Regional Course on SNA 2008 (Special Topics):
Improving Exhaustiveness of GDP Coverage
Daejeon, Republic of Korea
22 – 30 August 2016
Production Approach

i. The sum of gross value added of all producers engaged in production in the economy; or
   \[ \text{GDP} = \Sigma \text{Gross value Added} \]

ii. The difference between gross output of all producers less the intermediate consumption (as input).
   \[ \text{Value Added} = \text{Output} - \text{Input} \]

Expenditure Approach

\[ \text{GDP} = \text{C} + \text{G} + \text{I} + (\text{X}-\text{M}) \]

- \( \text{C} \): Private Final Consumption Expenditure (Households & Non-profit Institution Serving Households).
- \( \text{G} \): Government Final Consumption Expenditure.
- \( \text{I} \): Gross Fixed Capital Formation + Changes in Inventories + Valuables
- \( \text{X}-\text{M} \): Exports of goods and services - Imports of goods and services

Income Approach

\[ \text{GDP} = \text{CE} + \text{GOS} + (\text{T}-\text{S}) \]

- \( \text{CE} \): Compensation of Employees
- \( \text{GOS} \): Gross Operating Surplus
- \( \text{T}-\text{S} \): Taxes less Subsidies on Production and Imports

The Gross Domestic Product (GDP) of Malaysia is estimated quarterly and annually at current prices and constant prices (base year 2010) based recommendation of SNA 2008.
1. Current Practices And Status

1.1 Methodology and Data Sources

- The national accounts statistics are compiled from censuses and surveys; administrative statistics; records held by businesses or industry associations; and other ad hoc sources.

- Main sources:
  i. Surveys/censuses carried out by DOSM;
  ii. Collection of data by government agencies for administration purposes;
  iii. Financial accounts and other documents (both published and otherwise) relating to government enterprises, private companies and other organizations.

- Estimation:
  i. All available relevant statistical data were gathered and adjustments were made for deficiencies or incomplete coverage;
  ii. The basic data usually pertains to the total value of transactions but sometimes it becomes essential to use data on quantity produced and then apply the appropriate prices to arrive at transaction values;
  iii. Basic estimates and proxy measure were used when quantity data not available.
1.1 Methodology and Data Sources (continued)

- The **quarterly estimates** for economic activity and expenditure components are derived from the *monthly/quarterly* information on **quantity**, **value** and **price** and were aligned with the annual estimates by using the benchmarking technique.

- The estimates were done at **current** and **constant** prices.

- **Intermediate consumption** at constant prices is derived by utilizing most recent accessible constant prices **input-output ratio**; inflating this gives intermediate consumption at current prices.

- Value added is derived as residuals
1. Current Practices And Status

1.1 Methodology and Data Sources (continued)

• Agriculture, Fishery and Forestry
  i. Monthly Rubber Statistics
  ii. Annual Rubber Statistics
  iii. Malaysian Rubber Board
  iv. Malaysian Palm Oil Board
  v. Annual Report from the Main Oil Palm Plantation Companies
  vi. Department of Veterinary Services
  vii. Ministry of Agriculture and Agro-Based Industry
  viii. Ministry of Plantation Industries and Commodities
  ix. Malaysian Pineapple Industry Board
  x. National Kenaf and Tobacco Board, Malaysia
  xi. Malaysia Pepper Board
  xii. Agriculture Marketing Authority
  xiii. Department of Forestry

• Agriculture, Fishery and Forestry
  xiv. National Timber Industry Policy (NATIP)
  xv. Department of Fisheries
  xvi. Monthly External Trade Statistics

Output also includes estimation of fixed capital formation arising from:
  i. New plantings (for Rubber, Oil Palm and Other Agriculture)
  ii. Breeds (for Livestock)
  iii. Planted logs but has not attained the maturity to be cut (for Forestry and Logging)
1.1 Methodology and Data Sources (continued)

- **Mining and Quarrying**
  i. Petroliam Nasional Berhad (PETRONAS)
  ii. Minerals & Geoscience Department
  iii. Petroleum and Natural Gas Statistics
  iv. Quarterly National Accounts Survey

  Quantity of production and relevant prices information on quarterly basis are used to obtain output at current and constant prices.

  Production of crude oil, condensate and natural gas were used to obtain output for crude oil, condensate and natural gas while output of other mining was obtained from quantity by type of minerals.

- **Manufacturing**
  i. Monthly Manufacturing Survey
  ii. Industrial Production Index
  iii. Monthly External Trade Statistics

- **Construction**
  i. Quarterly Construction Statistics

  Value of work done on quarterly basis is used to estimate output at current prices.
### 1.1 Methodology and Data Sources (continued)

<table>
<thead>
<tr>
<th>Electricity, Gas and Water</th>
<th>Food &amp; Beverage, Accommodation, Transportation &amp; Storage, Information &amp; Communication, Real Estate, Private Education &amp; Private Health Services, Business Services and Other Private Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data on production and distribution from financial statements of the Federal Government, State Government, Local Authorities &amp; Statutory Bodies and Quarterly National Accounts Survey. Consumption data of electricity, gas and water are used to estimate output at constant prices.</td>
<td>Quarterly Survey of Services and Quarterly National Accounts Survey data are used as a mover to estimate output at current prices.</td>
</tr>
<tr>
<td>Wholesale &amp; Retail Trade</td>
<td></td>
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<tr>
<td>Output at current prices are moved by sales value indicators that obtained from Monthly Survey of Distributive Trade and Index of Distributive Trade.</td>
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<tr>
<td>Owner Occupied Dwellings (OOD)</td>
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<tr>
<td>The quarterly estimate at constant prices is extrapolated based on changes in housing stock which includes the increased proportion factor of home ownership population in Malaysia.</td>
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</table>
## 1. Current Practices And Status

### 1.1 Methodology and Data Sources (continued)

<table>
<thead>
<tr>
<th>Finance &amp; Insurance</th>
<th>Government Services</th>
</tr>
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<tbody>
<tr>
<td>Main output consists of explicit service charges and Financial intermediation services indirectly measured (FISIM). FISIM is calculated based on reference rate method as recommended in 2008 SNA. Allocation of FISIM is made according to the composition of stock of loans and deposits in the banking system. Output of insurance at current prices is derived by adding premium income and net investment income minus claims paid.</td>
<td>Value added at current prices of Government Services equals the sum of compensation of employees, pension allocated to the current employees and consumption of fixed capital. Current prices is compiled based on Federal, State, Local Authority and Statutory Bodies. For quarterly estimates, the Federal Government account is used as movers for the whole government sector. Relevant price indices are used to obtain the constant value added.</td>
</tr>
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1. Current Practices And Status

1.2 Rebasing GDP 2010=100

| • | The System of National Accounts 2008 (SNA 2008) was implemented in the compilation of GDP during the rebasing exercise 2005 and 2010 as base year. |
| • | Economic Census 2011 (reference year 2010) were used as the main source to compile Supply Use Tables (SUT) and Input Output (I-O) Table which was used as the benchmark for the rebasing exercise. |

| • | Two main conceptual and methodological changes were: |
| • | – Goods for Processing from Abroad (GFP) and Manufacturing Services (MS) based on change of ownership principle as outlined in SNA 2008, Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6). |
| • | – Component of Consumption of Fixed Capital (COFC) or depreciation for Government Services and Government Consumption based on the Perpetual Inventory Method as recommended by SNA 2008. |
1. Current Practices And Status

1.2 Rebasing GDP 2010=100 (continued)

<table>
<thead>
<tr>
<th>• Data sources:</th>
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<tbody>
<tr>
<td>i. Economic Census 2011 (reference year 2010);</td>
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<td>ii. SUT &amp; I-O Tables 2010;</td>
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<td>iii. Household Expenditure Survey 2009/10 and 2014;</td>
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<td>iv. Census of Distributive Trade 2014 (reference year 2013) &amp; Quarterly Distributive Trade 2010;</td>
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<tr>
<td>v. Relevant Price Indices 2010</td>
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<tr>
<td>- Consumer Price Index (CPI)</td>
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<tr>
<td>- Producer Price Index (PPI)</td>
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<td>vi. Other public agencies</td>
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<td>(example Malaysian Palm Oil Board &amp; Ministry of Agriculture)</td>
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<thead>
<tr>
<th>• Updating Classification:</th>
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<td>Services and mining sectors were reclassified in accordance with the latest Malaysia Standard Industrial Classifications (MSIC 2008).</td>
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<tr>
<th>• Results:</th>
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<tbody>
<tr>
<td>i. Reflect the latest changes in economic structure and relative prices in the economy.</td>
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<tr>
<td>ii. Minimal impact on Malaysia’s overall growth figures, suggesting that underlying growth momentum of the economy remains unchanged.</td>
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</tbody>
</table>
2. Challenges

2.1 Data coverage
- DOSM has taken an initial effort to take into account the contribution of informal in GDP.
- Lack of coverage of the informal sector and the non-observed economy in general would result in underestimate/overestimate on levels and trends of GDP;
- DOSM is studying the estimation of informal sector for year 2010 and 2011 with using the Labour Input Method (LIM).

2.2 Appropriate deflators
- Financial services
- Owner Occupied Dwellings (OOD)
2. Challenges

2.3 Capacity Building

– Lack of subject matter experts;
– The purposes for participating this course is to enhance understanding on the SNA 2008 especially on concepts and best practices in data sources, indicators & compilation techniques regarding GDP.
– This experience will pave the way to compile a more reliable SUT; consistent with the recommendations of SNA 2008.
– This course will be a useful platform for sharing of knowledge and experience in terms of compilation and methodologies of national accounts used by other countries.
– DOSM will benefit this opportunity to learn on methods and techniques used to deflate each element of I-O Tables to compile national I-O Tables at constant prices. The I-O Tables at constant prices are most often used to provide consistent time series on gross output and GDP by industry.
3. Quality Practices

3.1 Modernisation in Technology

DOSM has developed NEWSS based on Generic Statistical Business Process Model (GSBPM).

The implementation of GSBPM started since April 2009 with the main objective to define and describe statistical process in a consistent way.

The NEWSS project kicked off in 2008 and the first phase of development was completed and fully implemented in 2010.

i. National Enterprise-Wide Statistical System (NEWSS)
   - Efficiently monitor and manage censuses and surveys (updating frame).
   - Sampling design and sample selection.
   - Monitor field work progress (Operational Control Manual).
   - Data processing and validation
   - Data dissemination based on SDDS and Advance Release Calendar (ARC)

ii. Electronic data collection
   - Computer Assisted Personal Interview
   - Computer Assisted Telephone Interview
   - E-surveys
### 3. Quality Practices

#### 3.2 Evolution in Statistical Products

**i. Statistics Data Warehouse (StatsDW)**
- Consolidate all historical micro data and aggregate data in the EDW;
- Enhance data quality and consistency;
- Enable fast and easy access to data stored;
- Disseminate the data to wider users in a timely manner.

**ii. Integrated SUT system**

**iii. R-CDTA 3383: Updating And Constructing The Supply And Use Tables For Selected Developing Member Economies**
- Compile benchmark and/or updated SUT based on latest data and in accordance with international standards;
- GDP estimates of participating economies will incorporate 2008 SNA recommendations to the extent possible;
- Reliable and accurate data for measuring and monitoring economic output will be made available;
- Outputs are used for time series and cross-country analysis of economic outputs and structures for the region.
Integrated SUT system

Fully implement SNA 2008 in the compilation of SUT 2015

Annual I-O Tables

Investigating methods and data sources for SUT at constant prices
Thank You

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