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Report of the United Nations Industrial Development Organization on industrial statistics

Note by the Secretary-General

In accordance with Economic and Social Council decision 2018/227 and past practices, the Secretary-General has the honour to transmit the report of the United Nations Industrial Development Organization (UNIDO) on industrial statistics, which is before the Statistical Commission for discussion. In the report, UNIDO describes its activities in the field of industrial statistics carried out since the publication of the previous report (E/CN.3/2016/12) and provides information on capacity-building and training activities undertaken for the implementation of international recommendations for industrial statistics.

UNIDO describes its role as a custodian agency for the monitoring process for the Sustainable Development Goals. In that context, some activities relating to industrial statistics that were previously undertaken by the Statistics Division of the Department of Economic and Social Affairs of the Secretariat are being transferred to UNIDO, which is expected to enable UNIDO to assume full responsibility in that field and thereby streamline data reporting by national statistical offices, which will be only to UNIDO. UNIDO also highlights the difficulties faced in financing industrial statistical activities in developing countries, especially for obtaining the timely data for small enterprises required for monitoring the Goals.

The Commission is invited to comment on the issues raised in the report.

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Report of the United Nations Industrial Development Organization on industrial statistics

I. Introduction

1. At its forty-seventh session, held from 8 to 11 March 2016, the Statistical Commission, in its decision 47/109, welcomed the report of the United Nations Industrial Development Organization (UNIDO) (E/CN.3/2016/12) and expressed its support for the work programme on industrial statistics contained therein. The Commission called upon developing countries to give high priority to industrial statistics, considering them to be an essential data source for the compilation of macroeconomic statistics and other applications, including the Sustainable Development Goals. The Commission also requested development partners to increase assistance for capacity-building programmes on industrial statistics in developing countries, especially in the context of the Goals.

2. The present report provides updates on the recent activities of UNIDO in response to the Commission's requests. It is stated that several Goal indicators, especially those relating to inclusive and sustainable industrialization (Goal 9) and sustainable production and consumption (Goal 12), are compiled from data produced by industrial statistics systems, thus requiring the further attention of national Governments and international development partners.

3. UNIDO outlines the rationale for and importance of the transfer of full responsibility for global industrial statistics from the Statistics Division of the Department of Economic and Social Affairs of the Secretariat to UNIDO.

II. Activities carried out in response to the Commission's requests

A. Implementation of international recommendations for industrial statistics

4. Since the publication of the previous report, significant progress has been made in implementing the most recent international recommendations for industrial statistics. According to the UNIDO database, more than 100 countries now compile industrial data using revision 4 of the International Standard Industrial Classification of All Economic Activities (ISIC), while many others are introducing it in the coming years. Moreover, the extensive introduction of revision 4 has contributed to greater international comparability of industrial data.

5. In recent years, the number of countries that have conducted annual or periodic censuses or surveys of industries (establishments or enterprises) has also increased. Most of the surveys cover the basic data items proposed in the *International Recommendations for Industrial Statistics 2008*. The number of countries producing monthly or quarterly estimates of production growth based on the *International Recommendations for the Index of Industrial Production 2010* has also risen. Many countries have integrated their gross domestic product quarterly national accounts with the index of industrial production for the quarterly national accounts of the industrial sectors. The significance of short-term indicators such as the index of industrial production was widely recognized by policymakers following the global financial crisis in 2008–2009. That index may indicate the turning point in an economy if data with proper disaggregation by industry supplying consumer goods (durable or non-durable), intermediate goods and capital goods are presented.

Countries have been progressively implementing the standards and recommendations proposed in the above-mentioned international recommendations, which have allowed them to produce a comprehensive set of sector-level data to improve business, trade and national accounts statistics and other economy-wide indicators. The increased availability of industrial data owing to rising demand for data from users in government, the private sector and development partners has contributed to a better understanding of industrial policy issues, including their integration into global value chains.

6. Countries are also using other data sources to meet the demand for industrial statistics. One such source has been economic censuses, which produce basic data disaggregated by economic activities. They have allowed many developing countries to update their business registers, improve survey frameworks and prepare more specialized surveys that require additional data. The use of administrative sources has also increased in industrialized and in emerging industrial economies. Administrative sources are not, however, always reliable in developing economies owing to weak updating of systems. UNIDO has examined the scope of big data in industrial statistics and concluded that its applicability in developing countries for international trade in industrial goods and services has potential. Together with the Division, it will further explore big data sources and related applications.

7. The 2030 Agenda for Sustainable Development has significantly increased the relevance of industrial statistics for global development. The Inter-Agency and Expert Group on Sustainable Development Goal Indicators has designated UNIDO as the custodian agency for six indicators relating to inclusive and sustainable industrialization under Goal 9, while industrial statistics are also used to compile other Goal indicators relating to efficient water use, material consumption and sustainable production. Rising demand for data from policymakers has created a unique opportunity for industrial statistics, but also some challenges. While many international development agencies that were part of the Millennium Development Goals built the required capacity and gained sufficient experience in global data collection and reporting for the purpose of global monitoring, UNIDO has had to build its capacity for global reporting within a relatively brief period.

B. International and regional workshops and capacity-building activities

8. UNIDO has continued to organize regional workshops for national statistical offices as one of the most cost-effective measures to inform national statisticians about the most recent international recommendations and best practices. As offices within the same region have many common issues, such workshops have provided space for deliberations on conceptual problems and to exchange experiences and best practices.

9. Since the publication of its previous report to the Commission, UNIDO has conducted international and regional workshops, including a regional workshop on statistical business registers for the Arab countries (jointly with the Economic and Social Commission for Western Asia and the Arab Institute for Training and Research in Statistics), in Amman in September 2016; an international workshop on industrial statistics, in Beijing in April 2017; a workshop on the development of indicators of industrial performance for policy analysis in the countries of the Commonwealth of Independent States, in Sochi, Russian Federation, in May 2017; and a regional training session on statistical analysis of the gender gap in employment and wages in manufacturing (jointly with the United Nations Entity for Gender Equality and the Empowerment of Women and the Economic Commission for Africa), in Addis Ababa

in October 2018. UNIDO has also contributed to an international workshop on industrial statistics in Central America and the Caribbean, held in May 2017 and organized by the Division in collaboration with the Economic Commission for Latin America and the Caribbean and hosted by the National Statistics and Census Institute of Panama.

10. Within the scope of the UNIDO technical assistance programme, other national workshops were conducted in Almaty (Kazakhstan), Havana, Lagos (Nigeria), Odessa (Ukraine), Vientiane and Yerevan. Technical assistance projects are being carried out, including in Cuba, the Lao People's Democratic Republic, Oman and Saudi Arabia. In 2018, UNIDO completed a regional project for countries of the Commonwealth of Independent States and national projects in the Lao People's Democratic Republic, Nigeria and the United Republic of Tanzania. New projects are in the approval process.

11. It should be noted, however, that the demand of national statistical offices for technical assistance is much higher than the current level of delivery. UNIDO is working to mobilize more resources for this purpose. In some cases, for example those of Oman and Saudi Arabia, UNIDO has implemented technical assistance projects funded by the countries themselves. Similarly, the Governments of China and the Russian Federation have provided financial support to UNIDO, not only for projects implemented in their own countries but also for those in other countries in their regions. UNIDO has also received funding from the Governments of Finland and the Republic of Korea. Such support is highly appreciated.

III. United Nations Industrial Development Organization data collection and dissemination programme

12. UNIDO has global responsibility for the annual collection of general industrial statistics on the mining, manufacturing and electricity, gas, water supply and other utility industries (ISIC sections B, C, D and E, pursuant to revision 4) at the three-digit and four-digit levels. It directly collects annual data from some 150 countries that are not members of the Organization for Economic Cooperation and Development (OECD) and receives data for OECD member countries from OECD directly to avoid duplication of effort. Countries are requested to report relevant data in accordance with ISIC revision 4 or revision 3.

13. Following the recommendations of the Commission at its twenty-seventh session, in 1993, international responsibility for the collection and dissemination of general industrial statistics was transferred from the Division to UNIDO and OECD in 1994. Moreover, an inter-agency agreement was drawn up between Eurostat and OECD, whereby OECD collects data directly from countries that are not members of the European Union and Eurostat collects business statistics for countries that are members of the European Union. UNIDO thus obtains data from Eurostat countries directly from Eurostat and directly from OECD for non-Eurostat countries that are members of OECD. The official websites of national and supranational organizations provide direct access to primary data in many cases.

14. The increased use of modern technology has allowed UNIDO to improve its data collection practices and data dissemination programme in recent years. Data products on CD-ROM have been gradually replaced with free access to user-friendly databases. Databases maintained by UNIDO can be divided into two groups based on the data source: (a) source data obtained directly from national statistical offices; and (b) source data obtained from UNIDO databases or the databases of other international organizations, especially the Division.

15. The following databases belong to the first category:

(a) Industrial Statistics Database (INDSTAT). This database is available in two versions: INDSTAT2 and INDSTAT4. The former contains time series data on the manufacturing sector at the two-digit level of ISIC revision 3. It is the largest international industrial statistics database of its kind. It provides data based on a single classification standard for a longer period, which makes it particularly valuable for long-term structural analysis. It contains eight principal indicators of industrial statistics, including the index numbers of industrial production. INDSTAT4 contains highly disaggregated data on the manufacturing sector since 1990 at the four-digit level of ISIC. The comparability of data over time and across countries has been the main priority in developing and updating this database;

(b) Mining and Utilities Statistics Database (MINSTAT). This is a unique database on mining and quarrying, electricity, gas, steam and air conditioning and water supply, sewage and waste management. In recent decades, a gradual depletion of natural resources has been observed worldwide. At the same time, demand for such resources as crude oil, natural gas and water has been soaring owing to rapid industrial growth and the overall increase in the world population. To respond to the rising demands from data users, UNIDO has made its database available since 2012. It contains time series data for more than 100 countries since 1995. Data are presented at the two-digit and three-digit level of ISIC revisions 3 and 4;

(c) Quarterly Index of Industrial Production. This presents indices of industrial production at the two-digit level of ISIC revision 4 by country and illustrates short-term shifts in the manufacturing output of different industries.

16. The following databases are maintained for a number of economic indicators that are derived from data using sources belonging to UNIDO or external sources (mainly the Division):

(a) Industrial Demand-Supply Balance Database (IDSB). This is maintained at the four-digit level of ISIC using data derived from INDSTAT and the International Trade Statistics Database (UN Comtrade). It includes data on domestic output and on imports and exports of manufactured goods. It presents apparent domestic consumption as the difference of domestic output and the trade balance;

(b) Manufacturing Value Added Database (MVA Database). This contains data for more than 200 economies since 1990. Data for the two most recent years are estimated using nowcasting methods. Figures for most countries are taken from the Division’s website and supplemented with national publications and/or UNIDO estimates;

(c) Competitive Industrial Performance Index. This is a composite measure of eight quantitative indicators of industrial performance. The indicators are compiled from data contained in UNIDO databases and UN Comtrade. It ranks the countries by index value and indicates the relative position of countries in global industrial development. The database contains absolute and index values of each component indicator since 1990;

(d) Goals data platform. This database, of which UNIDO is the custodian agency, is the latest database for six Goal indicators. It contains country data since 2000. The data are derived from other UNIDO databases, national sources, the International Energy Agency, the International Labour Organization and the World Bank.

All the databases can be accessed through http://stat.unido.org/ after registering as a user.

17. In addition, UNIDO compiles and disseminates the following statistical publications using the data from the databases mentioned above:

(a) *International Yearbook of Industrial Statistics* (annual);

(b) *World Statistics on Mining and Utilities* (biennial);

(c) *Competitive Industrial Performance Report* (annual);

(d) *Statistical Indicators of Inclusive and Sustainable Industrialization* (annual Goal 9 progress report);

(e) Quarterly report on world manufacturing production (online only).

All the publications are regularly distributed to national statistical offices free of charge. The release of new publications is announced through official UNIDO press statements.

IV. Division data collection programme

18. The data collection activities of the Division pertain to the area of industrial commodity production statistics. Through its programme in that regard, the Division collects and publishes industrial commodity production data for some 200 countries and territories on the value and volume of production during a given reference period. The data are based on a list of industrial products, established in 2005, which consists of about 600 industrial commodities. The data are collected mainly through an annual questionnaire sent to national statistical offices. In addition, for a limited number of commodities, monthly data are collected and published through the *Monthly Bulletin of Statistics* programme (which includes other monthly data).

V. Other Division responsibilities

19. The Division retains responsibility for some relevant standards, classifications, guidelines, methodological recommendations and manuals in the field of industrial statistics. The main international recommendations are the *International Recommendations for Industrial Statistics 2008* and the *International Recommendations for the Index of Industrial Production 2010*. The former is available in all official languages of the United Nations and online. The final edited version of the latter is available in English and online only. The main reference classifications mostly relevant for industrial statistics are ISIC and the Central Product Classification, which are also maintained by the Division.

20. The Division plans to continue its collaboration with UNIDO and other stakeholders, including the regional commissions, in areas of methodology, classifications for industrial statistics and capacity-building to strengthen the industrial statistics work programme in countries. It should be noted that there is high demand for broader collaboration in areas of integrated economic statistics, policy linkages, for example the Goals and other frameworks, and developing new techniques, tools and data sources, including linkages to statistical business registers, administrative data and big data.

VI. Transfer of full responsibility for global industrial statistics

21. In accordance with the arrangements agreed to in relation to the decision of the Commission of 1993 in this regard, international responsibility for the collection and dissemination of general industrial statistics lies with the Division, UNIDO and OECD. UNIDO has been publishing the *International Yearbook of Industrial Statistics*, in the field of manufacturing, since 1996. Data for this publication and for

the database are collected directly from non-OECD member countries and directly from OECD for OECD member countries to avoid duplication of effort. UNIDO has been publishing *World Statistics on Mining and Utilities* biennially since 2010, including the first three editions based on data collected by the Division. Following the successful publication of those editions, activities relating to mining and utility statistics were formally transferred from the Division to UNIDO in 2015.

22. Since the transfer of data collection and dissemination activities relating to mining and utility statistics and the index of industrial production in 2015, the Division has continued to collect industrial commodity production (in value and volume) data for its publications on monthly and annual statistics. As part of the remaining and final transfer of industrial commodity production data, the Division and UNIDO have carried out a joint evaluation of activities to be transferred and have prepared technical documentation. The Director of the Division visited UNIDO headquarters in Vienna and met the UNIDO Deputy to the Director General to reinforce acceptance of the transfer at the highest level. Preparations are under way to complete the transfer, with the reassignment of responsibility for industrial commodity production statistics by March 2019, following endorsement by the Commission in 2019.

23. To ensure a smooth and complete transfer of the industrial statistics data programme, which requires the provision of resources to the UNIDO Statistics Division to carry out the work programme, the Statistics Division of the Department of Economic and Social Affairs will facilitate inter-agency discussions at the highest level between the Department and UNIDO. During the transition period, the Statistics Division of the Department will continue to provide training to UNIDO staff on the collection and processing of industrial commodity production statistics, as required.

VII. Data gaps in industrial statistics in the context of the Goals

24. The critical data gap in industrial statistics in many developing countries, especially in sub-Saharan Africa, was mentioned in the UNIDO report to the Commission in 2016 (E/CN.3/2016/12, paras. 26–30). Industrial surveys remain the main source of data, but are expensive undertakings. Analysis by UNIDO reveals that survey costs are much lower in countries in which they are regularly administered than in those with longer intervals. If a new survey is conducted several years after the previous survey, new investments need to be made to establish the survey framework, all survey staff need to be retrained and computing facilities and applications need to be newly created. If surveys are conducted annually, institutional knowledge and capacity not only remain in national statistical offices, but also develop and mature.

25. In recent years, a premature deindustrialization process represented by the falling share of manufacturing value added in gross domestic product has been observed in African least developed countries. Even though the economic growth prospects of many African countries are quite high thanks to their wealth of mineral resources and other raw materials, low labour costs and strong export potential, those countries have been unable to attract the necessary investments in industrial development. This is due partly to the lack of availability of basic data, because establishing any new business is considered too risky by investors when basic information required for decision-making is unavailable. In many countries, the ability of Governments and business leaders to formulate an effective national industrial policy has been seriously constrained by the lack of basic data.

26. The data gap has also been felt in many developing countries with reference to Goal indicators, especially relating to the size and contribution of small-scale

industrial enterprises and their access to financial services. Small industrial enterprises play a pivotal role in generating employment and self-employment, thereby preventing a large segment of the population from falling below the poverty line. However, the current system of industrial statistics in many developing countries is to collect data from the larger establishments above a certain size, such as those that have 10 or 20 persons engaged. Furthermore, data by employment size and industry class are available for a limited number of countries only. It is imperative that national statistical offices include small industrial enterprises in their future survey programmes.

27. Surveying small firms in developing countries is much more difficult than doing so for large enterprises. Significant efforts are generally required to build a reliable survey framework, especially as some activities are performed only seasonally, rendering it necessary to select the appropriate survey period. A proper sampling plan is required to ensure good representation of all geographical areas and activities. It is highly recommended that international agencies with experience in economic surveys, such as the Food and Agriculture Organization of the United Nations, UNIDO, the Division and the World Bank collaborate in developing the necessary tools and methods and implement surveys in sample countries on a pilot basis. The experience acquired from such exercises could be extended to other countries. Statistics of small industrial enterprises are essential not only for Goal monitoring, but also, and more importantly, for achieving sustainable industrialization.

VIII. Points for discussion and decision

28. **The Commission is invited:**

(a) **To comment on the report with regard to current activities in industrial statistics, to take note of the progress made by UNIDO in its programme of work on industrial statistics and to encourage countries to improve the implementation of their industrial statistics programmes;**

(b) **To endorse the finalization of the transfer of responsibility for the collection and global reporting of industrial statistics from the Division to UNIDO and to request national statistical offices to report industrial commodity production data to UNIDO;**

(c) **To call upon developing countries to accord higher priority to industrial statistics, especially those relating to small enterprises, in order to facilitate the comprehensive monitoring and implementation of the Goals;**

(d) **To request international agencies and development partners to increase assistance for developing countries through capacity-building programmes on industrial statistics, especially in the context of the Goals.**