THE PRESENT SITUATION IN THE NATIONAL ACCOUNTS STATISTICS:

SOME PROBLEM AREAS

PREPARED BY:

HERZIE MOHAMED NORDIN

SYED IBRAHIM MOHD JAMALUDIN

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1. Background

1.1 Malaysia's Gross Domestic Products (GDP) compilation can be traced back from 1947. In the beginning, GDP was compiled at current prices until 1969 and from 1970 onward GDP was compiled at current dan constant prices by production and expenditure approach. Malaysia GDP has been rebased six times with base year of 1970, 1978, 1987, 2000, 2005 and the latest 2010 which was released in first quarter 2015. Following the aftermath of Asian Financial Crisis in 1997, the need for short-term economic indicator was highly demanded. Thus, the quarterly GDP was developed and released with compilation of first quarter 1999 GDP by using 1987 as the base year. Development of GDP by Income Approach was undertaken by the Department of Statistics Malaysia (DOSM) and was released in 2014 with time series of 2005-2013 at current prices. Prior to this, GDP Income approach was produced with compilation Supply Use Tables (once in five years).

1.2 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) provides comprehensive data for national account compilation. The data were used as the main source to compile Supply Use Tables and Input Output Table which was used as the benchmark for the rebasing exercise.

2. The Implementation of SNA 2008 in Malaysia

2.1 Implicit Charges for Financial Services

The SNA 1993 introduced the output calculation for financial activity which acts as intermediary channel funds from unit with surplus of funds to unit with demand for funds which is called Financial Intermediation Services Indirectly Measured (FISIM). As recommended by the SNA 2008, DOSM has taken the initiative to allocate Financial Intermediation Services Indirectly Measured (FISIM) in the rebase exercise. The allocation of FISIM was based on financial assets & liabilities data obtained from Central Bank as indicators. Data on stock of loans and deposits of depositors are widely used in the case of Malaysia. FISIM from financial intermediation activity is calculated using reference rate method and FISIM has been allocated to various economics activities. The FISIM calculation using reference rate method can be expressed mathematically as:

FISIM = $(L_r - R_r)Y_L + (R_r - D_r)Y_D$

Y_L is the Stock of Loan

Y_D is the Stock of Deposit

R_r is the Reference rate

L_r is the Loan rate

D_r is the Deposit rate

R_r **= (Interest on deposits + Interest on loans) / (Stocks of loans + deposits)**

2.2 Military Expenditure

Changes of conceptual treatment on the military goods had been taken into account in the rebase of GDP to 2005 base. It is made possible since the government expenditures obtained from the Department of Accountant General which provide full information of government expenditures includes

the military goods. Classification of military expenditure on asset was one of major changes incorporated in SNA2008. SNA93 stated the military expenditure to be recorded as fixed capital formation if can be used for purpose of production either civilian or military such as airfields, docks, roads, hospitals and other buildings or structure meanwhile the military weapons, and vehicles and equipment whose sole purpose is to launch or deliver such weapons are to be treated as intermediate consumption. However, the SNA 2008 treat expenditures on military equipment, including large military weapons systems as fixed capital formation. Expenditure on durable military goods such as bombs, torpedoes and spare parts are recorded as inventories until used when they are recorded as intermediate consumption and a withdrawal from inventories.

2.3   Research and Development (R & D)

Research and development (R&D) is creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and to enable this stock of knowledge to be used to devise new applications. It is included in intellectual property products as a produced fixed asset (SNA2008, para 10.103).

DOSM treats expenditure on R&D as a part of Gross Fixed Capital Formation (GFCF) as recommended by the SNA 2008. The estimation of expenditure of R&D is derived from total supply of R&D which comprises domestic production of R&D and imports of R&D services. The principal source of R&D data is obtained from the survey of National Research and Development conducted by Malaysian Science and Technology Information Centre (MASTIC). Data on import and export supplied by Balance of Payments Statistics are used to derive the net deposition of R&D from foreign countries.

In current terms, capital expenditure for R&D are valued as the sum of compensation of employees engaged in R&D plus with the value of other current expenditure and the estimated cost of capital services (inclusive of consumption of fixed capital) used in the production process.

To derive capital R&D in real terms, the current value of capital expenditure for R&D is deflated by wages & salaries indices and index of intermediate consumption deflators for R&D.

For the quarterly estimation, the number of application and registration of patent and industrial design obtained from Intellectual Property Corporation of Malaysia (MyIPO) are used to interpolate and extrapolate the quarterly R&D expenditure.

2.4 Treatment on Goods for Processing from Abroad (GFP) and Manufacturing Services

The 2008 SNA and BPM6 recommend that exports and imports should be recorded on a change of ownership principle. That is, flows of goods between the country owning the goods and the country providing the processing services should not be recorded as imports and exports of goods. Instead the fee paid to the processing unit should be recorded as the import of processing services by the country owning the goods and an export of processing services by the country providing it. In terms of recording an output of an establishment that is involved in GFP, if the establishment has no economic ownership of the goods being processed, thus the value of the output should be fees it received in processing the product and not the value of the whole product.

DOSM has implemented the treatment for GFP and manufacturing services in rebase exercise of GDP to 2010. This reflected in both BOP and national

account compilation with lower net exports of goods and services. The data was obtained through quarterly survey conducted by DOSM on establishment involve in GFP activity especially industries related to manufacturing of electrical and electronics products.

2.5 Imputed Rent for Owner-occupied dwellings (OODs)

Imputed rent for owner occupied dwellings (OODs) is a significant component of the international standards for household income and expenditure statistics. Conceptually, the inclusion of imputed rent treats owner occupiers as if they rent their home to themselves, thus simultaneously incurring rental income and expenditure. In case of Malaysia, the data on type of dwellings occupied by household such as single storey, double storey and semi-detached is obtained from population census. The latest population census data available is year 2010. Furthermore, ratio from supply use tables 2010 is used as benchmark to get the latest input structure. Meanwhile, through rent survey conducted by DOSM in quarterly basis is able to derive rent by type of dwellings which incorporated in Consumer Price Index. The transaction data on dwellings (new purchase) is obtained from National Property Information Centre (NAPIC). NAPIC also produces data on stock, number of completion and price of houses by type. Population growth is used as additional indicator to estimate the performance of this sector.

2.6 Refinement in methodology of COFC for Government Services and Government consumption

The implementation of Perpetual Inventory Method (PIM) was applied in measuring the COFC for government as recommended in SNA 2008 to enhance the GDP compilation. COFC is derived from compilation of Capital Stock Statistics produced by DOSM. DOSM is continuously improving and

enhancing the compilation of this statistics to cater for the stakeholders' needs. Data is obtained from census/survey undertook by DOSM and administrative data.

2.7 Updating Classification

In the implementation of International Standard Industrial Classification (ISIC) rev.4, DOSM has developed Malaysia Standard Industrial Classification (MSIC) 2008 which provides detailed information by activities collected through Economic Census 2011. Thus, it facilitates the compilation of GDP into more detailed activities in the production approach or known as supply side. With this detailed information provides higher accuracy and met the planning requirement.

3 Challenges of Implementation SNA 2008

3.1 Chain Volume Measures (CVMs)

The SNA 93 and SNA 2008 recommended compilation of GDP based on CVMs as complement to GDP compilation on a fixed base method. CVMs are more responsive to major structural changes in the economy and, given the fact that the industry and product mixes of the economy are changing more rapidly now than in the past. Hence, CVMs provide a more accurate picture on the revolution in terms of economic structure and growth as compared to constant price series. Currently DOSM at a development stage in compiling the GDP by CVMs and taking a few steps to build up competency in human resources such as attending the course related to CVMs.

3.2 Imputed Rent for Owner-occupied dwellings (OODs)

There are issues on the compilation of OODs. The transaction data obtained from NAPIC does not stated whether the house is owned or rented and there is no information on the breakdown by type of dwellings. The i/o ratio from benchmark year (2010) is used to derive the input for this sector.

3.3 Informal Sectors

DOSM has taken an initial effort to take into account the contribution of informal in GDP. DOSM has identified and gathered information on the informal activities whereby the pilot survey for this sector was conducted in 2006. This attempt was made since 2009 and the questionnaire of informal sector attached together with Labour Force Survey which is based on Fifteenth International Conference of Labour Statisticians (15th ICLS) 1993 and 17th ICLS 2001 which is referring to SNA 93. Currently, DOSM is studying the estimation of informal sector for year 2010 and 2011 with using the Labour Input Method (LIM). At the moment DOSM is exploring LIM based on Small and Medium enterprise value added especially establishment with less than nine employees in deriving value added of Informal sectors.

3.4 Illegal Activities

According to the SNA 2008, the illegal of a productive or transaction should be included in the GDP estimate. It is a challenge for DOSM to have a good coverage on illegal activities as the actual level is not known. Comprehensive coverage of illegal activities, in principle is essential in order not to introduce errors and imbalances in the accounts.

3.5 Financial services

Appropriate deflator in financial activities is needed to derive a constant price. Currently Malaysia is using general price (CPI) as the deflator. At the same time, DOSM consistently monitor changes in the Overnight Policy Rate (OPR) as it will affect general interest rate in the market. In the absence of comprehensive data set on interest paid by sector, data on loans and deposits by sectors are used as an indicator to allocate the FISIM by economic activities.

3.6 Military Expenditure by Government

The data on military expenditure is basically obtained from government accounts. However due to national security reason the actual military expenditure by type of assets is unavailable and lack of other indicators has made it difficult to impute this expenditure.

3.7 Expenditure on R&D

The expenditure on R&D on quarterly basis is not available as there is no survey conducted at the moment. The estimation on R&D is based on the indicators provided by Intellectual Property Corporation of Malaysia (MyIPO). The more comprehensive R&D estimates are only available on annual basis.

4. Quality practices and issues compilation of National Account

4.1 Developed an Integrated System
DOSM has developed National Enterprise Wide Statistical System (NEWSS) based on Generic Statistical Business Process Model (GSBPM). The functions of NEWSS are:
i. Efficiently monitor and manage censuses and surveys (updating frame).

ii. Sampling design and sample selection.

iii. Monitor field work progress (Operational Control Manual).

iv. Data processing and validation

v. Data dissemination – published data based on SDDS and Advance Release Calendar (ARC)

4.2 Developing a Competent Human Capital

Developing a competent human capital is an on-going process and with rapidly changing business environments, organisations are recognizing the value of a workforce that is not only highly skilled and technically adept, but more importantly, a workforce that can learn quickly, adapt to change, communicate effectively, and foster interpersonal relationships. These characteristics or competencies are critical to organisational survival, productivity, and continual improvement. DOSM established Malaysia Statistical Training Institute (ILSM) to fulfil the needs of the development of human capital in the Department. ILSM offered a wide range of courses to suit each level of management as well as open the courses to other agencies.

4.3 Quality Assessment

Data quality assessment is very important step to ensure that the data collected through censuses and survey reflecting the economic scenario. DOSM implement the quality assessment to iron out technical quality issues such as missing data, inconsistent of data and changes in structure through internal audit. The measures like accuracy and correctness are subjective and need Subject Matter Expert (SME) involvement to assess the quality of data. The issue on quality assessment is on secondary data produced by other agencies such as;

a)   Legal or Act of agencies limit access to relevant administrative data sets (database) from other agencies.

b) Data from various agencies are collected for a different purpose that leads to data is not updated over the time.

c) Different standard of concepts use in collection and selection process.

DOSM has working together with these agencies to overcome the shortfall such as:

i. Cadre: Provide technical assistance in terms of statistical requirement.

ii. Effective and continuous discussion with agencies

iii. Promote and advice agency in terms of using the appropriate statistical tools in analysis

iv. DOSM and Accountant's General Dept.: Developing system for digitalization of Government account data

v. Reaching the community: Promote statistical literacy among public Improve data sharing and easy access of data

vi. moving towards to promote international Quality Assessment Framework of data (eg. NQAF & DQAF) to agencies.

4.4 Adopting the Latest Manual

Adopting latest manual and recommendation by International bodies such as United Nation, International Monetary Fund and International Conference of Labour Statisticians is on-going process in DOSM. Other countries' best practices on certain issues or topic also have been studied as an initiative in improving data quality.

5. <u>Conclusion</u>

DOSM continues to evolve and keep abreast with the latest concepts and methodologies outlined by the international statistical agencies. Following the implementation of SNA2008 in the GDP compilation, DOSM always strives to foresee new development in measuring national accounts such as quarterly estimates for R&D and exploring latest statistical tools use for data estimation. Thus, collective efforts undertaken by statisticians within this region can ensure that data can be produced at the best quality and using the same standards and classification. These concerted efforts can only be achieved through continuous engagement and discussions among the National Statistical Offices (NSOs). This course served as one of the platform for NSOs to exchange experiences, especially the host country can share the knowledge and ideas in improving and enhancing our National Account Statistics in this region.

Moving forward, DOSM is looking for the opportunity to expand further collaboration with other NSOs in terms of improving the estimation of National Accounts particularly in addressing the issues highlighted in this paper.

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