaries/principal, if any, etc.. The unique identification of statistical units is necessary in order to: (i) allow their registration in the statistical business register or inclusion in the sampling frame; (ii) permit the collection of information about them via administrative sources; (iii) provide a sampling base for statistical surveys; and (iv) permit demographic analysis of the population of units. The identification code must not change throughout the life of the unit, although some of the other unit's characteristics may change. Common identification codes, shared with administrative authorities and other government departments, greatly facilitate the statistical work, including the connection of the statistical business register, if such is established, with other registers.

#### ***Location (item 1.2)***

12. The location is defined as the place at which the unit is physically performing its activities, not as where its mailing address is. The geographical classification should distinguish the major economic regions or administrative divisions of the country ranging from large areas (states or provinces) to intermediate areas to local areas (towns).

13. The details about mailing address, telephone and fax numbers, e-mail address and contact person are also important identification variables since these details are used for mailing the statistical questionnaires, written communication with the unit or making ad-hoc queries about its activity. Up-to-date information about any changes in those variables is crucial for the efficient work of statistical authorities.

14. Where an enterprise has only one establishment, they may or may not have one location and address. Often, the enterprise address is used for administrative purposes and the establishment address for statistical purposes. There is a need, however for care when dealing with large complex enterprises. The multi-establishment enterprise may be requested to provide location details about each establishment it has, or the establishment be asked about the name and location of the enterprise that owns it so that a data set in the register on the enterprise and its own component establishments can be established. In some cases, it may be necessary to correspond with both the establishment and the enterprise because, in general, the unit supplying, for example, employment details is different from the one providing financial details.

#### ***Period of operation (item 1.3)***

15. This indicates the period during which the establishment has been in operation during the reference period. It would be useful to seek information under the following alternative items: (a) in operation since (date), (b) temporarily or seasonally inactive, (c) ceased operation (date), and (d) sold or leased to another operator (name of new operator). Besides the information that this characteristic provides about the activity status of the unit (active or temporarily inactive), it also helps in interpreting the returns made by statistical units that are affected by seasonal factors and those made by statistical units that began or ceased operations during the reference period.

#### ***Type of economic organisation (item 1.4)***

16. The characteristic “type of economic organization” is intended to indicate whether the establishment is *the sole establishment* (item 1.4.1) of the enterprise of immediate ownership or is a part of a *multi-establishment enterprise* (item 1.4.2). For a multi-establishment enterprise, it is useful to enquire about the number of establishments (item 1.4.2.1) it consists of.

#### ***Type of legal organization and ownership (item 1.5)***

17. The type of legal organization is the legal form of the economic entity which owns the unit (either the enterprise or the establishment). The classification of units by kind of legal organization distinguishes between two main types – incorporated and

unincorporated. The incorporated type of legal organization can be further disaggregated into: *incorporated enterprises* (corporations) except limited liability partnerships and co-operatives (item 1.5.1), *limited liability partnerships* and *co-operatives* (item 1.5.2), and *non-profit institutions* (item 1.5.3).

(a) *Incorporated enterprises* include the following:

- *Corporations* – legal entities that are incorporated for the purpose of producing goods and services for the market, that may be a source of profit or other financial gain to its owner(s) and are collectively owned by shareowners who have the authority to appoint directors responsible for their general management;
- *Other incorporated entities* - legal entities created for the purpose of engaging in market production of goods and services for profit but incorporated in other forms such as:
  - (i) *Cooperatives* - enterprises set up by producers for purposes of production and marketing their collective output in which each owner has an equal share of ownership;
  - (ii) *Limited liability partnerships* - in these enterprises, partners are both owners and managers and have legally limited their liability;
  - (iii) *Non-profit institutions* - legal entities that are set up for the purpose of producing goods and services, but their profits cannot be the source of income for the units that own them.

(b) *Unincorporated enterprises* are units set up for producing goods or services which are not incorporated as legal entities separately from their owners. They may include public agencies which are part of general government or sole proprietorships and partnerships owned by households. Some unincorporated enterprises may behave in much the same way as corporations and such entities will be treated as *quasi-corporations* if they have complete sets of accounts, including balance sheets.

18. In addition to the kind of legal organization, it is considered useful to distinguish the type of ownership, i.e., between *private* ownership and the various forms of *public* ownership of units. The public authorities or private parties are considered to be the owners of a given enterprise if they own all, or a majority, of the unit's shares, or of its other forms of capital participation. The control over a unit means the ability to determine its policy by appointing appropriate directors, if necessary.

19. Public units are defined as those units that are owned or controlled by government units. To be classified as a public corporation, an institutional unit must not only be controlled by another public unit, but it also must sell most of its output at economically significant prices (i.e., to be a market producer). By contrast, the privately owned units are those owned or controlled by private parties. Private ownership further differentiates units between nationally owned and foreign controlled.



### ***Informal sector enterprises (item 1.5.4.1)***

20. For statistical purposes the production units of the informal sector are defined according to the 15<sup>th</sup> International Conference of Labour Statisticians resolution<sup>3</sup> as a subset of unincorporated enterprises owned by households, i.e., as a subset of production units which are not constituted as separate legal entities independently of the households or household members who own them, and for which no complete sets of accounts (including balance sheets of assets and liabilities) are available which would permit a clear distinction of the production activities of the enterprises from the other activities of their owners and the identification of any flows of income and capital between the enterprises and the owners.

### ***Size (item 1.6)***

21. Size measure of a statistical unit can be defined either in terms of physical units like employment or in terms of monetary units like turnover or amount of net assets.

22. Employment classes should be measured in terms of the average number of persons employed. If the average number of persons employed is not available, the total number of persons employed in a single period may be used as the size criterion. The following size classification based on employment is recommended:

For industry: 1-9, 10-19, 20-49, 50-249, 250+

For distributive trade: 1, 2-9, 10-19, 20-49, 50-249, 250+

23. The size distribution of units based on monetary units has a limited application for international comparisons because of the problems associated with the conversion to a common currency, differences in the exact definition and coverage of variables, and their inappropriateness for longer time series analysis. Countries may use monetary criteria separately or in conjunction with employment criterion.

### ***Kind-of-activity (item 1.7)***

24. The kind-of-activity is defined as the type of production in which a unit is engaged. The kind-of-activity of a statistical unit is determined by the kind of its principal activity according to the International Standard Industrial Classification (ISIC), Rev.4<sup>4</sup>. Secondary and ancillary activities are to be disregarded. If several independent activities are carried out simultaneously in the same unit, but the unit itself cannot be segregated into separate statistical units, its kind of activity is determined according to the ISIC class with the largest share of value added by using the “top-down” method. The “top-down” method

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<sup>3</sup> Resolution concerning statistics of employment in the informal sector, Fifteenth International Conference of Labour Statisticians (January 1993), ILO,  
<http://www.ilo.org/public/english/bureau/stat/download/res/infsec.pdf>

<sup>4</sup> <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27&Lg=1>

means that, first, the appropriate highest classification level (1-digit) should be determined, then the lower (2- and 3-digit) levels and, finally, the class (4-digit level).

***Type of unit (item 1.8)***

25. The characteristic “type of unit” is intended to indicate whether an establishment is engaged in principal activity or in ancillary activity. The principal activity of an establishment is the activity whose value added exceeds that of any other activity carried out within the same unit. An ancillary activity is a supporting activity undertaken within an enterprise in order to create the conditions within which the principal or secondary activities can be carried out. The output of an ancillary activity is not intended for use outside the enterprise.

***Type of operation (item 1.9)***

26. Type of operation, by convention, refers to different methods (ways) of organization of wholesale and retail trade and is used in defining the activities of groups and classes in Section G of ISIC, Rev.4.

27. Wholesale trade units can be classified into the following types of operation (item 1.9.1), which broadly conforms with the principles for classifying units between different groups of division 46 of ISIC, Rev.4:

- (a) Wholesale trade on own account (item 1.9.1.1) includes wholesalers who buy goods (and thereby assume legal title to them) and sell these goods on own account (ISIC groups 462-469). The wholesale trade on own account is further subdivided into following two groups:
  - Specialized wholesale trade (ISIC groups 462-466) if the wholesale is commodity/product specific (item 1.9.1.1.1); and
  - Non-specialized wholesale trade (ISIC group 469) if the wholesale is general in nature (item 1.9.1.1.2).
- (b) Commission trade (item 1.9.1.2) includes agents and brokers, who buy and sell goods to others mainly on commission (group 461).

28. Two broad categories of retail trade units by type of operation (item 1.9.2) can be distinguished - store and non-store retailing. The two categories are by and large internationally comparable and provide an illustration on how the retail sector units operate in individual countries. The following types of retail trade operations are identified:

- (a) Retail trade in stores (groups 471-477) (item 1.9.2.1)
  - Specialized stores (groups 472-477);
  - Non-specialized stores (group 471):
    - Food predominantly;

- Others.

(b) Retail trade not in stores (item 1.9.2.1)

- Retail trade via stall or markets (group 478);
- Others.

29. *Store retailers* (item 1.9.2.1) operate their business from fixed-point-of-sale locations such as shops, department stores, supermarkets, etc., located and designed to attract a high volume of walk-in customers. They have extensive displays of merchandise and often use mass-media advertising to attract customers.

30. *Non-store retailers* (item 1.9.2.2) also serve the general public, but their retailing methods differ. Such methods include sales from movable stalls, either along a public road or at a fixed marketplace, where the customer does not enter the premises where the sale takes place. This group also includes sales through vending machines and the retail sale of any kind of product through paper and electronic catalogues, door-to-door solicitation, in-home demonstration, direct selling, i.e., direct delivery of fuel, newspapers, etc., to the customer premises.

**1. (b). Number of statistical units**

***Number of enterprises (item 1.10)***

31. This indicator is defined as a count of the number of active enterprises operating in the economy during the reference period. Temporarily inactive (dormant) units should be excluded. This statistic should include all units active during at least a part of the reference period.

32. Because of the variation in size and organizational structure of enterprises, this item is further subdivided into two broad categories of enterprises - complex enterprises (item 1.10.1) and single-establishment enterprises (item 1.10.2). A complex enterprise, also called a multi-establishment enterprise, is one consisting of more than one establishment. Individual establishments of a complex enterprise may generally be engaged in different economic activities belonging to different ISIC classes but they may engage in the same activity as well.

***Number of establishments (item 1.10.1.1)***

33. It is a count of the number of establishments operating in the economy during the reference period. Establishments must be included even if they have no paid employees. This statistics should include all establishments active for at least a part of the reference period registered to the population concerned either in the statistical business register or in the sampling frame.

34. In the case of most small and medium-sized businesses, the number of enterprises and the number of establishments are likely to be the same. Therefore, the total number of establishments is equal to the sum of the number of establishments in multi-establishment enterprises (item 1.10.1.1) and the number of single establishment enterprises (item 1.10.2).

## **B. Employment**

### ***Total number of persons employed (item 2.1)***

35. The number of persons employed is defined as the total number of persons who work in or for the statistical unit, whether full-time or part-time, including:

- working proprietors;
- active business partners;
- unpaid family workers;
- persons working outside the unit who belong to it (e.g., sales representatives, delivery personnel, repair and maintenance teams) provided that they receive a regular salary from that unit;
- salaried managers and salaried directors of incorporated enterprises;
- persons on short-term leave (sick leave, annual leave or vacation);
- persons on special paid leave (educational or training leave, maternity or parental leave);
- persons on strike;
- part-time workers on the payroll;
- seasonal workers on the payroll;
- apprentices on the payroll;
- outworkers on the payroll, paid for the work done.

36. Total number of persons employed excludes:

- directors of incorporated enterprises and members of shareholders' committees who are paid solely for their attendance at meetings;
- labour made available to the unit by other units and charged for (contract workers, paid through contractor, persons carrying out repair and maintenance work in the unit on behalf of other units);
- persons on indefinite leave;
- persons on military leave;
- persons on pension;
- outworkers paid by subcontractors

### ***Working proprietors (item 2.1.1)***

37. This includes all individual proprietors and partners actively engaged in the work of the establishment, excluding silent or inactive partners whose principal activity is outside

of the establishment. This category is not applicable to any incorporated or similar enterprise the ownership of which is represented by holding of equity shares.

### ***Unpaid family workers (item 2.1.2)***

38. Unpaid family workers are defined as all persons living in the household of the proprietor(s) of the owning enterprise and working in or for the establishment, irrespective of the number of hours worked during the reference period, without regular pay (that is, without an agreed amount to be paid for work done). Where it is customary for young persons, in particular, to work without pay in an economic enterprise operated by a related person who does not live in the same household, the requirement of 'living in the same household' may be eliminated. Family workers who receive pay for work performed should be classified as employees. Countries which prefer for special reasons to set a minimum time criterion for the inclusion of unpaid family workers among the employed should identify and separately classify those who worked less than the prescribed time.

### ***Employees (item 2.1.3)***

39. This category includes all persons who work in or for the establishment, who have a contract of employment with the unit and receive compensation in cash or in kind at regular intervals of time. The remuneration is normally based on either the time spent at work or some other objective indicator of the amount of work done. Compensation could be in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind (item 3.1).

40. The relationship of employer to employee exists when there is a written or oral agreement, which may be formal or informal, between the establishment and a person, normally entered into voluntarily by both parties, whereby the person works for the unit in return for remuneration in cash or in kind.

41. The category "employees" is intended to include all persons engaged in the economic activity of the establishment other than working proprietors and unpaid family workers. It also includes outworkers when paid by and under the control of the concerned unit. Employees in activity ancillary to the main activity of the unit are also included.

### ***Production workers (item 2.1.3.1)***

42. This item is defined as all employees who are directly engaged in the production or related activities of the establishment, including any clerical or working supervisory personnel whose function is to record or expedite any step in the production process. Employees of a similar type engaged in activities ancillary to the main activity of the establishment should also be considered as production workers.

43. Some countries may wish to include special characteristics of production workers. If so, it is important to limit the categories to those that can be defined precisely and clearly in terms of the usually available employment records. Of particular interest are the following:

- (a) The degree of labour qualification - skilled, semi-skilled, unskilled, apprentice and the like;
- (b) The specific functional category - for example, personnel wholly engaged in own-account construction work, fabrication personnel, processing and assembly personnel, transportation and warehousing personnel, repair and maintenance personnel;
- (c) Whether employed full-time or part-time;

***Other employees (item 2.1.3.2)***

44. This item is defined as all employees other than those considered as production workers. Where the definition given in item 2.1.3.1 is followed, this category will include administrative, technical and clerical personnel such as salaried managers and directors, laboratory and research workers, clerks, typists, bookkeepers, administrative supervisors, sales persons and the like.

***Number of full-time employees (part of item 2.1.3)***

45. Full time employees are persons whose working time is equal to the standard working time for a full week, month or year. Standard working time is the time that persons in paid employment jobs spend on work activities during a reference period, as specified in laws and regulations, collective agreements or arbitral awards.

***Number of part-time employees (part of item 2.1.3)***

46. Part-time employees are persons whose working time is less than the standard working time of a full-time employee. This category encompasses all forms of part-time work (half-day work, work for one, two or three days a week, etc.). Part-time employees and intermittent/seasonal employees (who may work full time but for a fixed short period, e.g., temporary workers, film crew, etc.) should not be confused.

***Employees in full-time equivalents (part of item 2.1.3)***

47. Based on the total number of hours worked by all part-time employees, their number could be converted into full-time equivalents. The conversion should be carried out with regard to the standard working time of a full-time employee in the unit by taking into account the number of hours (days, weeks or months) worked. Full-time equivalent is defined as the total hours worked in a unit divided by average (annual, quarterly, monthly or weekly) hours worked by a full-time employee.

***Employees engaged in research and development (item 2.1.3.1.1)***

48. The output of research and experimental development is recognized as an asset in the 2008 SNA. The present recommendations adopt the definition of research and development as given in the Frascati Manual<sup>5</sup> which defines it as “Research and experimental development comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”. When produced on own account it represents the cost of production and should be estimated by summing up the cost of inputs, including labour inputs.

49. This item comprises all employees directly engaged with research and development, as well as those providing direct services such as research and development managers, administrators and clerical staff. Those persons providing an indirect service, such as canteen and security staff, should be excluded, even though their wages and salaries are included as an overhead in the measurement of expenditure. The research and development personnel must be distinguished from personnel for a wide range of related activities. The following are therefore excluded from research and development personnel:

- personnel employed on education and training,
- personnel employed on other scientific and technological activities (e.g., information services, testing and standardization, feasibility studies, etc.),
- personnel employed on other industrial activities (e.g., industrial innovations n.e.c.),
- personnel employed on administration and other indirect supporting activities.

***Employees engaged in mineral exploration and evaluation (item 2.1.3.1.2)***

50. The item comprises the total number of employees working on exploration for petroleum and natural gas and for non-petroleum deposits that may be exploited commercially and subsequent evaluation of the discoveries made. The mineral exploration and evaluation is recognized as an asset in the 2008 SNA. When produced on own account it represents the cost of production and should be estimated by summing up the cost of inputs, including labour inputs.

***Employees engaged in software and databases development (item 2.1.3.1.3)***

51. The item comprises the total number of employees working on development of software and databases with an expected working life of more than one year, as well as those providing direct services such as managers, administrators and clerical staff. Those persons providing an indirect service, such as canteen and security staff, should be excluded, even though their wages and salaries are included as an overhead in the measurement of expenditure. The development of software and databases is recognized as an asset in the 2008 SNA. When produced on own account it represents the cost of production and should be estimated by summing up the cost of inputs, including labour inputs.

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<sup>5</sup> Frascati Manual, Proposed Standard Practice for Surveys on Research and Experimental Development, Paris 2002, [http://www.tubitak.gov.tr/tubitak\\_content\\_files/BTYPD/kilavuzlar/Frascati.pdf](http://www.tubitak.gov.tr/tubitak_content_files/BTYPD/kilavuzlar/Frascati.pdf)

***Employees engaged in production of Entertainment, literary and artistic originals (item 2.1.3.1.4)***

52. The item comprises the total number of employees working in the production of entertainment, literary and artistic originals. Entertainment, literary and artistic originals are considered as an asset and consist of the original films, sound recordings, manuscripts, tapes, models, etc., on which drama performances, radio and television programming, musical performances, sporting events, literary and artistic output, etc., are recorded or embodied. When produced on own account it represents the cost of production and should be estimated by summing up the cost of inputs, including labour inputs.

***Employees engaged in own account fixed asset formation and major repair (item 2.1.3.1.5)***

53. The item comprises the total number of employees working in the own account fixed assets formation and major repair. Fixed assets formation and major repair when undertaken on own account is considered as capitalized production that is retained by their producers as investment. Capitalized production is unsold production therefore it is valued at production costs, i.e., by summing up the cost of inputs, including labour inputs.

***Outworkers on the pay-roll (item 2.1.3.3)***

54. An outworker is a person who agrees to work for a particular enterprise or to supply a certain quantity of goods or services to a particular enterprise, by prior arrangement or contract with that enterprise, but whose place of work is not within any of the establishments that make up that enterprise. Only those outworkers are included here who are remunerated directly, or indirectly, on the basis of the amount of work done, that is, by the amount of labour that is contributed as an input into some process of production, irrespective of the value of the output produced or the profitability of the production process.

55. Outworkers paid by sub-contractors are not included; the amounts paid to sub-contractors in respect of outworkers are treated as "cost of industrial services purchased" (item 4.4.1.2.1).

56. Outworkers on the pay-roll should be enumerated for a single period. Where the numbers are significant and fluctuate, it may also be useful to collect the average number in the inquiry periods as defined for employees.

***Leased employment (item 2.2)***

57. Leased employment entails the provision of human resources for client businesses for a fee. This item comprises the total number of persons supplied by employment agencies or similar organizations to an establishment. Employment agencies of this kind do not supervise the employees who are under the control (direction and supervision) of the clients of employment agencies. Leased employees are on the payroll of the employment



agency and not on the payroll of the establishment paying the fee. The provision of human resources is typically done on short-term basis (the employment agency will be classified in ISIC, Rev.4 7820) or on a long-term and permanent basis (the employment agency will be classified in ISIC, Rev.4 7830). The establishment using leased employment should be classified based on its own principal activity. The following categories are excluded from the leased employment:

- (a) Temporary staffing obtained from a staffing service
- (b) Contractors, subcontractors or independent contractors,
- (c) Purchased or managed services, such as janitorial, guard, or landscape services
- (d) Professional or technical services purchased from another firm, such as software consulting, computer programming, engineering, or accounting services.

### ***Number of persons employed in informal sector (item 2.3)***

58. Total number of persons employed in the informal sector is defined as comprising all persons who, during a given reference period, were employed in at least one production unit of the informal sector (item 1.5.4.1), irrespective of their status in employment but only if this is their main job. The total number of persons employed in the informal sector must refer to the whole territory of the country. This item can be further disaggregated into employees (item 2.3.1) and other persons employed (item 2.3.2) in the informal sector.

59. The number of persons employed in the informal sector does not include:

- persons exclusively engaged in the production of goods or services for own final consumption or own fixed capital formation;
- persons engaged in agricultural activities, as these activities are being excluded from the scope of informal sector for practical reasons;
- self-employed persons engaged in rendering the following professional or technical services – doctors, lawyers, accountants, architects, engineers, etc. if they do not fulfil the requirements for the informal sector enterprises;
- paid domestic workers.

### ***Average number of persons employed (item 2.4)***

60. This item is defined as the average number of employees plus the number of working proprietors (item 2.1.1) and unpaid family workers (item 2.1.2) for a single period. The average number of employees (item 2.4.1) (and the corresponding averages for production workers (item 2.4.1.1), other employees (item 2.4.1.2) and outworkers on the pay-roll (item 2.4.1.3)) is the arithmetic average of the number of employees for each calendar day of the reference period including holidays and weekends, divided by the number of days in the reference period. The annual average number of employees is defined as an arithmetic average of monthly/quarterly average numbers of employees.

### ***Number of hours worked (item 2.5)***

61. Number of hours worked by employees is defined as the total number of hours actually spent by them on activities that contribute to the production of goods and services within the production boundary as defined by the 2008 SNA during the reference period. It is recommended that it should be broken down similarly to the employment categories.

62. Hours actually worked should include:

- (a) “Productive hours”: Hours spent on activities related to persons’ employment and intended for the production of SNA goods and services. These activities may be carried out within normal or contractual periods, or as overtime and may be paid or unpaid, regardless of the place where they are carried out, such as the establishment, the home, in the fields, on the street, and include work taken home from the place of work;
- (b) “Hours spent on ancillary activities”: Hours spent on activities not directly intended for the production of goods and services in the SNA but which are necessary to enable such production. This includes hours spent on: (i) the design, preparation, cleaning of workplace or work instruments, repairs or maintenance of work processes; (ii) professional training (for persons in paid employment) authorised and provided directly or indirectly by the employer; travelling or itinerant activities required or paid for and inherent to the employment as in door-to-door vendors, seafarers, drivers, but also in agriculture when transporting produce, and persons travelling to attend a meeting outside their usual place of employment; (iii) other job-related personal training or education activities paid (including in kind) by the employer, whether in or outside of the place of employment;
- (c) “Unproductive hours spent in the course of work”: Hours spent between productive periods that are unavoidable yet inherent to work processes and during which persons in employment continue to be available for work. Included are hours spent: (i) waiting for customers in an office, shop, street or being on-call as for doctors and nurses; (ii) standing-by for technical or economic reasons such as lack of work supply, machinery breakdown, accident; (iii) between productive periods during which no work is done but when payment is made under a guaranteed employment contract; and (iv) travel time, as a function of specific work assignments or customers, when the place of employment is variable;
- (d) “Short periods of rest”: periods of less than 30 minutes spent between productive periods on personal activities during which persons are not available to the employer or for other work. Such periods occur as a consequence of natural needs; may be authorised by contract or custom and may include tea, coffee or prayer breaks.

63. Hours actually worked should exclude:

- (a) Hours paid for but not worked, such as paid annual leave, paid public holidays, paid sick leave, paid education leave, paid parental (maternity, paternity) leave, paid leave for family reasons, non-military civilian;
- (b) Meal breaks longer than 30 minutes;
- (c) Time spent on commuter travel between home and employment that is not actually time spent working, even if paid by the employer.

## **C. Compensation of employees**

### **Compensation of employees (item 3)**

64. Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an establishment to an employee in return for work done by the latter during the reference period. It should be recorded on an accrual basis; i.e., it is measured by the value of the remuneration in cash or in kind which an employee becomes entitled to receive from an employer in respect of work done during the relevant period, whether paid in advance, simultaneously or in arrears of the work itself. Compensation of employees does not include any taxes payable by the employer on the wage and salary bill, i.e., payroll tax. Compensation of employees has two main components: (a) wages and salaries payable in cash or in kind (item 3.1); and (b) social insurance contributions payable by employers (item 3.3). Employees are those as defined in item 2.1.3.

#### ***Wages and salaries in cash and in kind of employees (item 3.1)***

65. Wages and salaries include the values of any social contributions, income taxes, etc., payable by the employee even if they are actually withheld by the employer for administrative convenience or other reasons and paid directly to social insurance schemes, tax authorities, etc., on behalf of the employee. Wages and salaries may be paid in various ways, including goods or services provided to employees as remuneration in kind instead of, or in addition to, remuneration in cash.

#### ***Wages and salaries in cash***

66. Wages and salaries in cash include the following kinds of remuneration:

- (a) Wages or salaries payable at regular weekly, monthly or other intervals, including payments by results and piecework payments; enhanced payments or special allowances for working overtime, at nights, on weekends or other unsocial hours; allowances for working away from home or in disagreeable or hazardous circumstances; expatriation allowances for working abroad; etc.;
- (b) Supplementary allowances payable regularly, such as housing allowances or allowances to cover the costs of travel to and from work, but excluding social benefits (see below);

- (c) Wages or salaries payable to employees away from work for short periods, for example, on holiday or as a result of a temporary halt to production, except during absences due to sickness, injury, etc.;
- (d) Ad-hoc bonuses or other exceptional payments linked to the overall performance of the enterprise made under incentive schemes;
- (e) Commissions, gratuities and tips received by employees: these should be treated as payments for services rendered by the enterprise employing the worker, and so should also be included in the output and gross value added of the employing enterprise when they are paid directly to the employee by a third party.

67. Wages and salaries in cash do not include the reimbursement by employers of expenditures made by employees in order to enable them to take up their jobs or to carry out their work. For example:

- (a) The reimbursement of travel, removal or related expenses made by employees when they take up new jobs or are required by their employers to move their homes to different parts of the country or to another country;
- (b) The reimbursement of expenditures by employees on tools, equipment, special clothing or other items that are needed exclusively, or primarily, to enable them to carry out their work.

68. Wages and salaries in cash also do not include social insurance benefits paid by employers in the form of: (a) children's, spouse's, family, education or other allowances in respect of dependants; (b) payments made at full, or reduced, wage or salary rates to workers absent from work because of illness, accidental injury, maternity leave, etc.; and (c) severance payments to workers or their survivors who lose their jobs because of redundancy, incapacity, accidental death, etc. In practice, it may be difficult to separate payments of wages or salaries during short periods of absence due to sickness, accidents, etc., from other payments of wages and salaries, in which case they have to be grouped with the latter.

#### *Wages and salaries in kind*

69. Payments in kind are defined as goods and services provided to employees that are not necessary for work and can be used by employees in their own time, and at their own discretion, for the satisfaction of their own needs or wants or those of other members of their households. Almost any kind of consumption good or service may be provided as remuneration in kind. The following includes some of the most common types of goods and services provided without charge, or at reduced prices, by employers to their employees:

- (a) Meals and drinks, including those consumed when travelling on business;

- (b) Housing services or accommodation of a type that can be used by all members of the household to which the employee belongs;
- (c) Uniforms or other forms of special clothing that employees choose to wear frequently outside of the workplace as well as at work;
- (d) The services of vehicles or other durables provided for the personal use of employees;
- (e) Goods and services produced as outputs from the employer's own processes of production, such as free travel for the employees of railways or airlines, or free coal for miners;
- (f) Sports, recreation or holiday facilities for employees and their families;
- (g) Transportation to and from work, car parking;
- (h) Child-care for the children of employees.

70. The money value of payments in kind should be expressed as equal to the net cost to the employer of the goods or services concerned. Where the employer is unable to report the actual cost incurred, it is convenient to use producers' selling prices or wholesale prices.

71. Remuneration in kind may also include the value of the interest foregone by employers when they provide loans to employees at reduced, or even zero rates of interest for purposes of buying houses, furniture or other goods or services. Its value may be estimated as the amount the employee would have to pay if average mortgage, or consumer loan, interest rates were charged less the amount of interest actually paid.

### *Stock options*

72. Stock options are a form of income in kind that results from the practice of some employers to give the employees an option to purchase a company's stocks (shares) at some future dates at a certain price and under some specific conditions. They provide employees the right, but not the obligation, to purchase stock options. Options are usually granted to encourage employees to stick around and help the company grow. The employee may not exercise the option, either because the share price is now lower than his option price or because he no longer works for that employer and so forfeits his option. The following is a description of how stock options are valued, taking into account the probability that not all the options are exercised.

73. Typically an employer informs his employees of the decision to make a stock option available at a given price (the strike price or exercise price) after a certain time under certain conditions (for example, that the employee is still in the enterprise's employ, or conditional on the performance of the enterprise). The "grant date" is when the option is provided to the employee, the "vesting date" is the earliest date when the option can be exercised, the "exercise date" is when the option is actually exercised (or lapses). In some

countries the permissible length of time between vesting and exercise date is quite long; in others it is very short.

74. The valuation of the options may be estimated using a stock options pricing model or as the difference between the market price and strike price at the vesting date. (If the market price is lower than the strike price, the option has zero value as it would not be exercised). The time of recording should be spread over the period between the grant date and vesting date, if possible. If this is not possible, the value of the option should be recorded at vesting date. Any change in value between the vesting date and exercise date is not treated as compensation of employees but as a holding gain or loss.

*Boundary between compensation of employees (item 3) and intermediate consumption (item 9.1)*

75. Elements of labour cost that are not regarded as employee income are not included in the concept of compensation of employees. As a cost to the employer, they are included in the intermediate consumption (item 9.1) of the establishment. The following are included in this category:

- (a) Tools or equipment used exclusively, or mainly, at work;
- (b) Clothing or footwear of a kind that ordinary consumers do not choose to purchase or wear and which are worn exclusively, or mainly, at work; e.g., protective clothing, overalls or uniforms. However, uniforms or other special clothing that employees choose to wear extensively off-duty instead of ordinary clothing should be treated as remuneration in kind;
- (c) Accommodation services at the place of work of a kind that cannot be used by the households to which the employees belong: barracks, cabins, dormitories, huts, etc;
- (d) Special meals or drinks necessitated by exceptional working conditions, or meals or drinks provided to servicemen or others while on active duty;
- (e) Transportation and hotel services provided while the employee is travelling on business;
- (f) Changing facilities, washrooms, showers, baths, etc. necessitated by the nature of the work;
- (g) First aid facilities, medical examinations or other health checks required because of the nature of the work.

76. Employees may sometimes be responsible for purchasing the kinds of goods or services listed above and are subsequently reimbursed in cash by the employer. Such cash reimbursements must be treated as intermediate expenditures by the employer and not as part of the employee's wages and salaries.

***Remuneration of outworkers on the pay-roll (item 3.1.3)***

77. This item covers all remunerations, as defined under "wages and salaries of employees" (item 3.1), paid to outworkers on the pay-roll. The amounts paid to subcontractors and other agents in respect of outworkers are not recorded here, but under the item "cost of industrial services purchased" (item 4.4.1.2).

***Payments to directors of incorporated enterprises for their attending meetings (item 3.2)***

78. This item includes all payments made to directors of incorporated enterprises and members of shareholders' committees for attendance at meetings.

***Social insurance contributions payable by employers (item 3.3)***

79. Employers' social contributions are social contributions payable by employers to social security funds or employment-related social insurance schemes to secure social benefits for their employees. To be treated as social insurance contributions, one of three conditions must be met: (i) benefactor (or policy holder) must be obliged or encouraged by law or by the conditions of employment to participate; (ii) the scheme must be operated on behalf of the group and restricted to group members; and (iii) employers make a contribution on behalf of employees. These insurance schemes may be operated either by the employers or by a third party. Social insurance contributions may be classified into the following items:

- (a) Social security
- (b) Pension funds
- (c) Health insurance
- (d) Term (life) insurance
- (e) Other payments

80. Employers may pay at their own will to the employees for sickness, maternity, employment injury, family allowance, termination pay and other employee benefits, these payments are treated as part of wages and salaries of employees.

**D. Other expenditures**

**Purchases of goods and services (item 4. (a))**

81. Purchases of goods and services include the value of all goods and services purchased during the reference period for resale or consumption in the production process for which the establishment took title excluding fixed assets, the consumption of which is registered as consumption of fixed capital (depreciation) (item 11.4). The goods and services concerned may be either resold with or without further transformation, completely used up in the production process or, finally, be stocked.

82. Included in these purchases are the materials that enter directly into the goods produced (raw materials, pre-fabricated parts (intermediary products), components etc. that are physically incorporated into the products of the establishment), plus non-capitalized small tools and equipment. Fuels that enter the product directly should be included, as well as fuels for the generation of electricity and the production of gas and steam, whether for own consumption or for sale. Also included is the value of ancillary materials consumed during the production process (lubricants, water, explosives, polishes, packaging, maintenance and repair materials, and office materials). Included in this variable are the purchases of materials used for the own account fixed assets formation and major repair by the unit.

83. If the establishment contracts out some work to other establishments including the other establishments of the same enterprise and it provides the raw materials, supplies and the like to them for the purpose, the value of these raw materials and supplies should be included under this item.

84. Cost of individually important materials may also be collected to provide supplementary details.

85. Cost payable for purchase of services during the reference period are also included regardless of whether they are industrial or non-industrial. Also included are payments for all work carried out by third parties on behalf of the establishment including current repairs and maintenance, installation work and technical studies. Amounts paid for the installation of capital goods and the value of capitalized goods are excluded.

86. Purchases of goods and services should be valued at purchasers' prices - that is, the price at which they are delivered to the establishment, including transport charges either invoiced by the producer or by other organizations, the cost of insurance, the value of packaging materials charged for, all taxes and duties on the goods but, where applicable, excluding the deductible value-added tax (VAT). Discounts (including cash discounts if netted off purchases in purchase records) or rebates allowed to the purchaser and the value of packaging materials returned to the suppliers should be deducted. Where transport is carried out by the statistical unit itself, no charges should be imputed.

87. Goods received by the establishment from other establishments of the same enterprise should be valued as if purchased. In practice, it will usually be necessary to accept the book values in the accounts of the shipping establishment, but where transport of the goods to the recipient establishment is carried out by outside organizations the transport costs should be included. Where returns of goods are made after being recorded in inventory, the items should be recorded as sales in the same condition as received (item 4.5).

***Cost of raw materials and supplies except gas, fuels and electricity (item 4.1)***



88. This item includes cost of all goods (excluding fixed assets) delivered to the control of the establishment in the reference period and owned by the establishment (or by the legal entity to which the establishment belongs). The time of receipt of the goods should be related to the definition of inventories (item 6) in the sense that goods should be considered as received at the time such goods are entered in the inventory account of the establishment. Alternatively, goods may be considered as received when the establishment has acquired economic ownership of the goods. In general, this definition coincides with the time of acquisition of title or the time of invoicing, but goods received from abroad should be included even though legal title may not yet have passed.

***Purchases or receipts of raw materials and supplies from other enterprises (item 4.1.1)***

89. This item includes the value of raw materials and supplies and the like or pre-fabricated parts (intermediate products) as enumerated under item 4.1 which are purchased or received from other enterprises.

***Value of raw materials and supplies delivered by other establishments of the same enterprise (item 4.1.2)***

90. This item covers the value of raw materials and supplies and the like or pre-fabricated parts (intermediate products), purchased or, manufactured by one establishment of an enterprise and transferred to another establishment of the same enterprise, which further manufactures them, incorporates them into other products or employs them otherwise in its own production process. These should be valued as if purchased from another enterprise.

***Cost of materials for own-account fixed assets formation or major repair (item 4.1.3)***

91. This item includes the cost of raw materials and other materials purchased or received by the establishment for the production by the unit itself of capital goods for its own use (or for rental or lease) and materials and parts used for own-account major repair on its own buildings, structures, machinery and other fixed assets. Included are materials and the like for the construction of employee-occupied dwellings and other staff facilities and for the major repair of all establishment-owned or rented buildings, except housing accommodation.

92. The cost of materials for own account fixed assets formation should be recorded separately for: (a) research and development (item 4.1.3.1); (b) mineral exploration and evaluation (item 4.1.3.2); (c) software and database development (item 4.1.3.3); (d) production of entertainment, literary and artistic originals (item 4.1.3.4) and (e) fixed asset formation and major construction (item 4.1.3.5).

***Cost of gas, fuels and electricity purchased (item 4.2)***

93. This item includes the cost of all purchased gas, fuels and electricity received by the establishment only if they are purchased to be used as fuel. Energy products purchased as a

raw material or for resale without transformation should be excluded and recorded in item 4.1 or 4.5 respectively.

94. Fuels that enter the product or are used for other energy production should be included under materials. For convenience, gasoline and other fuels for vehicles are included. Fuels and electricity used for heating and lighting are also included, except when used for employee-occupied dwellings owned or operated by the establishment. Excluded are fuels produced and consumed in the same establishment.

***Cost of individual fuels and gas purchased (item 4.2.1)***

95. To ensure a complete coverage of individual fuels and gas, the cost of the individual items should be collected. The selection of individual fuel types will be determined by national usage. The following is a suggested list of principal fuel types: (a) coal, (b) coke, (c) crude oil, (d) natural gas, (e) petroleum products, (f) biomass<sup>2</sup> and (g) other fuels. Individual countries may wish to separate one or more of the fuel types grouped in "petroleum products" and "other fuels".

***Cost of electricity purchased (item 4.2.2)***

96. This item includes the cost of all electricity purchased by the establishment during the reference period.

***Cost of water and sewerage services (item 4.3)***

97. This item includes the cost of water and sewerage services purchased by the establishment during the reference period.

***Cost of water purchased (item 4.3.1)***

98. This item is defined as the total cost of all water purchased by the establishment for business purposes during the reference period.

***Cost of wastewater services purchased (item 4.3.2)***

99. This item includes cost of all wastewater services purchased by the establishment during the reference period.

***Cost of sewerage services purchased (item 4.3.3)***

100. This item includes cost of sewerage services purchased by the establishment during the reference period.

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<sup>2</sup> Biomass seems a synonymous of biofuels. "Biofuels are fuels of biological and renewable origin, such as fuelwood, charcoal, livestock manure, biogas, biohydrogen, bioalcohol, microbial biomass, agricultural waste and byproducts, energy crops, and others", FAO, <http://www.fao.org/sd/EGdirect/EGre0055.htm>

***Purchase of services except rentals (item 4.4)***

101. This item includes cost of all services payable by the establishment during the reference period regardless of whether they are industrial or non-industrial.

***Cost of industrial services purchased and also delivered by other establishments of the same enterprise (item 4.4.1)***

102. This item covers amount payable by the establishment for contract, commission, repair and maintenance work carried out during the reference period by other establishments of the same enterprise and by other enterprises. Where the work is carried out by other enterprises, the actual invoice prices should be used, but, where applicable, the deductible value-added tax should be excluded. Freight charges should be included. Where the services are carried out by other establishments of the same enterprise, equivalent commercial values at basic prices (excluding taxes on products and transport cost) should be used or an imputed valuation of the work should be made, including an imputed margin for overhead costs and profits, as well as the cost of materials consumed and labour used.

***Repair and maintenance work (item 4.4.1.1)***

103. This item covers current repair and maintenance work on buildings and other fixed assets of the establishment and in respect of rented buildings other than housing accommodation. Payments for the installation of goods sold by the establishment on an installed basis and service on goods sold are included, but amounts paid for the installation and major repairs of capital goods are excluded.

104. The repair and maintenance costs of employee-occupied dwellings should not be included but should be recorded separately in order to calculate the total cost of workers' housing borne by employers for compensation of employees in kind.

***Contract and commission work (item 4.4.1.2)***

105. This item covers the cost of work done by others on materials owned by the establishment, which generally entails the transformation or processing of raw materials; specialized work performed on products made by the establishment is included. Also included are payments made through sub-contractors to outworkers not on the payroll (leased employment – item 4.4.1.2.1). Sales commissions should not be included.

***Costs of non-industrial services purchased and also delivered by other establishments of the same enterprise (item 4.4.2)***

106. This item covers amount payable by the establishment during the reference period for services of a non-industrial nature. The actual payments made should be reported, excluding deductible VAT and other deductible taxes. Costs on following are included: (a) communication services; (b) transport services; (c) advertising and promotional services; (d) financial services (excluding interest payments); and (e) other non-industrial services.

107. The following items should be excluded: dividends and interest paid; fines and the like paid; outright purchases of patents and licences; purchases of land and other capital goods; donations; bad debts; depreciation.

***Purchase of communication services (item 4.4.2.1)***

108. This item includes the costs payable by the establishment for purchase of postal and telecommunication services, including mobile phone services, fax, internet etc.

***Transport services (item 4.4.2.2)***

109. This item includes the cost payable by the establishment for hired transport only. The transport carried out by the unit itself should not be included here since the costs are covered in other items.

***Advertising and promotional services (item 4.4.2.3)***

110. This item includes all expenses payable by the establishment for advertising through television, newspapers and other media as well as promotional payments and payments for market research activities and public relation activities carried out by a third party. Market research undertaken by the unit itself should be excluded.

***Financial services (item 4.4.2.4)***

111. This item includes fees and charges directly payable for financial intermediation services and indirect outlays for purposes of financing the acquisition of fixed assets - for example, flotation costs in respect of security issues such as underwriters' commissions and registration charges, service charges in respect of loans. Interest payments are not included.

***Other non-industrial services (item 4.4.2.9)***

112. This item includes purchases of services such as legal services, accounting and bookkeeping services, managing and consulting services, entertainment, travelling and subsistence, contributions to business and professional associations, newspaper and periodical subscriptions, costs of meetings of the governing bodies and shareholders; and other services n.e.c. Patent and licence fees (but not the value of outright purchases of patents and licences) should also be included.

***Purchases of goods and services for resale in the same conditions as received (item 4.5)***

113. This item covers all goods and services purchased from other enterprises or produced or purchased by other establishments of the same enterprise and transferred to the reporting establishment for which it took title, for resale to third parties without transformation. Resale without transformation is considered to include sorting, grading and assembling, mixing, bottling, packing, breaking bulk and repacking of goods, etc.

114. Purchases of goods should be recorded net of returns, discounts, rebates, and other allowances received. The value of goods and services which are sold to third parties on a commission basis are excluded since these goods are neither bought nor sold by the unit receiving the commission. Services for resale referred to here are the output from service activities, rights to use predetermined services, or physical supports for services (e.g., paying a third party to deliver your goods and then passing on the cost to the consumer who is buying them).

115. The goods should be valued at purchaser's prices including delivery and similar charges involved in the purchase (e.g., transport charges, the cost of insurance, the value of packing, etc.) and all taxes and duties on the products, but excluding deductible VAT and other deductible taxes. The purchaser's price should also include the value of goods traded in or bartered in payment for the purchase. Transfers from other establishments of the same trade enterprise should be valued as though purchased. When this is not possible in practice, transfers might be valued at cost to the enterprise on delivery to the establishment, that is, original purchase price, delivery and similar charges, labour and material directly used and possibly overhead.

116. For distributive trade units purchases of goods and services for resale in the same conditions as received may be recorded separately for: (a) fuels (item 4.5.1); (b) motor vehicles and motor cycles parts used solely in repair and servicing activities (item 4.5.2); all other goods (item 4.5.3) and services purchased for resale without further processing (item 4.5.4).

#### ***Rental payments (item 4.6)***

117. This item includes all costs payable by the unit for hiring, leasing or renting capital goods and non-residential buildings, etc. Financial leasing payments are excluded. Rental payments should be subdivided into:

- Rental payments for machinery and equipments (item 4.6.1)
- Rental payments for dwellings and structures (item 4.6.2).

#### ***Non-life insurance premiums payable on establishment property (item 4.7)***

118. This item includes non-life insurance premiums payable by the unit during the reference period on the unit property (against damages due to fire, natural calamities, losses, etc.).

#### **Data items on quantity (item 4. (b))**

119. Data on quantity of goods and services purchased are useful for several purposes and the same may be collected through industrial surveys.

#### ***Quantity of individually important materials and supplies (item Q4.1)***

120. This item should normally be collected to provide supplementary detail in infrequent and annual inquiries. In the infra-annual inquiries, the detail can be limited to those items required for the preparation of index numbers of production or price. In country practice, questionnaires are generally tailored to each industry, listing the significant materials relevant to the particular industry. To measure consumption, it may also be desirable to obtain the quantity of individually important stocks of those materials that tend to fluctuate widely.

***Quantity of individual fuels and gas purchased (item Q4.2)***

121. In order to calculate energy consumption, it is necessary to collect the quantity of the individually important fuels purchased and the quantity of electricity purchased, generated and sold. To ensure a complete coverage of item 4.2, the quantity of each fuel type should be listed separately. Each physical quantity of fuel type should be reported in the original unit as well as in terajoules. If there is no homogeneous physical measure - as it may be the case for “petroleum products” and “other fuels” – physical quantities of fuel purchased should be reported in terajoules (UN 1982). The collection of fuel data in standard physical units permits the estimation of total energy consumption by the statistical organization conducting the census or annual inquiry. Excluded are fuels produced and consumed in the same establishment.

***Quantity of electricity purchased (item Q4.2.1)***

122. This item is defined as the quantity (in kilowatt-hours) of all electricity purchased by the establishment during the reference period.

***Quantity of electricity generated (item Q4.2.2)***

123. This item is defined as the total quantity (in kilowatt-hours) of electricity generated in the establishment (gross less generating-station use) during the reference period, including any part of the energy sold or transferred.

***Quantity of electricity sold (item Q4.2.3)***

124. This item is defined as the quantity (in kilowatt-hours) of electricity sold to other enterprises or transferred to other establishments of the same enterprise during the reference period.

***Total energy consumed (item Q4.2.4)***

125. This item is derived by adding the total energy equivalent of fuels consumed to the total consumption of electricity, both expressed in terajoules. The terajoule is the standard of measurement recommended for reporting total energy consumed<sup>6</sup>. The joule is a unit of

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<sup>6</sup> Concepts and Methods in Energy Statistics, with Special Reference to Energy Accounts and Balances, Technical Report. Series F, No. 48 (United Nations Publication, Sales No. 82.XVII.13)

work or energy equivalent to the amount of work done or heat generated by a current of one ampere acting for one second against a resistance of one ohm. (There are 3.6 million joules in one kilowatt-hour.) The calculation of total energy consumption is an important feature of any industrial inquiry.

126. The data for individual fuels, collected in standard physical units, are converted into terajoules by the statistical office compiling the data. Where it is known that stocks of fuels tend to fluctuate widely, it may be desirable to request quantities of the individual fuels in stock at the beginning and end of the reference period. This will enable the compilers of the data to estimate fuel consumption more accurately than would be possible using estimates based on purchases. Quantities of fuels consumed by the establishment out of its own production should also be collected and included where this consumption is important.

127. The quantity of electricity consumed is equal to the quantities purchased and generated, less the quantity sold. However, for the electricity industry (ISIC 3510), consumption is defined as the quantity of electricity used by the producers, transmitters and distributors of electricity in their establishments, but excluding the electricity used for auxiliary services, pumping and network losses.

***Quantity of water purchased (item Q4.3.1)***

128. This item is defined as the total quantity (in cubic meters) of all water purchased by the establishment during the reference period.

***Quantity of water abstracted for own use (item Q4.3.1.1)***

129. This item is defined as the total quantity (in cubic meters) of water abstracted from the environment by the establishment during the year, including any water sold or transferred. Saltwater (e.g., sea water, saline ground water) is excluded unless it is desalinated prior to use.

***Quantity of water sold (item Q4.3.1.2)***

130. This item is defined as the total quantity (in cubic meters) of all water sold by the establishment to other enterprises or transferred to other establishments of the same enterprise during the reference period.

***Total water used (item Q4.3.1.3)***

131. This item is derived by adding the total water used expressed in cubic meters. The calculation of total water used is an important indicator of pressure of the economy on the water resources.

***Quantity of wastewater treated on site prior to discharge (item Q4.3.2)***

132. This item is defined as the total quantity (in cubic meters) of wastewater treated by the establishment before being discharged to the environment by the establishment during the year, including any wastewater services sold or transferred.

***Quantity of wastewater discharged without treatment (item Q4.3.3)***

133. This item is defined as the total quantity (in cubic meters) of wastewater discharged without treatment to the environment by the establishment during the year.

**E. Turnover, sales, shipments, receipts for services and other revenues (excluding property income)**

134. This item comprises the totals invoiced by the establishment during the reference period and corresponds to market sales (shipments, receipts for services and other revenues) of goods or services supplied to other enterprises or transferred to other establishments of the same enterprise. Turnover/sales/shipments should exclude VAT (value added tax) and other similar deductible taxes directly linked to the sales as well as all duties and taxes on products invoiced by the unit which is equivalent to the valuation at basic prices. Included are all other invoiced charges for transport, packaging, etc., passed on to the customer, even if these charges are listed separately in the invoice. Price rebates, discounts and similar allowances granted on returned goods and the value of returned packaging should be deducted.

135. Included are all items made by or for the establishments from materials owned by it, whether sold, transferred to other establishments of the same enterprises, or shipped on consignment. The net selling value of products made in one establishment on a contract basis from materials owned by another should be reported by the establishment providing the material. This type of valuation is equivalent to the valuation at basic prices.

136. In principle, sales/shipments to other establishments within the same enterprise should be valued as though sold. In practice, however, it may be necessary to accept the book value of such transfers. Book value or production cost is equal to the sum of material and service costs, compensation of employees, other taxes on production, depreciation of the fixed assets used in production, and an imputed margin for overhead costs and profits if possible. Where both establishments are included in the collection programme, the receiving establishment should report the same items as purchases at the same value as the sales of the shipping establishment.

137. This item also includes sales of goods and services purchased for resale and commissions and fees from selling goods on account of others and all receipts for industrial services rendered, such as receipts for contract work performed for others, installation and repair work, research and development work of an industrial nature.

138. Revenues from activities other than the sale of goods or rendering of industrial services like revenues from rental or lease of buildings and machinery and equipment, all



other miscellaneous revenues as well as the value of fixed assets manufactured or built by the establishment for its own use are also included.

***Sale, turnover, value of shipments, including transfers to other establishments of the same enterprise (item 5.1)***

139. This item includes the value of sales, turnover, shipments, including transfers during the inquiry period to other establishments of the same enterprise of all goods produced by the establishment, whether in the accounting period or in previous periods (that is, all goods for which the establishment relinquished control during the period; all goods sent abroad for sale or processing should be included even though legal title may not yet have passed). Included as goods produced by the establishment are goods produced by other organizations from materials supplied by the establishment.

140. If the establishment engages in the production of goods under contract with a long-term production cycle, progress payments receivable for under such contracts should be included here as sale, not as work-in-progress. This is applicable to both the construction work and the production of machinery and equipment. When no contract exists, partially completed or finished construction works and machinery should be recorded in the inventory under work-in-progress (item 6.3) or finished goods (item 6.4).

141. The valuation of goods shipped should be at the establishment price charged to the customer, whether ex-factory or delivered, including all charges invoiced to clients, even if these charges are listed separately, for expenses relating to transport (whether carried out by the establishment with its own transport facilities or by outside organizations), lost packaging and the like. Price rebates and discounts and allowances on returned goods allowed to the customer and the value of returned packaging should be deducted. This includes cash discounts where netted off sales in sales records. The valuation should exclude all duties and taxes imposed on products when they leave the factory, including the value-added tax invoiced by the producer to the client, where the value-added tax system is applicable.

***Sale/Turnover/Value of shipments of goods produced to other enterprises (item 5.1.1.1)***

142. This item includes sales or shipments of goods produced by the establishment, as defined under item 5.1, to other enterprises.

***Transfer of goods produced to other establishments of the same enterprise (item 5.1.1.2)***

143. This item covers transfers from the producing establishment to another establishment of the same enterprise, including transfers to wholesale and retail trade establishments of the enterprise for which separate accounts are kept. Transfers from the producing establishment to another establishment of the same enterprise for further processing should also be included. These should be valued as if sold to an independent enterprise. If this is not possible, the actual production costs should be reported.

***Exported to customers and affiliated foreign branches (item 5.1.1.3)***

144. This item includes the sales or shipments of goods produced by the establishment which has been exported to customers and also transfers to affiliated overseas branches.

***Sale/Turnover/Value of shipments of all goods and services purchased for resale in the same condition as received (item 5.1.2)***

145. This item includes the sale/turnover from goods and services sold or bartered by a unit on its own account. The sale/turnover should exclude VAT (value added tax) and other similar deductible taxes directly linked to the sale/turnover, which are collected from the customers and paid directly to government tax authorities, as well as all duties and taxes on the goods and services invoiced by the unit. Included are all other invoiced charges for transport, packaging, etc. passed on to the customer, even if these charges are listed separately in the invoice. Price rebates, discounts and similar allowances granted on returned goods and the value of returned packaging should be deducted from the sale/turnover.

146. The item also includes the goods withdrawn by the owners of a unit for their own use. Those goods should be valued at the appropriate market price (i.e. as if sold to a customer). If this is not possible, the owners' withdrawals should be valued at acquisition costs.

147. The goods and services purchased for resale may either be sold to final consumers, other enterprises or transferred to other establishments of the same enterprise.

***Gift cards sales (item 5.1.2.1)***

148. This data item comprises sales/turnover from gift cards. The gift card is a pre-paid card that works similar to a gift certificate and can be used to purchase merchandise at a fixed shop. Following generally accepted accounting principles, sales from gift cards are included in the retail sales/turnover of units at the time the gift card is redeemed.

***Commissions and fees from selling goods and services on account of others (item 5.1.3)***

149. This item includes the commissions/fees received by trade agents for the sale of goods or services on the account of others (i.e., commission wholesale and retail trade where the unit does not hold title to the goods sold). The commission/fee is to be included but not the full transaction price. All other costs incurred and passed to the customers should also be included.

***Receipts for industrial work done or industrial services rendered to others (item 5.1.4)***

150. This item covers the value, at actual invoice prices, of industrial work done and services rendered to other enterprises (item 5.1.4.5) and to other establishments of the same enterprise (item 5.1.4.6). The invoice prices should exclude VAT (value added tax) and

other similar deductible taxes directly linked to the sales as well as all duties and taxes on the goods and services invoiced by the unit. The amounts charged for materials supplied by the establishment in the course of the work should also be included. Services provided to other establishments within the same enterprise should be valued as though sold. If this is not possible, the actual production costs should be reported. The following categories of industrial work should be identified separately:

- Contract and commission work (item 5.1.4.1)
- Repair, maintenance and construction work (item 5.1.4.2)
- Installation work (item 5.1.4.3)
- Research and development work of an industrial nature (item 5.1.4.4)

***Contract and commission work (item 5.1.4.1)***

151. Contract and commission work includes cases when a production unit (contractor) carries out specific aspects of the production activity as ordered by another productive unit (principal), in whole or in part in the production of a good or a service (see outsourcing). A sub-category (item 5.1.4.1.1) has been provided to permit the measurement of industrial work performed for units not residing in the country.

***Other revenues (item 5.2)***

152. This item covers revenue receivable by the unit from activities other than the sale of goods or the rendering of services, which is not always ascertainable at the establishment level. The values reported should be the actual amounts received, excluding VAT (value added tax) and other similar deductible taxes directly linked to the sales as well as all duties and taxes on the goods and services invoiced by the unit. Information about revenue from the rental or lease of machinery and equipment (item 5.2.1) and the rental or lease of buildings (item 5.2.2) should be identified separately. Machinery and equipment includes vehicles, machinery, instruments, tools and others.

153. All remaining revenues not included in the above categories should be included in item 5.2.3. Other revenues n.e.c. These include:

- (a) Revenue from the operation of cafeterias, hostels, camps and other employee facilities, except dwellings (rent received from employee dwellings should not be included but should be netted off cost of workers' housing under compensation in kind)
- (b) Receipts for transport services rendered to others, other than delivery of own products (the latter should be included in the value of shipments (item 5.1))
- (c) Revenue from sales of scrap
- (d) Receipts for storage of goods, warehousing and the like, including cold storage

- (e) Commissions from the arrangement of financing
- (f) Receipts for the right to use patents, trademarks, copyrights and the like, manufacturing and quarrying rights, technical "know-how"
- (g) Dealers' margins and other transfer costs in respect of transactions involving second-hand goods and scrap, land, intangible assets (financial claims, leases, mineral rights, patents); these cover brokers' commissions, legal fees and the like which represent the only output generated in such transactions; the output may be shared by the buyer and seller and, in some cases, may be charged to the buyer
- (h) Any other revenue arising from the production of goods or rendering of services

154. The following items that do not arise from the production of goods and rendering of services by the statistical unit should not be included:

- (a) Dividend receipts
- (b) Interest and discount receipts
- (c) Revenue from the outright sale of patents and licences
- (d) Revenue from the sale of land and used capital goods

***Value of own-account fixed assets (item 5.3)***

155. This item includes the cost of all fixed assets, such as buildings and structures, machinery and equipment, etc., manufactured or built by the establishment for its own use during the reference period and having a service life of more than one year as well as the costs of extensions, alterations, improvements and major repairs that are carried out by the establishment itself with its own labour force and that extend the service life or increase the productive capacity of existing fixed assets. Fixed assets produced for rental or lease should also be included.

156. The own-account fixed assets should be recorded at the time the work is put in place and the asset becomes part of the fixed capital formation of the establishment. The valuation, in principle, should be at the basic prices of the same assets sold in the market. However, it will frequently be necessary to impute the valuation at production cost by using information on item 3.1.1.5 Wages and salaries of employees engaged in own account fixed assets formation and major construction and item 4.1.3. Cost of materials for own account capital formation.

***E-commerce sale/turnover/value of shipments/receipts for services or other revenues (item 5.4)***

157. E-commerce sales are sales of goods and services where an order is placed by the buyer or price and terms of sale are negotiated over the Internet, an extranet, Electronic

Data Interchange (EDI) network, or other online system. Payment may or may not be made online.

158. This item includes the sales value of all goods and services sold through a computer-mediated network (e-commerce). Both business-to-business and business-to-consumer transactions are included. The revenues from e-commerce sales are part of Turnover, sales, shipments, receipts for services and other revenues (item 5. (a)).

### ***Quantity and value of individually important products (item Q5.1)***

159. Figures should be obtained both for the total value of the products and the quantity of individually important products. Where the establishment's range of activities encompasses several successive manufacturing stages, it may be useful to collect supplementary information on the quantity of selected important intermediate products produced and consumed within the establishment. It is desirable to include the important industrial products identified by the United Nations Statistics Division<sup>7</sup> which forms the basis for the data collection on the industrial commodity production statistics.

160. The sales/turnover of a distributive trade unit may be broken down according to the various products or product groups invoiced by the unit itself, whether on its own account or on that of others. The trade sales/turnover may be broken down by products, both for goods and services, in reference to the Central Product Classification (CPC, Ver.2)<sup>8</sup> or other international/national product classifications by product.

## **F. Inventories**

### **Inventories (item 6)**

#### ***Total inventories (item 6.1)***

161. This item comprises the value of all inventories owned by the parent enterprise and held by, or under the control of, the establishment, either at the establishment's own premises or elsewhere. Inventories held at ancillary units, in bonded stores or warehouses, on consignment, in transit and materials being manufactured, processed or assembled on commission by others should be included. Materials owned by the others but held by the unit for processing should be excluded. Inventories held overseas or in transit abroad should be included if the economic ownership rests with the unit holding the inventories.

162. The information on inventories is required to measure the value of changes in inventories (item 6.1.3). Changes in inventories comprise the difference (positive or negative) between the value of inventories at the end (item 6.1.2) and the beginning (item 6.1.1) of the reference period. It may also be measured by the value of entries into

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<sup>7</sup> UN List of Industrial Products, available at <http://unstats.un.org/unsd/industry/commoditylist2.asp?s=0>

<sup>8</sup> <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25&Lg=1>

inventories less the value of withdrawals and the value of any recurrent losses of goods held in inventories.

163. Changes in inventories should be valued at purchaser's prices including any duties and taxes payable by the purchaser and excluding deductible VAT, and also excluding any rebates and discounts given by the seller if they are purchased from another unit, otherwise at equivalent basic prices (market prices excluding taxes on products, transport costs and trade margin) or at production cost if they are produced by the unit itself. Production costs are equal to the sum of material and services costs, compensation of employees, other taxes on production, depreciation of the fixed assets used in production, and an imputed margin for overhead costs and profits if possible.

164. In principle, the book values of inventories, as maintained in the accounting records of units, are used to estimate their physical changes (and any holding gains, caused by the changes in their prices). When inventories are valued at book values, it is necessary to know, or assume, the order in which they are withdrawn since the withdrawals from inventories should be valued at the purchasers' prices at which the inventories can be replaced at the time they are withdrawn as distinct from the purchasers' prices that may have been paid for them when they were acquired. The common methods of reporting withdrawals from stocks by units in their business accounting practices are:

- (ii) FIFO (first-in-first-out) – the cost of items sold or consumed during the reference period is calculated as though there were sold or consumed in the order of their acquisition.
- (iii) LIFO (last-in-first-out) – the cost of items sold or consumed during the reference period is deemed to be the most recent acquisitions or production. This implies that withdrawals are valued approximately at current prices.
- (iv) Average cost – the cost of an item is determined by applying a weighted average of the cost of all similar items available for sale over a period of time.
- (v) Specific item cost - a method of tracking inventory when the actual cost of each item can be identified separately. Method, usually used for large, easily traceable items, such as vehicles or furniture.

### ***Inventories of materials, fuels and supplies (item 6.2)***

165. This item comprises the value of all materials, fuels, components and other supplies that an establishment holds in stock with the intention of using them as intermediate inputs in production, repair and maintenance. The value of any inventories of materials and supplies for use in own account capital formation should be included. In principle, the inventories should be valued at replacement cost, based on purchasers' prices (see item 6.1). Alternatively, the book values might be requested.

### ***Work-in-progress (item 6.3)***

166. This item refers to the value of output produced by an establishment that is not yet sufficiently processed to be in a state in which it is normally supplied to other enterprises or

to other establishments of the same enterprise. It should include all work-in-progress for the account of others, irrespective of the arrangements for financing the work. However, that part of the work-in-progress on long-term contracts for which progress payments are received should be treated as shipments/sale and therefore not included in work-in-progress. If possible, an imputed valuation in terms of equivalent basic prices should be adopted. Alternatively, the book values might be requested.

***Inventories of finished goods (item 6.4)***

167. This item includes all goods produced by an establishment as output that the producing establishment does not intend to process further before supplying them to other enterprises or final consumers. Finished goods held by another establishment that were processed by that establishment from materials owned by the respondent establishment should also be included. Finished goods held by the respondent establishment that were made from materials owned by others should be excluded.

***Inventories of goods purchased for resale in the same conditions as received (item 6.5)***

168. This item includes the value of all goods purchased by an establishment for the purpose of reselling them in the same condition as received to their customers. Stocks of goods purchased for resale do not include stocks of those goods which are provided to third parties on a commission basis.

**G. Taxes and subsidies**

***Other taxes on production (item 7.1.1)***

169. Other taxes on production are taxes that units are liable to pay as a result of engaging in production. As such they represent a part of production costs and should be included in the value of output. Units pay them irrespective of profitability of production. These taxes consist mainly of taxes on the ownership or use of land, buildings or other assets used in production, or on the labour employed or compensation of employees paid. Examples are motor road vehicle taxes, duties and registration fees, business licenses, payroll taxes, taxes on non-life insurance on assets, levies on the use of fixed assets. Also included are official fees and charges – that is, duties payable for specific public services, such as the testing of standards of weights and measures, provision of extracts from official registers of crime and the like.

***Subsidies received (item 7.2)***

170. This item covers payments that government units make to resident producing units on the basis of their production activities or the quantities or values of the goods or services they produce, sell or import. Classification of subsidies follows closely the classification of taxes.

***Subsidies on products (item 7.2.1)***

171. Subsidies on products correspond to subsidies payable per unit of a good or service produced, either as a specific amount of money per unit of quantity of a good or service, or as a specified percentage of the price per unit; it may also be calculated as the difference between a specified target price and the market price actually paid by a buyer.

***Other subsidies on production (item 7.2.2)***

172. Other subsidies on production consist of subsidies, except subsidies on products, which resident enterprises may receive as a consequence of engaging in production (e.g., subsidies on payroll or workforce, or subsidies to reduce pollution).

## **H. Output**

***Gross output at basic prices (item 8.1)***

173. This item illustrates the result of the overall production activity of establishments. Output (production) can not be directly observed from their accounting records. It is calculated from data items in the following groups: Turnover, sales, shipments, receipts and other revenues (item 5. (a)); Purchases of goods and services (item 4. (a)); and Inventories (item 6). The data collected make it possible to calculate both the census output and the gross output difference being the exclusion or inclusion of the output from the activities that are non-industrial in nature.

174. The value of output corresponds to the sum of the value of all goods or services that are actually produced within an establishment and become available for use outside that establishment plus any goods and services produced for own final use. The value of output at basic prices is calculated as follows:

$$\begin{aligned} \text{Gross output} &= \\ &+ \text{Value of sale/turnover/shipments of goods produced by the establishment} \\ &\quad \text{(item 5.1.1)} \\ &+ \text{Value of sale/turnover/shipments of all goods and services purchased for} \\ &\quad \text{resale in the same condition as received (item 5.1.2)} \\ &- \text{Purchases of goods and services for resale in the same condition as received} \\ &\quad \text{(item 4.5)} \\ &+ \text{Commissions and fees from selling goods and services on account of others} \\ &\quad \text{(item 5.1.3)} \\ &+ \text{Receipts for industrial work done or industrial services rendered to others} \\ &\quad \text{(item 5.1.4)} \\ &+ \text{Other revenues (item 5.2)} \\ &+ \text{Value of own-account fixed assets (item 5.3)} \\ &+ \text{Change in work-in-progress (item 6.3.3)} \\ &+ \text{Change in inventories of finished goods (item 6.4.3)} \end{aligned}$$



+ Change in inventories of goods purchased for resale in the same condition as received (item 6.5.3)

175. Depending upon the treatment applied to other taxes and subsidies on production, one of the following three valuations of output can be derived - factor costs, basic prices and producers' prices:

Value of gross output at factor costs

+ Other taxes on production (item 7.1.1)  
- Other subsidies on production (item 7.2.2)

= Value of gross output at basic prices

+ Taxes on products (excluding imports and any VAT or similar deductible tax, invoiced to the purchaser)  
- Subsidies on products (item 7.2.1)

= Value of gross output at producers' prices

### ***Gross margin (item 8.1.1)***

176. Gross margin is defined as the difference between the actual or imputed price realized on a good purchased for resale (either wholesale or retail) and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of. The valuation of gross margin, in principle, should be at basic prices, although, alternative valuation principles, similar to the valuation of gross output (item 8.1) may also apply. The value of gross margin is derived through the following identity:

Gross margin =

+ Value of sale/turnover/shipments of all goods and services purchased for resale in the same condition as received (item 5.1.2)  
- Purchases of goods and services for resale in the same condition as received (item 4.5)  
+ Change in inventories of goods purchased for resale in the same condition as received (item 6.5.3)  
- The value of recurrent losses due to normal rates of wastage

### ***Census output at basic prices (item 8.2)***

177. Census output is calculated in the same manner as gross output at basic prices (item 8.1) with the exclusion of item 5.2. Other revenues.

## **I. Intermediate consumption and census input**

### ***Intermediate consumption at purchasers' prices (item 9.1)***

178. Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital (depreciation (item 11.4)). The goods or services may be either transformed or used up in the production process. Intermediate consumption is normally valued at the purchaser's price prevailing at the time goods and services enter the process of production; that is, at the price the producer would have to pay to replace them at the time they are used.

179. Intermediate consumption can not be directly observed from the accounting records of establishments. It is calculated from data items in the following groups: Purchases of goods and services (item 4.a)) and Inventories (item 6).

Intermediate consumption =

- + Cost of raw materials and supplies except gas, fuels and electricity (item 4.1)
- + Cost of gas, fuel and electricity purchased (item 4.2)
- + Cost of water and sewerage services purchased (item 4.3)
- + Purchases of services except rentals (item 4.4)
- + Rental payments (item 4.6)
- + Changes in inventories of materials, fuels and supplies (item 6.2.3)

### ***Census input at purchasers' prices (item 9.2)***

180. This item is calculated in the same manner as intermediate consumption at purchasers' prices with the exclusion of item 4.4.2. Cost of non-industrial services and item 4.4.3. Other non-industrial services.

## **J. Value added**

### ***Total value added at basic prices (item 10.1)***

181. Value added at basic prices is calculated as the difference between the gross output at basic prices (item 8.1) and the intermediate consumption at purchasers' prices (item 9.1). The valuation of value added closely corresponds to the valuation of gross output (item 8.1). If the output is valued at basic prices then the valuation of value added is also at basic prices (the valuation of intermediate consumption is always at purchasers' prices).

Total value added at basic prices =

- + Gross output at basic prices (item 8.1)
- Intermediate consumption at purchasers' prices (item 9.1)

182. Alternative valuation principles, similar to the valuation of gross output (item 8.1) may also apply. In some circumstances, it will not be possible to segregate the taxes and subsidies on products and production. Therefore, this recommendation takes these specific country perspectives into account by allowing the measurement of value added at factor cost. The value added at factor cost is measured as:

$$\begin{aligned} &\text{Total value added at factor cost} = \\ &\quad + \text{Gross output at factor cost} \\ &\quad - \text{Intermediate consumption at purchasers' prices (item 9.1)} \end{aligned}$$

### ***Census value added at basic prices (item 10.2)***

183. The term "census value added" is used to indicate that the scope of the inquiry is limited to the content of the industrial statistics and that other revenues (item 5.2) and cost of non-industrial services (items 4.4.2 and 4.4.3) have not been considered. This item is calculated in the same manner as total value added at basic prices (item 10.1) except that it represents the difference between the census output at basic prices (item 8.2) and the census input at purchasers' prices (item 9.2).

$$\begin{aligned} &\text{Census value added at basic prices} = \\ &\quad + \text{Census output at basic prices (item 8.2)} \\ &\quad - \text{Census input at purchasers' prices (item 9.2)} \end{aligned}$$

## **K. Capital Formation**

184. Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the reference period plus certain specified expenditure on services that adds to the value of non-produced assets.

### ***Gross value of fixed assets (item 11.1)***

185. This data item includes the value of all durable goods expected to have a productive life of more than one year and intended for use by the establishment (land, mineral deposits, timber tracts and the like, buildings, machinery, equipment and vehicles). Included are major additions, alterations and improvements to existing fixed assets that extend their normal economic life or raise their productivity. Also included is the value of new fixed assets and additions and improvements to existing fixed assets made by the establishment's own labour for its own use. While capital repair is included, expenditures for current repair and maintenance are excluded. Transactions in respect of financial claims and intangible assets (such as rights to mineral deposits, copyrights and the like) are excluded.

### *Valuation*

186. The fixed assets are valued as follows:

- a) Fixed assets acquired by purchase from others are valued at purchasers' prices that include transport and installation charges and all costs incurred in the transfer of ownership in the form of fees and any taxes payable on the transfers.
- b) Fixed assets acquired through barter are valued at their estimated basic prices plus any taxes payable and costs of ownership transfer.
- c) Fixed assets produced on own account are valued at their estimated basic prices or by their costs of production when satisfactory estimates of their basic prices can not be made. Costs of production are equal to the sum of material and service costs, compensation of employees, other taxes on production, depreciation of the fixed assets used in production, and an imputed margin for overhead costs and profits if possible.
- d) Fixed assets produced by one establishment of a multi-establishment enterprise for the use of another establishment of the same enterprise are valued by the receiving establishment as though purchased from outside the enterprise.
- e) Disposal of fixed assets are valued at the actual amounts realized rather than at book values.

#### *Time of recording*

187. The general principle for the time of recording of acquisitions less disposals of fixed assets is when the ownership of the fixed assets is transferred to the unit that intends to use them in production. Fixed assets produced on own account are recorded when produced.

188. An exception to this rule is the recording of assets where the invoicing, delivery, payment and first use of the good may take place in different reference periods such as construction of buildings, structures, roads and other projects and immature animals and plantations. They are first treated as work-in-progress and reclassified from inventories to fixed assets when completed and delivered to the unit intending to use them.

#### *Classification of fixed asset by type*

189. The transactions in fixed assets are divided into the following categories:

##### ***Dwellings (item 11.1.1)***

190. Dwellings are buildings that are used entirely or primarily as residences, including any associated structures, such as garages, and all permanent fixtures customarily installed

in residences. Houseboats, barges, mobile homes and caravans used as principal residences of households are also included.

### ***Other buildings and structures (item 11.1.2)***

191. Other buildings and structures comprise non-residential buildings, other structures and land improvements.

- a) *Non-residential buildings:* Non-residential buildings consist of buildings other than dwellings, including fixtures, facilities and equipment that are integral parts of the structures. For new buildings, costs of site clearance and preparation are included. Examples of non-residential buildings are warehouses and industrial buildings, and commercial buildings.
- b) *Other structures:* Other structures include structures other than buildings, including the cost of the streets, sewer, etc. The costs of site clearance and preparation are also included. Examples are highways, streets, bridges, shafts, tunnels and other structures associated with mining mineral and energy reserves, and the construction of sea walls, dykes flood barriers etc. intended to improve the quality and quantity of land adjacent to them.
- c) *Land improvements:* Land improvements are the result of actions that lead to major improvements in the quantity, quality or productivity of land, or prevent its deterioration, are also treated as fixed capital formation. Activities such as land clearance, land contouring, creation of wells and watering holes which are integral to the land in question are to be treated as resulting in land improvements.

### ***Machinery and equipment (item 11.1.3)***

192. Machinery and equipment covers transport equipment, machinery for information communication and telecommunications (ICT) equipment, and other machinery and equipment. Tools that are relatively inexpensive and purchased at a relatively steady rate, such as hand tools, may be excluded. Also excluded are machinery and equipment integral to buildings that are included in dwellings and non-residential buildings.

#### ***Transport equipment (item 11.1.3.1)***

193. Transport equipment consists of equipment for moving people and objects. This includes transport equipment, such as motor vehicles, trailers and semi-trailers; ships; railway and tramway locomotives and rolling stock; aircraft and spacecraft; and motorcycles, bicycles, etc.

#### ***ICT equipment (item 11.1.3.2)***

194. ICT equipment consists of devices using electronic controls and also the electronic components forming part of these devices. Examples are products within CPC categories 452 and 471<sup>9</sup>.

***Other machinery and equipment (item 11.1.3.3)***

195. Other machinery and equipment consists of machinery and equipment not elsewhere classified. Examples include general purpose machinery; special purpose machinery; office, accounting and computing equipment, electrical machinery and apparatus, radio, television and communication equipment and apparatus; and medical appliances, precision and optical instruments, watches and clocks etc.

***Intellectual property products (item 11.1.4)***

196. Intellectual property products are the result of research, development, investigation or innovation leading to knowledge that the developer can market or use to their own benefit in production because use of the knowledge is restricted by means of legal or other protection. Specific form of intellectual property products are research and development, mineral exploration and evaluation, computer software and databases, and entertainment, literary or artistic originals. Each component of intellectual property product should be divided into two components - those that are investment goods procured from other enterprises and those that are developed on own-account or for own use.

***Research and development (item 11.1.4.1)***

197. Research and [experimental] development (R&D) consists of the value of expenditures on creative work undertaken on a systematic basis in order to increase the stock of knowledge and use it to devise new applications. The value of R&D should be determined in terms of the economic benefits it is expected to provide in the future. Unless the market value of R&D is observed directly, it may, by convention, be valued at the sum of costs, including the cost of unsuccessful.

198. The sum-of-costs approach for R&D undertaken on own account by enterprises is presented by the following identity:

Output of R&D on own account =

- + material and service costs
- + compensation of employees engaged in research and development
- + other taxes less subsidies on production
- + depreciation of fixed assets used in R&D

***Mineral exploration and evaluation (item 11.1.4.2)***

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<sup>9</sup> <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25&Lg=1>

199. Mineral exploration and evaluation consists of the value of expenditures on exploration for petroleum and natural gas and for non-petroleum deposits and subsequent evaluation of the discoveries made. These expenditures include pre-licence costs, licence and acquisition costs, appraisal costs and the costs of actual test drilling and boring, as well as the costs of aerial and other surveys, transportation costs, etc., incurred to make it possible to carry out the tests. Re-evaluations that may take place after commercial exploitation of the reserve is also included in gross fixed capital formation.

***Computer software and databases (item 11.1.4.3)***

200. Computer software consists of computer programs, program descriptions and supporting materials for both systems and applications software. Gross fixed capital formation in computer software includes both the initial development and subsequent extensions of software as well as acquisition of copies that are classified as assets. The formula used to calculate output of computer software is similar to the formula used for research and development (item 11.1.4.1)

201. A database consists of files of data organised in such a way as to permit resource-effective access and use of the data. Databases may be developed exclusively for own use or for sale as an entity or for sale by means of a licence to access the information contained. Both database purchased as fixed assets and the cost of database development for own use is reported here. The development of a database for own use will generally have to be estimated by a sum-of-costs approach.

***Entertainment, literary and artistic originals (item 11.1.4.4)***

202. Entertainment, literary and artistic originals consist of the original films, sound recordings, manuscripts, tapes, models, etc., on which drama performances, radio and television programming, musical performances, sporting events, literary and artistic output, etc., are recorded or embodied. Such works are frequently developed on own account which may be estimated by a sum-of-costs approach.

***Depreciation (item 11.4)***

203. Depreciation as calculated in business accounting is a method of allocating the costs of past expenditures on fixed assets over subsequent accounting periods. Depreciation represents the lost in value of a fixed asset due to ageing and its use in production. It is mostly calculated on the basis of historic costs of fixed assets. Depreciation applies to all fixed assets; therefore classification of depreciation should correspond to the classification of fixed assets as presented in data item 11.1.

204. Depreciation in business accounting deviates from the concept of consumption of fixed capital employed in the economic accounting standards. Consumption of fixed capital is defined in general terms as that part of the gross product that is required to replace fixed capital used up in the process of production during the reference period.

## **L. Orders**

### ***New orders received (item 12.1)***

205. This item is defined as the current value of all new orders received in the reference period.

### ***Unfilled orders at the end of the reference period (item 12.2)***

206. This item is defined as the current value of all orders outstanding at the end of the reference period. The value of unfilled orders at the beginning of the period plus the value of "new orders received" in the period, minus sales or shipments in the period, equals the value of unfilled orders at the end of the period.

## **M. Environmental protection**

### ***Environmental protection expenditures (item 13.1)***

207. Environmental protection expenditures consist of the total expenditures (current and capital) of an establishment whose primary purpose is for the protection of the environment; that is the prevention, reduction and elimination of pollution as well as any other degradation of the environment. They consist of uses of environmental protection services (such as wastewater treatment), gross capital formation for environmental protection, uses of connected and adapted products and specific transfers which are not already captured in the categories above (such as investment grants, international aid, donations, taxes earmarked for environmental protection).

208. Connected products are products whose use by units directly and exclusively serves an environmental protection objective but which are not environmental protection services produced by an environmental protection activity. Adapted (or 'cleaner') products are defined as products that meet the following criteria: (a) on the one hand, they are less polluting when consumed and/or disposed than equivalent normal products (equivalent normal products are products that provide similar utility, except for the impact on the environment); (b) on the other hand, they are more costly than equivalent normal products.