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Brief Notes on Measurement of the NOE: Expenditure side of the Indonesian GDP

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Brief Notes on Measurement of the NOE: Expenditure side of the Indonesian GDP

By BPS-Statistic Indonesia (Abdul Rachman)¹

1. The importance of NOE in Indonesia

In general problems arise in many countries dealing with the activities of NOE are:

- a. Underground production
- b. Illegal production
- c. Informal production
- d. Household production for own final use
- e. Statistical underground

Based on Sasmito H. Wibowo's research found that the size of underground economy in Indonesia are estimated using currency demand and MIMIC models. It's found the size is about a quarter of GDP and observed that during the process of transitions, whether transition in tax law, economy, or politics, the size of underground economy changes significantly. In normal time, the sizes of the underground economy tend to be lower than its average. The minimum size of household underground economy in Indonesia is found to be small in term of percentages to household expenditure during the period the period of 1984-1999. This indicates that most of the underground economy in Indonesia is not in household level. However, the number of households that involved in the underground economy is about one third of total households in Indonesia. It implies that many households will do underground activities if they have chances.²

Some papers have examined about the compilation and the use of informal sector statistics (2001), which is conducted by BPS-Statistics Indonesia and United Nation Statistic Division. Summary of those papers as follows:

- a. Informal sector is a very typical and important segment in many developing countries including Indonesia. It accommodates large number of employment, eventhough its contribution to the GDP is low. This sector is considered as a safety valve for the employment problem. Especially in a country with large and rapidly increasing labor force, while its economy is still small. The recent economic crisis has proven the important role of informal sector in accommodating a large number of displaced formal workers.³

¹ This paper is prepared for the OECD/UNESCAP/ADB workshop on assessing and improving statistical quality: Measuring the Non-observed Economy, 11-14 May 2004, Bangkok, Thailand.

² Sasmito H. Wibowo, Growth Convergence in Southeast Asia and Underground Economy in Indonesia, 2001, unpublished PhD Dissertation for in Economics, Illinois.

³ Rusman Heriawan, Informal Sector and Integrated Survey of Establishment, presented as a background paper in the workshop on the compilation and the use of informal sector statistics, Jakarta, 3-7 December 2001.

- b. Definition of informal establishment and production boundary adopted in the SNA'93 are not the same with most household and establishment survey conducted by countries. Collection of household and establishment data have been conducted for a long time by many countries. The concepts and definitions used are already established, and mostly adopted for practical reasons for facilitating the field data collection. The definitions, especially in the new SNA93 are not well observed and out in operation in the household as well as establishment surveys. This will result in data inconsistency, between the sources (establishment and household surveys) and uses (national account statistics). Therefore, employment and establishment data can not directly be used for estimating national accounts, especially for separating out the informal contribution in the national economy. Some adjustments need to be undertaken.⁴

2. Typical NOE in Indonesia: Demand Side

Here are some examples of typical NOE of Indonesia, which can be described as follows:

- 1) Final consumption expenditure of household for food and non-food such as sugar, food and beverages, electronic equipment (computer, handset, etc.) and the expenditure for traveling from Indonesia to Asean countries not completely covered due to transaction in the border of countries.
- 2) Data on income and expenditure of NPISH is usually not available, it implies that the consumption expenditure of NPISH is indirectly estimated.
- 3) The estimation of Gross Fixed Capital Formation using commodity-flow approach. Goods and materials such as steels, and electricity equipments that are used as an input in construction activities are not completely recorded.
- 4) Changes in Inventories are treated as residual because its information is weak.
- 5) It is suspected some illegal commodities which significantly influence in our exports and imports estimation are wood, fish and sand, electronic equipments and used-clothes. Those commodities are not properly recorded all the time.

⁴ Hananto Sigit, Integration and Analysis of Informal Sector Statistics, presented as a background paper in the workshop on the compilation and the use of informal sector statistics, Jakarta, 3-7 December 2001.

3. The GDP components are identified to have NOE

As mentioned above that many activities of NOE for GDP expenditure in Indonesia have not been covered yet, such as the activities on household final expenditure component, NPISH, Gross Fixed Capital Formation, Changes in Inventories, Export and Import of Goods and Services.

The NOE activities are taken into account in compiling GDP expenditure:

a. Household Final Consumption Expenditure

Mainly the estimation of household expenditure used the National Economic Social Survey (SUSENAS) data. Through Susenas data the household consumption expenditure at current price could be estimated, either for goods or non-food. Income elasticity will be applied when the Susenas data is not available.

The Household Final Consumption Expenditure at 1993 constant prices is estimated by revaluation method.

Meanwhile, for the NOE activities, such as sugar, food and beverages, electronic equipment (computer, handset, etc.) and the expenditure for traveling from Indonesia to Asean countries not completely covered due to transaction in the border of countries. We add up around 10-18% from the total of Household Final Consumption expenditure for those commodities to our estimate.

b. Final consumption expenditure of NPISH

The method used to estimate of the NPISH consumption expenditure is similar to the method Household Final Consumption Expenditure. For the NOE activities, such as food, and electronic equipment are not recorded well. So we estimate around 15% for those commodities to our estimate.

c. Government Final Consumption Expenditure

This component is estimated consistently with the production estimates, and we use government income and expenditure data at various level (central and local government).

d. Gross Fixed Capital Formation

The commodity flow approach is applied. Data used are amount of material applied or goods which are needed to establish the fixed capital formation, obtained from external trade statistics and manufacturing statistics of BPS-Statistic Indonesia.

To obtain the value of materials at places of construction, it needs additional cost of trade margin and transport cost. The construction materials produced domestically consist of agricultural products for example bamboo and woods, mining products which are sand, stone, asphalt and others, and manufacturing products for construction purposes. Materials from import are generally manufacturing products.

Ratios of the output of the materials trade margin and transport cost for each commodity are based on special study.

For the NOE activities, such as steels, and electricity equipments are not recorded well. So we mark-up our estimate by 10-15% for those commodities.

c. Export and Import

The export and import calculation is based on the information of BPS-Statistic Indonesia, Balance of Payments from Bank Indonesia and IMF and from Department of Mining and Energy.

Export goods are valued by free on board, and import by cost insurance freight, US dollar conversion to rupiah are differed. For export, it uses an average of buying US dollar (from Central Bank) weighted by nominal transaction of monthly export, while import uses an average of selling US dollar weighted by monthly nominal import published by Central Bank of Indonesia.

On the other hand, the activities of NOE for export are indicated by illegal logging, illegal fishing, illegal sand quarrying, meanwhile for import such as electronic equipment and used-clothes without import duty. We add up some portion for these commodities that are not recorded well to our estimate.

4. Effort to be Taken

To improve the quality of GDP estimate in which the NOE measurement are considered, we suggest by:

- a. Improving method the survey carried out, for instance: to modify household budget survey form in order to find a better estimates for income and consumption.
- b. Collecting more accurate data on export and import especially to those involving the goods flows at the border through good cooperation among custom, local government, and the BPS-Statistic Indonesia.
- c. Studying more intensive the difference of export and import data among Indonesian exporting/importing countries, if necessary at 5-digit HS-code. Hopefully we will come up with more reliable estimates.