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Country experience with measuring global production**Paging and Collecting Global Production Data in Indonesia****Prepared by the Statistics Indonesia¹***Summary*

Since 2010 Statistics Indonesia has been implementing bureaucratic reform to answer the growing complexity of internal and external challenges in conducting official statistical work in Indonesia. A special program to accelerate the bureaucratic reform - named Statcap Cerdas - is also conducted through strengthening the statistical business process, information technology, and human resources and organization. One of those efforts is conducted by implementing international recommendations in compiling statistics related to global production. This document discusses developments in paging and collecting data.

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I. Introduction

1. Since 2010 Statistics Indonesia – Badan Pusat Statistik (BPS) has been implementing bureaucratic reform to answer the growing complexity of internal and external challenges in conducting official statistical work in Indonesia. In order to accelerate the reform, BPS conducts a special transformation program - named Statcap Cerdas - through improving the statistical business process, information technology, and human resources and organization. One of the purposes of this reform is to apply internationally agreed standards, such as the System of National Accounts 2008 (2008 SNA), International Recommendations for Tourism Statistics (IRTS), new harmonized system and International Standard Industrial Classification of All Economic Activities (ISIC) classification, and other recommendations. This implementation is followed by compilation of several new datasets to fulfill the need of data users and to comply with international recommendations.

2. Regarding the implementation of 2008 SNA, the whole process is under coordination of national accounts directorates by involving subject matters area in BPS and other institutions. At the initial phase, implementation was conducted by compiling Supply and Use Table (SUT) 2010 from which Input Output Table (IOT) 2010 was generated and the base year of gross domestic product (GDP) and gross regional domestic product (GRDP) (GDP in provincial and municipality level) by production and expenditure was changed from 2000 into 2010. Compilation of SUT is designed as an annual time series framework to benchmark GDP/GRDP series in a timelier manner.

3. At the same period, other institutions also implement internationally agreed standards. Several months after BPS released GDP with base year 2010, Bank of Indonesia (BI) released new series of balance of payments (BOP) statistics based on Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6) (an updated version of BPM5). On the other side, Ministry of Finance (MoF) also has started to compile Government Finance Statistics (GFS). These interrelated implementations have brought Indonesia into a new era of compiling official statistics of real sector, external sector, and government sector. However, the compilation of some new data by different institutions was not fully supported by strong coordination. As a result, compiled data was not thoroughly consistent with each other. For example, compilations of export and import in GDP by expenditure and BOP have not been fully consistent so far.

4. From 2010 to current period, BPS has been continuing to implement SNA 2008 by compiling Full Sequence of Accounts (FSA)/Sector Accounts. Compilation of FSA is designed as one of the core accounting framework data accompanying SUT and to fulfill one of G-20 recommendations (recommendation No 8 of Second Phase of Data Gaps Initiative). Regarding this implementation, BPS has tried to strengthen coordination with other institution, such as MoF, and BI, Financial Services Authority (OJK), Ministry of State Owned Enterprises, and other institutions to resolve remaining inconsistent data and improve data quality broadly.

5. From the perspective of Indonesia, global production statistics is one of the international initiatives, which has links to some important compiled statistics. For example, global production has link to SUT in intermediate input, output, and export/import, mainly in services. Global production also has link to FSA/Sector Accounts, especially in production accounts of financial and non-financial corporations (intermediate input and output transaction) and Rest of the World (export and import transaction), and distribution of income accounts. Regarding this, the international initiative to compile global production statistics hopefully could strengthen compiled data, such as SUT, IOT, GDP/GRDP, BOP, FSA, and other related data in Indonesia.

II. Paging and Collecting Global Production Data

6. This section will review compilation plan of global production statistics in Indonesia based on Generic Statistical Business Process Model (GSBPM) framework. By considering that at this time Indonesia is still in very early stage, the discussion will be limited to cover paging and collecting sub-process in Specify Need, Design – Build, and Collect phase.

A. Specify need

7. As a newly international initiative, compilation of global production could foster many stakeholders in improving many aspects related to their roles and responsibilities. For National accountants and BOP compilers, compilation of global production provides opportunities to improve data quality by possibility to explore transactions in certain industries and institutions. For potential data users especially from government institutions, global production statistics could provide significant support in designing and implementing better policies. It will improve the current situation where most of potential data users in Indonesia are not fully aware of the importance of global production data for their policies. In some cases, potential data users are also part of global production data providers (like Ministry of Trade and Investment Coordinating Board) and have capacity to coordinate other institutions (like Board of Development Planning and Ministry of Economic Coordinator). Lastly, global production statistics could be expected to bring benefits to data provider and society in general either directly or indirectly, as compilers could produce better quality data, with which policy makers could deliver better policies.

B. Design – Build

8. In an effort to comply with recommendations in the Guide to Measuring Global Production, the following paragraphs will compare coverage of global production by typology and its exhaustiveness. In general, gap between recommended coverage and its exhaustiveness is caused by insufficient quality of data sources. Quality of data sources could be examined by their availability, suitability of concept and coverage of data, accuracy of estimates, continuity, and timeliness.

1. Available Typology

9. In case of Indonesia, some types of global production have comparable data, e.g. goods sent for processing abroad (Type A) and goods under merchanting (Type B). These data are compiled by Bank of Indonesia (BI) to fulfill the BOP classification in export and import transactions. Estimation of Goods sent for processing abroad is simply based on records of export and import transactions in special economic zone from Customs, while estimation of merchanting is based on foreign exchange activity reporting system (LLD). LLD covers banking activities affecting foreign financial assets/liabilities between residents and non-residents.

10. BPS and BI have agreed to improve quality of these data by improving cooperation in compiling the data through better identifying of data sources and better data collecting methods, since the improvement of quality of these data could bring better quality of other related statistics. For example, better estimation of goods sent for processing abroad and goods under merchanting could improve estimation of production output and export-import of goods and services in SUT, GDP, and FSA statistics.

2. Unavailable Typology

11. There are six types of global production that have not had comparable data. Some of them have good prospect to be compiled in the near future and others need extra efforts to compile yet they have potential data source.

- Factoryless Goods Production (FGPs – Type C)

12. In Indonesia case, the factories belonging to this type of global production are considerably outnumbered compared to the number of factories acting as nonresident suppliers. The most influencing factor is mastery of technology and intellectual property products (IPPs) by Indonesian factory. Besides, availability of capital, availability and cost of labor, availability of material resources, market size, and people purchasing power are also fostering this. This type of global production would link with output of other statistics, such as production size of certain industries in SUT table, production accounts of (mainly) financial and non-financial corporations in FSA, and export-import transaction in both frameworks.

13. So far, the most plausible way to collect the data of FGPs is through surveys by considering that there is no government institution collecting these data through administrative records. Typically, government institutions only record some characteristics of enterprises engaging in factoryless goods production for their governance function. However, this information could be used as data source to compile business register of FGPs, and then global production data could be compiled through surveys. For better quality, the result of surveys should be confronted with other data that are collected through obligatory administrative reporting, if available.

- Fragmenting part of production of services (IPPs and excluding IPPs) and subcontracting production of services (Types D, E, and F)

14. These types of global production have link to other statistics, especially statistics containing export-import of services transactions. Although data collecting through administrative records has not sufficiently fulfilled the required standard (e.g. LLD), this method could be the best choice so far. However, in the future this method should be accompanied by some surveys for better estimates either as supplementary or as a replacement data source.

- Direct Investment Enterprises not directly engaged in producing goods and services (Types G and H)

15. Similarly to FGPs, the number of factories belonging to this type is likely smaller than the number of factories acting as foreign suppliers. Transactions in these types have link to other statistics, such as production size of certain industries in SUT table, production accounts and distribution of income accounts in FSA, which is for financial (mostly) and non-financial corporations, and export-import transaction in both frameworks.

16. Currently, Investment Coordinating Board has been managing the data related to these types of global production through reporting system and disseminating the report every quarter. Although the data has not been in the state of full coverage and some necessary variables are still missing, but this could be a good stepping stone for better data collection in the future.

C. Collect

17. There are two ways to collect data related to different global production arrangements, i.e. regular and timely surveys based on good business register including information on global production arrangements and regular and timely administrative data

reporting system. In case of BPS, administrative data is preferable due to low response problem that often occurs in surveys. Besides, it would also reduce data collection burden especially on respondent side. Simplicity of data processing could be gained by enhancing administrative data collection. Regular and timely business surveys are only conducted when administrative data collection is not possible.

18. At the earliest stage, focus should be on domestic principals as entities in compiling global production statistics. It could start by identifying the proper statistical unit conducting global production. By considering that some required variables are available at the domain which is above establishment (factory, warehouse, branch etc), the statistical unit is enterprise. Enterprise group is also not suitable to be a statistical unit since the statistical unit will be so aggregate and contains too many various industries. In most cases, factory usually focuses on production activity and not really concern about other transactions, while enterprise group usually focuses on managing the group members and not really concern about transactions in detail. It is very often that one factory is also an enterprise.

19. The next stage is developing a list of enterprise/factory and profiling it by typology. Based on this list, a method to collect the data could be determined for each type. Some types of global production activities could be better collected by administrative data reporting system, some others by surveys, and the rest by combination of both methods. Special treatments and assumptions should be applied as in some cases there are factories conducting more than one type of global production activities. Besides there are also occurrences of factories that modify business process due to dynamic business circumstances, which would change its type of global production activities.

20. Briefly, global production statistics could be collected through administrative data, survey, and combination of both methods. Regarding that, two things should be available prior to data collection i.e. well-designed administrative data reporting system and proper surveys. Therefore, many efforts should be done to prepare it. In case of Indonesia, it could start by strengthening cooperation between BPS and BI as these two institutions have close relationship in compiling the data. BPS and BI also have Memorandum of Understanding (MoU) that enables both institutions to work together in providing, exchanging, and utilizing data and/or information, as well as developing human resources.

21. At the next stage, BPS and BI could prepare well-designed administrative data reporting system and proper surveys together. At this stage BPS and BI should also involve other institutions such as MoF, Ministry of Justice and Human Rights, Ministry of Trade, Ministry of Industry, Ministry of Manpower, Investment Coordinating Board, Ministry of State Owned Enterprises, OJK, and other government and private institutions to allow wider cooperation.

22. Within this stage, the coordination scheme has to be determined in details while maintaining teamwork building. It starts from deciding the role and responsibility of each involved institution. Following the Statistics Act number 16 form year 2007, BPS is the national coordinator of official statistical activities in Indonesia, which means that BPS has to take the role as a national coordinator of global production statistics. As a national coordinator, BPS has responsibility to manage data exchange among institutions (incl. individual data). The work of conducting activities, which involve many institutions, would be tough since it requires good system, standard concept, and strong willingness of all parties to be well coordinated. However, increasing knowledge and awareness on the importance of global production statistics would hopefully make the work easier.

III. Conclusion and Recommendation

23. As new international initiative, proper recording of global production in economic statistics gives opportunities for many countries as well as for Indonesia to see the world economy in a more objective way. It could also foster stakeholders in enhancing their role, either as compilers, data users, or data providers. However, there are many challenges to deal with in providing global production statistics, which are mainly due to insufficient quality of data sources. Considering that, compilation of global production statistics should be done gradually as well as other new major implementation of statistics compilation. In the case of Indonesia, there is a memorable advice regarding such matter, which is “start from what we have”².

24. In our opinion, some countries are ready to implement global production statistics but some countries are not. Standard compilation method should be applied by all countries and support in the form of training and technical assistance especially for compilers and data users should be given to the countries not fully capable to compile global production statistics. Increasing capability would strengthen understanding and cooperation among involved parties that enables an improvement of data quality. At international level, a forum that facilitates countries to improve international cooperation in information exchange and reconciliation activities should be formed. This forum could also be in charge in preparing dissemination scheme.

² Kusmadi Saleh (deceased, former Vice Chief Statisticians period 2001-2003)