

International Recommendations for Industrial Statistics (IRIS)

United Nations Statistics Division

International Recommendations for Industrial Statistics (IRIS)

Outline of presentation

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- b. Statistical units
- c. Treatment of ancillary activities
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1. Background

- Since 1950s, UN has published international recommendations – to establish a coherent and uniform measurement of industrial activities – 1953, 1960, 1968 and 1983
- UNSC in 2006 reviewed the industrial statistics and endorsed the proposal for revision of IRIS.
- Expert Group Constituted to guide the revision which met in
 - Sept 2005 – considered proposals for revision and
 - July 2007 – considered the draft IRIS

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2. Need for revision

Some important factors which necessitated revision are:

- 1993 SNA update
 - Units undertaking ancillary activities treated as a separate establishment in some specific circumstances,
 - Additional element for the measure of COE like 'employees stock option'
 - Treatment of goods sent abroad for processing,
 - Changes in terminology and classification of assets,
 - Capitalisation of database development, and capitalisation of R&D expenditures
- Revision of International Standard Industrial Classification of all economic activities (ISIC Rev. 4) and Central Product Classification (CPC Ver. 2).
- Consistency with changes in concepts, definition and terminology in publications and regulations of other international organisations. For example, revision in the IMF manual on BOP, EU regulations on statistical units, structural business statistics etc.

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2. Need for revision Cont.

- Inclusion of aspects of globalisation of the industrial production process including 'outsourcing' and use of e-commerce,
- Efforts of countries to minimise the differences between the concepts of 'census value added' and 'national account value added',
- Change in valuation of industrial output to basic prices in accordance with the SNA valuation principle,

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2. Need for revision Cont.

- Extension of the link between the economy and the environment by extending the coverage of the data items to include the use of natural resources like energy, water, mineral, generation of solid waste and waste water and by-products,
- Experience of countries both in developing an industrial statistics system and conducting an integrated system of annual and infra-annual industrial inquiries adapted to the needs of NA and the measurement of industrial sector for the economy as a whole

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3a. Scope of industrial sector

- Economic activities included in terms of ISIC Rev. 4 are:
 - Mining and quarrying (section B)
 - Manufacturing (section C)
 - Electricity, gas, steam and air conditioning supply (section D), and
 - Water supply; sewerage, waste management and remediation activities (section E)
- Industrial activities in international waters, such as the operation of petroleum and natural gas wells, should be included if these activities are subject to the laws, regulations and control of the country concerned.

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3a. Coverage of industrial activities

- In conformity with the 1993 SNA production boundary all units engaged in economic activities within the scope should be covered.
 - Units of *all sizes* (with and without fixed locations) and
 - Units of all types of ownership including the govt. and household units
 - Household unincorporated enterprises as well as goods produced by households engaging in industrial activities for own consumption should also be covered.

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3a. Coverage of industrial sector cont.

- Departments, establishments and similar units in general Govt. should be included if they are mainly engaged in production of goods and services within the scope and identifiable by accounting records kept by them.
 - Some of units may not be operating for profit, or
 - May not dispose of their output in the market. Produce of such units may be sold at prices below cost of production because of govt policy.
- Govt. units may furnish goods and services to itself of a kind provided by privately owned establishments – printing and publishing services, ammunitions, etc.
- All types of units not necessarily covered through the same survey instrument.

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3b. Statistical unit

- 1993 SNA recommends establishment as the most appropriate statistical unit (SU) for production and employment data
 - Countries are encouraged to use establishment as a SU for industrial statistics
- Choice of establishment vs enterprise as SU reflects balancing of data availability against homogeneity of economic activity.
 - Using establishment as a unit enables
 - Homogeneity in the measurement of the economic activity
 - More accurate presentation of regional economic reality
- Choice of SU may be guided by factors such as purpose of study, the availability and quality of requisite data, therefore, enterprise can also be used as SU
- In majority of cases establishment and the enterprise are same except in case of multi-establishment enterprises.

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3c. Treatment of Ancillary activities

- A productive activity undertaken with the sole purpose of producing services for intermediate consumption within the same enterprise is defined as an ancillary activity. Examples are record keeping, personnel management, warehousing etc
- Ancillary activities are integrated with the establishments they support. This approach depicts the production process as it is performed but has the following disadvantages
 - Not recognized by its own activity, structural decomposition of GDP by economic activities not depicted correctly, and
 - Regional GDP can not be compiled accurately when the ancillary unit and the establishments it serves are located in different regional economies

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3c. Treatment of Ancillary activities cont.

Units undertaking ancillary activities to be treated as an establishment in certain cases

- Enterprise in which different kinds of activities undertaken by it or either horizontally or vertically integrated;
- When an establishment undertaking ancillary activities is statistically observable, i.e. records of its transactions are readily available, and
- When the ancillary units are in a geographical location different from the establishments they serve.
- Such an establishment should be classified according to its own principal activity.

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3c. Treatment of Ancillary activities cont.

Output of ancillary establishment

- Output of ancillary establishment should be derived on sum of cost basis i.e. all costs of its production including the cost of the capital used.
- Output deemed to be market output when the parent enterprise is a market enterprise and non-market otherwise.
- Output of the ancillary unit is treated as intermediate consumption of the establishments it serves and should be allocated using appropriate indicator as their value added, output or employment.

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3d. Data items

Characteristics of statistical units

- Location
- Type of economic organisation
- Type of legal organisation and ownership
- Size (in terms of persons employed)
Recommended size classes: (1-9, 10-19, 20-49, 50-249, 250+)
- Kind-of-activity
- Type of unit
- Period of operation

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3d. Data items cont.

Employment (by gender)

- No. of persons employed
 - Working proprietors, Unpaid FW, employees
 - Employees engaged in own-account production of intellectual property products (software & database, R&D, mineral exploration and evaluation, entertainment, literary and artistic originals)
 - Employees engaged in own account fixed asset formation and construction)
- Average number of persons employed
- Hours worked
- Leased employees

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3d. Data items

cont.

Compensation of employees in cash and in kind

Stock options (income in kind)

- Employer giving employee an option to buy stocks (shares) at some future date at a given price (strike/exercise price) subject to certain conditions (employee is still on the enterprise pay roll).
- Employee may not exercise the option:
 - Share price is now lower than his option price
 - No longer in the employment of the company
- The 'grant date' is when the option is provided, the 'vesting date' is the earliest date when the option can be exercised (or lapses)
- Valuation of the stock option may estimated as the difference between the market price and the stock price at vesting date or using using a stock option pricing model.

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3d. Data items

cont.

Other expenditures

- Cost of material, parts and supplies except gas, fuels and electricity (purchased from other enterprises and delivered by the other establishments of the same enterprise)
- Cost of gas, fuels and electricity purchased
- Cost of water and sewerage services
- Purchase of services except rental
 - Cost of industrial services purchased and also delivered by other establishments of the same enterprise
 - Cost of non-industrial services purchased and also delivered by other establishments of the same enterprise
- Purchase of goods and services for resale in the same condition as received
- Rental payments
- Non-life insurance premiums payable on establishment property

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3d. Data items

cont.

Quantity

- Quantity of individually important materials and supplies
- Quantity of gas, fuels purchased
- Quantity of electricity
 - Purchased
 - Generated
 - Sold
- Total energy consumed (tera joules)*
- Cost of water
 - Purchased
 - Abstracted for own use
 - Sold
- Total water used
- Quantity of waste water
 - Treated on site prior to discharge
 - Discharged without

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3d. Data items

cont.

Sales/shipments and other revenues

- Sales/shipment of goods produced
- Sales/shipment of goods and services purchased for resale in the same condition as received
- Receipts for industrial work done
- Other receipts
- Value of own account fixed assets*
- E-commerce sale/value of shipment/receipt for services and other revenues

Quantity

- Quantity of individually important products
(UN list of Industrial Products)

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3d. Data items

cont.

Inventories

Capital formation

- Dwellings
- Other buildings and structures
- Machinery and equipment
 - Transport equipment
 - ICT equipment
 - Other machinery and equipment
- Intellectual property products
 - Computer software and database
 - R&D
 - Mineral exploration and evaluation
 - Entertainment, literary and artistic originals
 - Others

Orders

- New orders received
- Unfilled orders during the reference period
- Environmental protection expenditures

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3d. Data items

cont.

Environmental protection expenditures

- Environmental protection groups together all actions and activities that are aimed at the prevention, reduction and elimination of pollution as well as any other degradation of the environment. This includes measures taken in order to restore the environment after it has been degraded due to the pressures from human activities
- Environmental protection is prime objective. Actions and activities which have a favourable impact on the environment but which serve other goals do not come under environmental protection.
- Excluded are activities from field of environmental protection, which while beneficial to environment primarily satisfy technical needs or the internal requirements for hygiene or security of an enterprise.

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3e. Valuation

- Value added at basic prices (preferred)
- Value added at factor cost (second best option)

Total value added vs Census value added

- National accounts value added (total value added) recommended.
- Census value added optional - if countries desire to maintain their earlier time series

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3f. Data items for International Reporting

Annual statistics

Data item	Level of details	Reporting level (in terms of ISIC Rev. 4)	Time-lag After close of yr
Demography			
Number of establishments	By economic activity and size class	3-digit by economic activity 1-digit level for size class distribution	18 months
Employment			
Total number of persons employed	--do--	---do---	18 months
Total number of employees	--do--	---do---	18 months

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3f. Data items for International Reporting

Annual statistics

Data item	Level of details	Reporting level	Time-lag
Compensation of employees			
Wages and salaries in cash and in kind of employees	By economic activity	3-digit level of ISIC, Rev.4	18 months
Output			
Gross output at basic prices	By economic activity	3-digit level of ISIC, Rev.4	18 months
Value added			
Total value added at basic prices	By economic activity	3-digit level of ISIC, Rev.4	18 months
Gross fixed capital formation			18 months

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3f. Data items for International Reporting

Annual statistics

Data item	Level of details	Reporting level	Time-lag
Environment			
Environmental protection expenditure	By economic activity	3-digit level of ISIC, Rev.4	18 months
Total energy consumed (terajoules)	By economic activity	3-digit level of ISIC, Rev.4	18 months
Total water used (cubic meters)	By economic activity	3-digit level of ISIC, Rev.4	18 months

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3f. Data items for International Reporting

Quarterly statistics

Data item	Level of details	Reporting level	Time-lag
Employment			
Total number of persons employed	By economic activity	2-digit level of ISIC, Rev.4	3 months
Total number of employees	By economic activity	2-digit level of ISIC, Rev.4	3 months
Compensation of employees			
Wages and salaries in cash and in kind of employees	By economic activity	2-digit level of ISIC, Rev.4	3 months
Sales/shipments, receipts for services and other revenues			3 months
Index of industrial production		2-digit level	3 months

Thank You

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