

CHAPTER IV. DATA ITEMS AND THEIR DEFINITIONS

4.1. The present chapter provides summary definitions of data items of distributive trade statistics recommended for compilation and dissemination, together with additional items of data derived from the basic system. 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.

4.2. The list of data items for use in distributive trade statistics is presented in Annex II. It is based on the *Integrated List of Data Items for use in Basic Economic Statistics*¹ 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.

A. Understanding the links between business accounting and basic economic statistics

4.3. 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, namely²:

- 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.

4.4. 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

¹ The Integrated List of Data Items for use in Basic Economic Statistics and their definitions is available at the UNSD website:.....

² *Links between Business Accounting and National Accounting*, Studies in Methods, Series F, No. 76, United Nations, 2000

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.

1. Differences in terminology

4.5. 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 European countries, for OECD³ "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.

4.6. 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.

2. Differences in business accounting rules

4.7. 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

³ 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

in two adjacent periods because assets in business statistics are to be valued at replacement costs in terms of economic accounting standards.

B. Data items definitions

A. Demography

1. (a). Characteristics of statistical units

4.8. Statistical units engaged in distributive trade activities may be distinguished and classified following different criteria and variables⁴. 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, type of operation, size, etc.

4.9. Most of data items included in this heading are generally set forth for the 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 trade 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 statistical surveys may be collected at the enterprise level for subsequent allocation to the statistical units supporting it.

1. (b). Number of statistical units

Number of enterprises (item 1.10)

4.10. This indicator is defined as a count of the number of active enterprises operating in distributive trade sector. Temporarily inactive (dormant) units should be excluded. This statistic should include all units active during at least a part of the reference period. ***The population of units for the present recommendations is defined as all units which are primarily engaged in the trade activities, i.e. those falling under Section G - Wholesale and retail trade; repair of motor vehicles and motorcycles of ISIC Rev.4.***

4.11. Because of the variation in size and organizational structure of trade enterprises, this item is further subdivided into two broad categories of enterprises:

(a) *Complex enterprises (item 1.10.1).* A complex, 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 be engaged in the same activity as well.

⁴ See Chapter III. Characteristics of statistical units for more details.

(b) *Single-establishment enterprises (item 1.10.2)*. Conversely, a single-establishment enterprise is one with a single establishment.

Number of establishments (item 1.10.1.1)

4.12. It is a count of the number of establishments operating in distributive trade sector during the reference period. Establishments must be included even if they have no paid employees. This statistic should include all establishments active for at least a part of the reference period registered to the population concerned (see para. 4.10) either in the statistical business register or in the area frame.

4.13. 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)

4.14. Where small and micro establishments are enumerated on a sample basis, data on the total population of such active establishments should be reported by grossing up (with the sampling fraction) the number of establishments included in the sample

B. Employment⁵

2. (a). Number of persons employed

4.15. It is recommended that the employment data are collected for a number of categories of employed persons, as specified below, with a breakdown by gender in each category as resources permit. Countries are also encouraged to collect other characteristics that are of national interest such as a distinction between part-time, full-time and seasonal workers which are based on the laws and customs of the country. Some countries, more specifically those without surveys more-frequent-than-annual, are advised to capture the seasonal factors in trade by requesting employment data for each quarter or even each month of the reporting period.

Total number of persons employed (item 2.1)

4.16. 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;

⁵ For status in employment see the Resolution concerning the International Classification of Status in Employment (ICSE), adopted by the Fifteenth International Conference of Labour Statisticians (January 1993), <http://www.ilo.org/public/english/bureau/stat/res/index.htm>

- 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

4.17. 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)

4.18. 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)

4.19. 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. **Unpaid family workers who at the same time are in paid**

employment with another unit as their principal occupation should not be considered as employed in the concerned unit.

Employees (item 2.1.3)

4.20. 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 compensation 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).

4.21. 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 enterprise in return for remuneration in cash or in kind.

4.22. 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.

4.23. Employees should be considered as all paid workers engaged in the selling of goods and related activities of the establishment. Employees engaged in activities ancillary to the main activity of the unit and persons engaged in truck driving, repair and maintenance and so on should also be included. Also included are students who have a formal commitment whereby they contribute to the unit's process of production in return for remuneration and/or education service.

Breakdown of number of employees

4.24. It is typical for distributive trade units to keep non-standard time of working hours (24 hours, 7/11 or the entire weekends). This may force them to hire employees either with full-time, or with part-time employment contracts. This phenomenon might be quite significant for the sector and will have implications for calculation of seasonally adjusted data.

4.25. Countries are encouraged to establish additional breakdowns for the various groups of employees that exist in their economies, and for which it is important and possible to produce separate statistics. One such breakdown may be established in reference to the length of work as set in the existing *Working time arrangements*⁶. Working time arrangements relate to those arrangements as stipulated in laws and

⁶ See the Resolution concerning statistics of hours of work, adopted by the Tenth International Conference of Labour Statisticians (October 1962), <http://www.ilo.org/public/english/bureau/stat/res/index.htm>

regulations, collective agreements, arbitral awards or employment contracts or as determined by rules or customs of establishments or community, or by the individual self-employed person on the basis of contractual obligations, work requirements or personal and household preferences.

4.26. In a given country the length of work may vary for different groups of paid employment jobs, depending on the different working time arrangements. Hours of work are the hours that persons in paid employment jobs spend during a reference period on work activities that contribute to the production of trade services. Individual working time arrangements of persons in paid employment jobs may differ ranging from shorter/longer daily or weekly hours of work, or fewer or more days per week, or part-year work etc.

4.27. Provision of separate statistics about employees with different working time arrangements such as full-time and part time employees is useful for certain types of employment analyses. Due to the conventionality in the definition of full-time and part-time work in terms of hours of work across countries it is impossible to establish an exact international distinction between part-time and full-time employees. However, it is recommended, if resources permit and if there is a sufficient national interest, that the item 2.1.3. Employees be presented into the following three categories: full-time employees; part-time employees; and employees in full-time equivalents. All three categories should be calculated by reference to the number of hours actually worked out (item 2.5).

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

4.28. This is a division of the number of employees calculated by reference to the number of hours worked per day/week/month for which they are paid. 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)

4.29. Part-time employees are persons whose working time hours are 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)

4.30. 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 is divided by average (annual, quarterly, monthly or weekly) hours worked by a full-time employee. That conversion will facilitate international comparisons with countries which can only estimate full-time equivalents employment. Due to the differences in the length of the full-time employment by activities, employees' categories etc. it is recommended calculating the conversion at the most detail level possible.

Employees engaged in research and development (item 2.1.3.1.1)

4.31. The output of research and experimental development is recognized as an asset in the 1993 SNA, Rev.1. The present recommendations adopt the definition of research and development as given in the Frascati Manual⁷ 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.

4.32. 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 software and databases development (item 2.1.3.1.3)

4.33. 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 1993 SNA, Rev.1. When produced on own account it represents the cost

⁷ 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

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)

4.34. 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)

4.35. 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. This type of employment is believed to be of less importance for the units in trade, however, outworkers may be engaged in some repacking of goods in smaller lots, assembling etc.

4.36. 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).

4.37. 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)

4.38. Leased employment entails the provision of human resources for trade units for a fee. This item comprises the total number of persons supplied by employment agencies or similar organizations to the trade 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 information about leased employment is important for the meaningful labour and productivity analyses, however, the number of

the leased employees is excluded from the total number of persons employed in the trade unit (item 2.1)

4.39. The establishment using leased employment should be classified based on its own principal activity. The following categories are excluded from the leased employment:

- Temporary staffing obtained from a staffing service
- Contractors, subcontractors or independent contractors,
- Purchased or managed services, such as janitorial, guard, or landscape services
- 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)

4.40. For countries that utilize the concept of informal sector in their statistical systems the 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) which is classified in section G of ISIC, Rev.4 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.

4.41. 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.

4.42. For the purpose of the present recommendations the distributive trade (production) units of the informal sector (item 1.5.4.1) are defined according to the 15th ICLS⁸ 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

⁸ International Labor Organization, *Resolution concerning statistics of employment in the informal sector*, adopted by the Fifteenth International Conference of Labour Statisticians (January 1993).

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.

4.43. The informal employment could be estimated directly through conduct of informal sector surveys or indirectly, through alternative approaches. One such approach is the residual method, where the informal employment is estimated as the difference between the total employment (based on the population census or labour force survey data) and the formal employment (based on economic census, establishment survey or administrative data sources).

2. (b). Average number of persons employed

Average number of persons employed (item 2.4)

4.44. The item is defined as the average number of employees (item 2.4.1) plus the number of working proprietors (item 2.1.1) and unpaid family workers (item 2.1.2) for a single period. This data item serves as the size criterion for the unit. If the average number of persons employed is not available, the total number of persons employed (item 2.1) in a single period may be used as the size criterion.

Average number of employees (item 2.4.1)

4.45. The average number of employees is the arithmetic average of the numbers 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 (or quarterly) average numbers of employees.

2. (c). Hours worked

Number of hours worked by employees⁹ (item 2.5)

4.46. Number of hours worked, also known as *Volume of work* or *Labour input* is important data item used for labour analysis, conversion of part-time employees into full-time equivalents, study of productivity and calculation of a number of aggregates per hour worked. 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 distributive trade services during the reference period. This indicator can be measured per week, per month, or per year. It is recommended that it should be broken down similarly to the employment categories.

⁹ See draft ICLS Resolution on Working Time Measurement
(http://www.insee.fr/en/nom_def_met/colloques/citygroup/2006_meeting.htm)

4.47. Some small units, particularly those with less formal records, may be unable to report hours worked. In this case it is recommended to impute hours worked from the responses to alternative questions such as the number of workers, average number of working days, length of the productive hours in an usual working day etc.

4.48. Hours actually worked should include:

(a) *Productive hours.* Hours spent on activities related to persons' employment and intended for the production of trade 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 trade services 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, 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;

(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;

(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.

4.49. 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 service;

(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.

4.50. Number of days worked is recommended as an alternative for measurement of labour inputs for countries that are unable to collect information on hours worked. The information is more easily obtainable from pay-roll records than the hours worked are. Days worked should refer to the total number of days spent at work and not to days paid for. Days spent on annual leave, casual or sick leave should be excluded. In addition the standard number of working hours per day in the trade units for the full-time employees may be ascertain as well as the days worked by part-time employees may be separately collected. Provision is made for the breakdown by employment status.

Breakdown of employment by gender and occupation

4.51. In general, separate figures for male and female employment should be sought. Each of the employment categories and corresponding labour input data, as resources permit, should distinguish between male and female. Important for constructing labour compensation price indices in distributive trade sector will be if those categories include breakdown by occupation preferably following the International Classification of Occupation (ISCO)¹⁰.

C. Compensation of employees

Compensation of employees (item 3)

4.52. Compensation of employees is defined as the total remuneration, in cash or in kind, payable by a trade 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.

¹⁰ Available at: <http://www.ilo.org/public/english/bureau/stat/isco/index.htm>

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 consists of two main components (i) wages and salaries payable in cash or in kind (item 3.1), and (ii) social insurance contributions payable by the employers (item 3.3). Employees are those as defined in data item 2.1.3.

4.53. No compensation of employees is payable in respect of unpaid work undertaken voluntarily, including the work done by the non-paid family workers. Payments to working proprietors not in receipt of a regular salary should be excluded.

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

4.54. Wages and salaries¹¹ are defined as all payments whether in cash or in kind, made by the employer during the reference period in connection with work done by all persons included in the count of employees regardless of whether they are paid on the basis of working time, output or piecework and whether it is paid regularly or not. They 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. They are recorded on an accrual basis, in respect of entitlement arising out of work done during the accounting period whether paid in advance, simultaneously, or in arrears.

Wages and salaries in cash

4.55. 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, at 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;

¹¹ See 2008 SNA, Chapter 7. The Distribution of Income Accounts for more details on the components of wages and salaries of employees

(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.

4.56. 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.

4.57. 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

4.58. 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 most important payments in kind relevant to distributive trade units comprise meals and drinks; clothing (if it could be worn off-duty); housing services or accommodation provided free of charge or at markedly reduced prices; sports, recreational or holiday facilities for employees and their families, etc. However, expenditures by employers that are of benefit to them as well as their employees (for example, on the amenities of the place of work, medical examinations, sports and other recreational facilities, travelling, entertainment and similar outlays by employers in connection with the business) are not part of compensation of employees but are included in the employers intermediate consumption.

4.59. 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.

4.60. 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

4.61. 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.

4.62. 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.

4.63. The valuation of the options may be estimated either by 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.

Breakdown of wages and salaries of employees

4.64. In order to ensure that the output of development of software and databases and of own account fixed assets formation and major construction will be properly estimated, it is recommended wages and salaries data for these two particular categories of employees to be reported separately.

4.65. To provide a more precise measure of wage and salary levels, it is also recommended in infrequent surveys to collect data on wages and salaries paid to full- and

part-time employees, by occupation and for both status groups to obtain details by gender.

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

4.66. 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)

4.67. 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)

4.68. 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:

- Social security
- Pension funds
- Health insurance
- Term (life) insurance
- Other payments

4.69. 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

4. (a). Purchases of goods and services

4.70. Purchases of goods and services include the value of all goods and services purchased during the accounting period for resale or consumption in the production process for which the trade 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.

4.71. 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 incorporate 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, 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.

4.72. 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.

4.73. Cost payable for purchase of services during the reference period is 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 trade unit 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.

4.74. Expenditure classified as financial expenditure or extraordinary expenditure in the accounts of the trade units are excluded from the total purchases of goods and services.

4.75. 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.

4.76. 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)

4.77. 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)

4.78. 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)

4.79. 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)

4.80. 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.

4.81. The cost of materials for own account fixed assets formation should be recorded separately for intellectual property products, namely: research and development (item 4.1.3.1), software and database development (item 4.1.3.3) and fixed asset formation and major construction (item 4.1.3.5).

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

4.82. 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.

4.83. 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 electricity purchased (item 4.2.2)

4.84. 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)

4.85. 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)

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

Cost of sewerage services purchased (item 4.3.3)

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

Purchase of services except rentals (item 4.4)

4.88. This item includes the 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)

4.89. 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)

4.90. 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.

4.91. 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)

4.92. 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)

4.93. 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.

4.94. 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)

4.95. 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)

4.96. 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)

4.97. 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)

4.98. 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)

4.99. 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)

4.100. This item includes the value of all goods and services purchased from other enterprises or produced or purchased by other establishments of the same enterprise and transferred to the trade 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.

4.101. 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 agent 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).

4.102. Purchases of goods should be valued at purchasers' prices that are the delivered value to trade unit, including delivery and similar charges involved in the purchase (e.g. transport charges, the costs of insurance, the value of packaging etc.) and all taxes and duties on the products, but excluding deductible VAT and other deductible taxes linked directly to turnover. The purchase price by the unit 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.

4.103. It is recommended that units purchases of goods and services for resale in the same conditions as received are 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).

4.104. Subject to the country practice of recording the purchases, their value should be adjusted for changes in inventories of goods for resale. Some countries record the purchases of goods for resale when they enter in the production process, other in contrast, record the purchases when acquired or invoiced them. The purchases by the latter group of countries are expected to be adjusted for the changes in inventories of goods for resale and moreover, be corrected for the value of any holding gains or losses generated in the prices of purchased goods in order to estimate them in the prices prevailing when the resale takes place.

4.105. As an alternative to the classification of turnover (sales) according to individual commodities, a commodity breakdown of purchases is also recommended. In spite of the different mark-ups and rates of turnover, data on purchases by commodity may be easier to collect, particularly for retail establishments, for there are fewer purchases than sales invoices and the data might be obtained from accounting records rather than individual invoices.

4.106. The data items listed below are included within the total purchases of goods and services. The list provides a quite comprehensive and detailed disaggregation of total purchases. Some countries may have several data items available only in combination or a minor item may be grouped with one that is more significant. It is recommended that countries identify separately those data items from the list that are of importance to their economies as at the same time collect and compile purchases of goods and services as completely and accurately as possible. Collection of data on purchases at such a detailed level is recommended for infrequent surveys.

Rental payments (item 4.6)

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

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

Non-life insurance premiums payable on establishment property

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

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

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

4.109. 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 of a trade unit supplied to other enterprises or transferred to other establishments of the same enterprise. Turnover¹² 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.

4.110. Included are all items made by or for the establishment from materials owned by it, whether sold, transferred to other establishments of the same enterprise, 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.

4.111. In principle, sales 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.

4.112. 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

¹² In the rest of the document this item will be referred to by its short name Turnover

industrial services rendered, such as receipts for contract work performed for others, installation and repair work, research and development work of an industrial nature.

4.113. 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.

4.114. The terms turnover, sales, receipts, shipments etc. are used interchangeably in the economic statistics and business accounting to denote the revenues of statistical units. For the purpose of present recommendations the term turnover is used, however it is recognized that there is a wide variation between countries in the scope of different types of revenues. The relationship between the concepts of turnover, sales, revenue and receipts in terms of their component items are summarised in the table below¹³:

Table 4.1. Comparison between turnover / sales, revenue and receipts concepts

Component item	Turnover/ Sales	Operating Revenue	Total Revenue	Total Receipts
Gross sales of goods	yes	yes	yes	yes
Provision of services	yes	yes	yes	yes
Shipping and handling	yes	yes	yes	yes
Installation	yes	yes	yes	yes
Maintenance and repair	yes	yes	yes	yes
Alteration	yes	yes	yes	yes
Storage	yes	yes	yes	yes
Receipts from the rental of vehicles, equipment, instruments, tools, and other merchandise	yes	yes	yes	yes
Commissions from the arrangement of financing	yes	yes	yes	yes
Payments for work in progress	yes	yes	yes	yes
Market value of compensation received in lieu of cash	yes	yes	yes	yes
Gross sales from departments, concessions, and amusement and vending machines operated by others	yes	no	no	yes
Units share of sales from departments, concessions, and amusement and vending machines operated by others	no	yes	yes	no
Amounts received from work subcontracted to others	yes	no	no	yes
Consumption, sales, and value added taxes	no	no	no	yes
Proceeds from the sale of real estate, investments, or other assets held for resale	no	no	no	yes
Income from interest and dividends	no	no	yes	yes
Rental of real estate	no	no	yes	yes
Contribution, gifts, loans and grants	no	no	yes	yes

¹³ Source: Compilation Manual for an Index of Service Production (OECD, 2007), http://www.oecd.org/findDocument/0,2350,en_2649_34257_1_119669_1_1_1,00.html

Reduction in prices, rebate, discounts and returned packing	no	no	no	no
All duties and taxes on the goods or services invoiced by entity	no	no	no	no
Operating subsidies received from public authorities	no	no	no	no

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

4.115. This item includes the value of sales, turnover, shipments, including transfers during the reference period to other establishments of the same enterprise of all goods produced by the establishment, whether in the reference 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.

4.116. 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.

4.117. This item includes sales or shipments of goods produced by the establishment to other enterprises, as well as to other establishments 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. Also included are 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)

4.118. This item includes the sale/turnover from goods and services sold or bartered by a trade 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.

4.119. The item also includes the goods withdrawn by the owners of a trade 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.

4.120. 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)

4.121. 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)

4.122. 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)

4.123. 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)

4.124. 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)

4.125. This item covers revenues 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.

4.126. 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 sale/turnover/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"
- (h) 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

- (g) Any other revenue arising from the production of goods or rendering of services

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

- Dividend receipts
- Interest and discount receipts
- Revenue from the outright sale of patents and licences
- Revenue from the sale of land and used capital goods

Value of own-account fixed assets (item 5.3)

4.128. 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.

4.129. 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.

5. (b). E-commerce

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

4.130. 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 (see para. 3.32). Some countries have a separate 'of which' item for e-commerce sales in their retail and wholesale trade questionnaires. For those countries not recognizing yet e-commerce separately it is recommended either to launch a national survey on e-commerce or to update the existing economic surveys with additional questions about e-commerce sales.

4.131. 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)).

4.132. E-commerce transactions involve buyers and sellers, but in general it is recommended that their measurement be made from the seller's perspective. Measuring electronic commerce in distributive trade is difficult and often not straightforward for a number of reasons including defining what constitutes electronic commerce, involvement of a number of multiple internet transactions and parties, as well as the fact that in many cases units conduct both electronic commerce and traditional commerce simultaneously.

4.133. The following are examples relevant to distributive trade: a purchase/sale of a book or CD over the Internet; a person or a company calls a toll free number and orders a computer using the seller's interactive telephone system; an electronic marketplace selling parts to another business i.e. a business buys office supplies on-line or through an electronic auction; a retailer orders merchandise using an EDI network or a supplier's extranet. It is recommended that unpriced transactions such as downloading free software available on the Internet have to be excluded from e-commerce

5. (c). Data items on quantity

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

4.134. 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)¹⁴ or other international/national product classifications by product.

Breakdown of turnover

4.135. Section G of ISIC Rev.4, includes statistical units involved in operating a very wide range of distributive trade activities. This breakdown is intended to present the structure of the section in details. At a detailed level the statistical units can be assumed to perform more homogeneous activities, therefore, the more detailed the breakdown is the more useful for national and international purposes the turnover data can be expected to be. Also, by distinguishing more activities, the contribution of each individual division or group to the total turnover, sales, shipments, receipts for services and other revenues (item 5. (a)) will be better estimated.

4.136. In practice, there is however a limit to what extent the turnover/sales can be reliably broken down. Each classification makes considerable demands on respondents and requires detailed records to be available. Consequently, the turnover for which the detailed breakdowns are requested should be restricted to this for which the statistical

¹⁴ <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25&Lg=1>

unit is likely to have records. For the purpose of providing more in depth analysis of distributive trade sector as a whole and across the three divisions and achieving harmonization in the compilation and international comparability in data presentation, the following breakdowns of turnover are recommended:

- by kind of activity;
- by product groups;
- by size classes of enterprises;
- by type of customer (presented under performance indicators chapter).

Turnover by kind of activity

4.137. The breakdown by kind of activity should be presented from two perspectives – one relevant to the more disaggregated level of ISIC, and the other one splitting the turnover according to any of the classification variables presented above (see para. 4.8 and 4.9. Whenever there will be a need for specific turnover variables at national level, it is recommended that the countries decide which are the most appropriate breakdowns meeting their own requirements. The recommended breakdowns provide possibility for cross-classification of turnover (i.e. the turnover of wholesale trade (46) for example, will be presented by both the ISIC groups and size classes of enterprises) thus enhancing further the analytical potential of data.

4.138. For the purpose of these recommendations, the recommended level of activity breakdown should be at least the three digit level of ISIC Rev.4 (groups' level) for annual data. Countries are encouraged to collect this information more frequently than annual – monthly or quarterly, as the recommended activity breakdown for these data is two digit level of ISIC, Rev.4 (divisions' level)(see Chapter X. Dissemination).

4.139. The turnover could be further disaggregated into:

- (a) turnover from principal activity (one of the ISIC Rev.4 G section's classes);
- (b) turnover from secondary activities, if any:
 - (i) agriculture, forestry, fishing activities
 - (ii) industrial activities;
 - (iii) other service activities.

4.140. Most producer units in addition to their principal activity carry out at least some secondary activities. If the output from a secondary activity is significant and records permit its identification, it should be treated as an activity of a separate establishment (see para. 3.9). Otherwise, it may be useful to measure the secondary activities carried out by trade units. This breakdown is from second (low) priority; therefore the secondary activities are presented in three broad groups. These data may be collected at longer intervals (for example each 5 years).

4.141. The primary distinction of units between division 46 (wholesale) and division 47 (retail sale) is based on the predominant type of customer. Further breakdown of wholesale turnover by type of customer may be difficult if units do not keep detail records. A data item breaking the turnover according to the type of customer is presented under performance indicators chapter (see para. 5.31). If precise numbers are not available, wholesale trade units should be encouraged to provide their best estimates.

Turnover by product groups

4.142. The 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. It is recommended that the trade turnover is broken down by products (data item Q5.1), both for goods and services, according to the Central Product Classification (CPC Ver.2).

4.143. Provision of turnover at detailed COICOP level is also recommended as it will facilitate the compilation of individual consumption expenditure of households in national accounts.

4.144. The following aggregated breakdown of turnover by products is recommended (see also para. 1.19):

- Food, beverages and tobacco
- Clothing and footwear
- Household appliances, articles and equipment
 - Of which: Furniture
- Machinery, equipment and supplies
 - Of which: Information processing equipment
 - Of which: Motor vehicles and associated goods
- Personal and other goods
- Construction materials

Turnover by size classes of enterprises

4.145. The size classes of enterprises are defined in terms of the average number of persons employed during the reference period rather than in terms of annual turnover, as the latter indicator may vary significantly from country to country (see para. 3.47-3.52). The recommended level of size class breakdown is the following - 1, 2-9, 10-19, 20-49, 50-99, 100—249, 250 and more.

F. Inventories

Total inventories (item 6.1)

4.146. 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.

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

4.148. 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.

4.149. 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 used by units in their business accounting practices for reporting withdrawals from stocks are:

(a) FIFO (first-in-first-out) – the cost of items sold or consumed during the reference period is calculated as though they were sold or consumed in the order of their acquisition.

(b) 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.

(c) 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.

(d) 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.

4.150. Methods of valuation of inventories may vary according to the accounting practices of each unit, but for many companies, inventory represents a large portion of assets and, as such, makes up an important part of the balance sheet. It is therefore recommended that statisticians who are compiling data on distributive trade examine the units' practices with respect to the reported values of inventories in the beginning and the end of the reporting period as well as the stock turnover period (see para. 5.25).

4.151. If inflation were nonexistent, then all four of the inventory valuation methods would produce the exact same results. Unfortunately, over the long term, prices tend to rise, which means the choice of accounting method can significantly affect valuation. In order to estimate properly the changes in stocks which participate in the calculation of trade margin and other aggregates and balances, it is recommended that the method of valuation be requested on survey forms

Inventories of materials, fuels and supplies (item 6.2)

4.152. 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)

4.153. 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)

4.154. 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)

4.155. 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.

4.156. The items 6.4 and 6.5 of inventories have significant implication for trade units as the most important one is the inventories of goods purchased for resale in the same conditions as received which participates in the calculation of trade margin and other aggregates and balances. The inventories of materials, fuels and supplies are referred to the goods intended to be used by units for their intermediate consumption.

G. Taxes and subsidies

Taxes

4.157. Taxes are compulsory unrequited payments, in cash or in kind, made by trade units to the government. Two main groups of taxes are identifiable - taxes on products and other taxes on production. This section recommends collecting only other taxes on production as these payments are recorded in the business accounts of units. It is recommended that in statistical questionnaires countries refer to the specific names or descriptions of taxes as they exist in their national fiscal systems.

Other taxes on production (item 7.1.1)

4.158. 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 from official registers of crime and the like.

4.159. It may not be possible to collect data about all these taxes at establishment level; therefore, in such cases the design of statistical questionnaires and subsequent data compilation should clearly indicate the type of taxes that have been reported.

Subsidies received (item 7.2)

4.160. 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)

4.161. 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)

4.162. 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)

4.163. This item illustrates the overall production activity of trade 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. Output of trade units is calculated in a specific way. Gross margin (item 8.1.1) accounts for a most significant part of total trade output. Calculation of trade output should be considered from first priority due to its direct link with the compilation of national accounts.

4.164. The value of output corresponds to the sum of the value of all goods or services that are actually produced within a trade 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:

$$\begin{aligned} \text{Gross output} &= \\ &+ \text{Value of sale/turnover/shipments of goods produced by the establishment} \\ &\quad \text{(item 5.1.1)} \\ &+ \text{Value of sale/turnover/shipments of all goods and services purchased for} \\ &\quad \text{resale in the same condition as received (item 5.1.2)} \end{aligned}$$

- Purchases of goods and services for resale in the same condition as received (item 4.5)
- + Commissions and fees from selling goods and services on account of others (item 5.1.3)
- + Receipts for industrial work done or industrial services rendered to others (item 5.1.4)
- + Other revenues (item 5.2)
- + Value of own-account fixed assets (item 5.3)
- + Change in work-in-progress (item 6.3.3)
- + Change in inventories of finished goods (item 6.4.3)
- + Change in inventories of goods purchased for resale in the same condition as received (item 6.5.3)

4.165. In order to maintain consistency with valuation concepts for output (production) of other international recommendations on business statistics and national accounts it is recommended that countries value the trade output at basic prices. However, for countries where it may be difficult both for respondents and survey statisticians, to distinguish between “taxes and subsidies on products” and “other taxes on production”, valuation of output at factor cost can serve as second best alternative. 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)

4.166. 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

4.167. As a general recommendation, changes in stocks of goods for resale should be valued exclusive of holding gains and losses. Holding gains and losses are excluded from gross margin/output by valuing all entries to, or withdrawals from, inventories at the prices prevailing at the times the entries or withdrawals take place.

I. Intermediate consumption and census input

Intermediate consumption at purchasers' prices (item 9.1)

4.168. Intermediate consumption consists of the value of 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.

4.169. Intermediate consumption is a national accounts category recorded at the time when the good or service enters the process of production, as distinct from the time it was purchased/acquired by the producer. The two times coincide for services, but not for goods. In practice, units keep records of purchases of goods and services intended to be used as inputs and also of any changes in the amounts of such goods held in inventories. This calls for an adjustment of purchases of goods for changes in inventories.

4.170. Intermediate consumption can not be directly observed from the accounting records of trade 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)

J. Value added

Total value added at basic prices (item 10.1)

4.171. 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)

4.172. 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:

Total value added at factor cost =

+ Gross output *at factor cost*
- Intermediate consumption *at purchasers' prices* (item 9.1)

4.173. Value added can be expressed in gross or net terms depending on the inclusion/exclusion of the consumption of fixed capital (depreciation).

K. Capital Formation

4.174. Gross fixed capital formation is measured by the total value of a trade unit'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)

4.175. 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.

4.176. Distinction between new and existing fixed assets could be of significant national interest.

- New fixed assets include all those assets that have not been previously used in the country. Imported fixed assets are considered new whether or not they were used before they were imported. New fixed assets cover not only the acquisition of complete assets but also any renovations, reconstruction or enlargements that significantly increase the productive capacity or extend the service life of an existing asset.

- An existing fixed asset is one that has already been acquired by at least one user or produced on own account, and whose value has already been included in the gross fixed capital formation.

Valuation

4.177. 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

4.178. The general principles governing 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.

4.179. 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.

4.180. When the construction takes place under a contract of sale agreed in advance, the ownership of the structure is effectively transferred in stages as the work proceeds. When there is no contract of sale agreed in advance, the construction work produced by the (construction) unit must be recorded as part of its changes in inventories of either work-in-progress or finished goods, depending on whether the construction is completed.

4.181. The definition outlined above treats progress payments for construction work and for other fixed assets differently. For construction work, progress payments should be included in expenditure on fixed assets; for other fixed assets, progress payments should be excluded from expenditure on fixed assets and recorded as a financial claim. In some countries, this treatment may not be feasible and all progress payments may have to be recorded as expenditure on fixed assets.

Classification of fixed assets by type

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

Dwellings (item 11.1.1)

4.183. 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)

4.184. 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.

4.185. Concerning land improvements, the value of natural land before improvement is not included. However the costs of ownership transfer on land improvements are included.

4.186. The major additions, alterations and improvements of buildings and structures (i.e. their renovation, reconstruction or enlargement) which prolong their service life or increase their productive capacity should be classified together with the acquisitions of new fixed assets of the same kind.

Machinery and equipment (item 11.1.3)

4.187. This category of assets includes the acquired new or second hand assets during the reference period. 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)

4.188. 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)

4.189. 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 471¹⁵ (hardware (computers, laptops) and peripherals, different presentation devices etc.).

¹⁵ <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=25&Lg=1>

Other machinery and equipment (item 11.1.3.3)

4.190. 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)

4.191. 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)

4.192. 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.

4.193. 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)

4.194. 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)

4.195. 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)

4.196. 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)

4.197. 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)

4.198. 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.

4.199. 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. It is based on the concept of the expected economic lifetime of the individual assets, and it is designed to cover the loss in value owing to foreseen obsolescence and the normal amount of accidental damage that is not reparable, as well as normal wear and tear. Unforeseen obsolescence is treated as a capital loss at the time at which it actually occurs, rather than as fixed capital consumption. In principle, the scope of the capital equipment

for which consumption should be recorded is given by the definition of fixed capital formation. Consumption of fixed capital will be calculated by national accountants for analytical purposes later, not at the stage of data collection.