International Recommendations for Industrial Statistics (IRIS) 2008 and
International Recommendations for Distributive Trade Statistics (IRDTS) 2008
Since 1950s, UN has published international recommendations – to establish a coherent and uniform measurement of industrial activities – 1953, 1960, 1968 and 1983

- Initially as part of the World Industrial Programme

The UN Statistical Commission 2006 endorsed the proposal for developing new guidelines for industrial statistics and distributive trade statistics

IRIS and IRDTS were developed together, with similar structure and consistent guidelines

- Considered as first step to develop recommendations for all economic activities
New issues addressed

- Consistency with changes in concepts, definition and terminology in publications and regulations of other international organisations:
  - Eurostat – statistical business register and regulations on short-term and structural business statistics
  - OECD – measurement of non-observed economy, business demography and data and metadata reporting and presentation
  - IMF – BOP manual (goods for processing, multi-territory enterprises)
  - ILO – international classification of status in employment, statistics of employment in the informal sector, and working time measurement
New issues addressed

- **SNA 2008**
  - 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 etc.

- Revision of International Standard Industrial Classification of all Economic Activities (ISIC Rev. 4) and Central Product Classification (CPC Ver. 2)
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
Main issues and changes

Scope
- Scope of the industrial statistics extended to include ISIC Rev.4 Section E (Sewerage, waste management and remediation services)

Statistical units
- Comprehensive and detailed discussion on statistical units for use in the collection of industrial statistics
- Statistical units of informal sector
Main issues and changes

- **Data items**
  - List of data items and their definitions – reviewed and updated
    - Revenue and expenditure items – presented in more details
    - E-commerce sales – separately identified
    - Data items on quantity – important material and supplies, fuels and energy and output

- Lists of data items and their coding in IRIS 2008 and IRDTS 2008 – **fully harmonized**
  - Later potentially cover all economic sectors

- Extension of the link between the economy and the environment – data items on use of natural resources, generation of waste
Main issues and changes

- **Data sources and data compilation methods**
  - Description of data sources and data compilation methods is significantly expanded with discussion on:
    - Data sources – administrative data sources and statistical surveys
    - Business register and its use as a frame for statistical surveys
    - Data compilation methods – validation, editing, etc.
  - An outline of a data collection strategy for different segments of the economy based on an integrated approach is presented
Main issues and changes

- Data dissemination
  - Best practices on
    - Confidentiality protection
    - Sound revision practices

- Performance indicators
  - Indicators useful for assessment of the overall performance of industrial sector
  - Monitoring the profitability, productivity and efficiency
In conformity with the 2008 SNA production boundary all units engaged in economic activities within the scope should be covered.

- Units of \textit{all sizes} (with and without fixed locations) and
- Units of all types of ownership including the govt. and household units
  - Household unincorporated enterprises
  - Goods produced by households engaging in industrial activities for own consumption should also be covered.
- All types of units not necessarily covered through the same survey instrument.
A **statistical unit** is an entity about which information is sought and for which statistics are ultimately compiled.

Statistical units of the production system

- Enterprise group
- Enterprise
- **Establishment** (local kind–of–activity unit)
- Kind–of–activity unit
- Local unit
2008 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.
Ancillary units
Units undertaking ancillary activities are to be treated as an establishment in certain cases:

- 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.
Data items

- IRIS / IRDTS 2008 provide definitions of data items for data collection, compilation and dissemination

- List of data items aims at 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

- Countries 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
  - having determined that, the definitions presented should be consistently used
Links between business accounting and basic economic statistics
  • Terms used in the questionnaires must be familiar to business accountants
  • Understanding of business accounting is essential for conversion of data collected from businesses’ records into economic data that can be used in compilation of basic economic statistics

Differences in terminology
  • Shipments, sales, turnover
  • Operating expense

Differences in business accounting rules
  • Valuation of assets
List of Data items

- Demography
- Employment
- Compensation of employees
- Other expenditures
- Value of shipments, receipts for services and other revenues
- Inventories
- Taxes and subsidies
- Output
- Intermediate consumption
- Value added
- Gross fixed capital formation
- Orders
- Environmental protection expenditure
# Data items for International Reporting

## Annual statistics

<table>
<thead>
<tr>
<th>Data item</th>
<th>Level of details</th>
<th>Reporting level (in terms of ISIC Rev. 4)</th>
<th>Time-lag After close of the year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demography</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of enterprises</td>
<td>By economic activity and size class</td>
<td>3-digit by economic activity 1-digit level for size class distribution</td>
<td>18 months</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of persons employed</td>
<td>--do--</td>
<td>----do---</td>
<td>18 months</td>
</tr>
<tr>
<td>Total number of employees</td>
<td>--do--</td>
<td>---do---</td>
<td>18 months</td>
</tr>
</tbody>
</table>
## Data items for International Reporting

### Annual statistics

<table>
<thead>
<tr>
<th>Data item</th>
<th>Level of details</th>
<th>Reporting level</th>
<th>Time-lag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compensation of employees</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wages and salaries in cash and in kind of employees</td>
<td>By economic activity</td>
<td>3-digit level of ISIC, Rev.4</td>
<td>18 months</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross output at basic prices</td>
<td>By economic activity</td>
<td>3-digit level of ISIC, Rev.4</td>
<td>18 months</td>
</tr>
<tr>
<td><strong>Value added</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total value added at basic prices</td>
<td>By economic activity</td>
<td>3-digit level of ISIC, Rev.4</td>
<td>18 months</td>
</tr>
<tr>
<td><strong>Gross fixed capital formation</strong></td>
<td></td>
<td></td>
<td>18 months</td>
</tr>
</tbody>
</table>
## Data items for International Reporting

**Annual statistics**

<table>
<thead>
<tr>
<th>Data item</th>
<th>Level of details</th>
<th>Reporting level</th>
<th>Time-lag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental protection expenditure</td>
<td>By economic activity</td>
<td>3-digit level of ISIC, Rev.4</td>
<td>18 months</td>
</tr>
<tr>
<td><strong>Energy consumed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total energy consumed (terajoules)</td>
<td>By economic activity</td>
<td>3-digit level of ISIC, Rev.4</td>
<td>18 months</td>
</tr>
<tr>
<td>Total water used (cubic meters)</td>
<td>By economic activity</td>
<td>3-digit level of ISIC, Rev.4</td>
<td>18 months</td>
</tr>
</tbody>
</table>
## Data items for International Reporting

### Quarterly statistics

<table>
<thead>
<tr>
<th>Data item</th>
<th>Level of details</th>
<th>Reporting level</th>
<th>Time-lag</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of persons employed</td>
<td>By economic activity</td>
<td>2-digit level of ISIC, Rev.4</td>
<td>3 months</td>
</tr>
<tr>
<td>Total number of employees</td>
<td>By economic activity</td>
<td>2-digit level of ISIC, Rev.4</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>Compensation of employees</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wages and salaries in cash and in kind of employees</td>
<td>By economic activity</td>
<td>2-digit level of ISIC, Rev.4</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>Orders</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New orders received</td>
<td>--- do --- -</td>
<td>-- do ---</td>
<td>3 months</td>
</tr>
<tr>
<td>Unfilled orders</td>
<td>--- do ---</td>
<td>--- do ---</td>
<td>3 months</td>
</tr>
<tr>
<td>Index of industrial production</td>
<td></td>
<td>2-digit level</td>
<td>3 months</td>
</tr>
</tbody>
</table>
Data Sources

(a) Administrative sources

(b) Statistical surveys
  ▪ Census and the sample survey are used for collecting economic data.
  ▪ Sample survey is less costly way of data collection of precision with high frequency
  ▪ Resource intensive (both financial and manpower)
  ▪ Additional respondent burden
  ▪ Higher non-response rates and sampling errors
  ▪ Respondents may not trust the confidentiality clause.

- Enterprise Survey
- Mixed household–enterprise surveys
- Household surveys (for estimating household production for own final use)
Data Collection Strategy

Covers:

- Benchmark information and its use in data collection
- Categorization of production units
- FIRST approach
A complete list of all economic units – sampling frame
- mostly establishments for structural data (annual);
- often enterprises for short-term (monthly or quarterly) production related statistics.

In the context of data collection, this list is referred to as a ‘list-frame’.

But ‘list-frames’ are seldom complete.
- Business Register, based on administrative sources and/or Economic Census
Categorisation of production units

**List frame segment:** Includes

- **Public sector units**
  - All establishments of public sector enterprises.
    - Data for these are often available from Government records.
    - Thus may be excluded from the coverage of industrial survey.

- **Corporate sector units**
  - All establishments of corporate sector enterprises.

- **Other large private sector units**
  - Above a certain size (cut-off point); and

- **Small units**
  - Below a the size cut-off point.
Non-list frame segment: includes

- **Those with fixed premises outside households:** These are usually within the coverage of EC, but are not covered in the latest EC – either because they are ‘new born’ unit or are missed during field work.

- **Those without fixed premises – mobile units working outside households:** These are mostly outside EC coverage and not under an effective registration system. Thus, excluded from list-frame.

- **Working within households:** Virtually none of these are covered in the EC.
Universe of units engaged in industrial activities

List-frame segment

Large units

Public Sector

Small units

Private sector

Non-list-frame segment

With fixed premises

Within hhs or w.o. fixed premises

Undifferentiated goods producing industrial activities solely for households’ own use

Excluded from ES coverage

Public Sector

Private sector
Data Collection Strategy

- Basic Approach – FIRST

- Avoiding overlap – operational rules:
  - Classification by main activity
  - Between-surveys non-overlap: alternative methods

- List-frame based survey component:
  - Survey design: available options
  - Integrating annual and infra-annual enquiries

- Area-frame based survey component:
  - Main alternative approaches
    - Area-frame based enterprise survey
    - Mixed household enterprise survey
Data collection strategy

Universe of units engaged in industrial activities

List-frame segment
- Large units
- Small units
  - Public sector
  - Private sector
  - Segment 1: Large units should be covered on a complete enumeration basis
  - Segment 2: Remaining through sample surveys

Non-list frame Segment
- With fixed premises
- Within hh or wo
  - Fixed Premises
  - Area frame

List-frame based survey

Area-frame based survey

Mutually exclusive
Thank You