

## QUALITY ASSURANCE, ARRANGEMENTS WITH COMMON QUESTIONNAIRES AND CONFLICTING STATISTICS

### Note by the Statistics and Information Networks Branch, UNIDO

UNIDO maintains and disseminates industrial statistics databases containing annual time series on selected key industrial statistics. Those databases are 3-digit ISIC(Rev.2) database (INDSTAT3), 4-digit ISIC(Rev.2) database (INDSTAT4) and 3- and 4-digit ISIC(Rev.3) database (INDSTATrev3), all pertaining to the manufacturing sector. In collaboration with the Organisation for Economic Development and Cooperation (OECD), the time series are obtained from national statistical offices (NSOs) via the country questionnaire that is pre-filled with previously reported data. The officially reported data are supplemented with UNIDO estimates and other sources. The current data coverage of each of the three databases is summarized below.

	<u>Approx. no. of records</u>	<u>Number of countries and areas covered</u>	<u>Period coverage</u>
INDSTAT3	760,000	175	1963-1999
INDSTAT4	470,000	114	1981-1999
INDSTATrev3	210,000	62	1990-1999

In addition to those three INDSTAT databases, the organization also maintains a production-cum-trade database at the 4-digit level of ISIC(Rev.2) covering approximately 80 countries and the period 1981-1998.

UNIDO disseminates CD-ROM versions of these databases. Selected statistics and indicators that are derived from the INDSTAT databases are published in the organization's annual commercial publication, the *International Yearbook of Industrial Statistics* as well as on the UNIDO website.

As part of its statistical quality assurance programme in the context of international data comparability, UNIDO started in 1999 a project for the development of a computer-based flexible metadata system to support the INDSTAT databases aiming at the provision of consistent and appropriate qualitative information for INDSTAT data to users.

With regard to other data fields, UNIDO carries out imputation and nowcasting of constant-price annual time series on manufacturing value added (MVA) in the context of

national accounts framework in order to fill existing data gaps in the data provided by other international and regional sources.

(a) QUALITY ASSURANCE

By their nature, cross-country comparability is the main concern with respect to any international statistical data. Thus, UNIDO makes various efforts to obtain associated metadata from original data sources and, at the same time, carries out several manual and computerized data-screening procedures to detect, on logical, statistical or economic ground, inconsistent or implausible data in the reported set of data. The computerized as well as manual screening procedures relate to year-to-year changes, inter-variable relations, matching between total and sum of component data and inter-industry consistency with regard to selected inter-variable relations (e.g., ratios) and changes over time. When deemed appropriate, the organization adjusts or re-estimates the detected data in line with international comparability by utilizing available supplementary information, or makes inquiries to the reporters.

Each of the INDSTAT databases is organized in accordance with three, four or five “stages of data compilation: The first layer contains the data that were officially reported by NSOs; the last layer cumulates the data contained in the previous layers and estimates made by the organization; and the intermediate layers add data of decreasing authoritative sources. The layout allows to retrieve the data according to the degree of confidence they deserve.

Within-country consistency of data can be achieved to a large extent under the respective national standards. For such detailed economic survey statistics as industrial statistics, data are largely influenced by survey scope and coverage, concepts and definitions of the statistics, industrial classification, etc. which differ from country to country reflecting the national needs of the respective countries. Thus, achievement of cross-country consistency of such data is often limited to only a few aspects (e.g., industrial classification). To assure sound use of INDSTAT databases, UNIDO has been developing, as mentioned earlier, a sustainable flexible metadata system in support of the databases.

(b) ARRANGEMENTS WITH COMMON QUESTIONNAIRES AND THE POLICIES FOR PUBLISHING OF THE DATA COLLECTED IN THIS WAY BY THE ORGANIZATIONS INVOLVED

UNIDO compiles worldwide selected industrial statistics from NSOs in collaboration with OECD: UNIDO collects data directly from non-OECD countries via UNIDO’s country questionnaire while OECD collects data from its member countries via OECD/UNIDO joint country questionnaire and, after screening and modifying them, provides the compiled data to UNIDO in order to complete the INDSTAT databases. Aiming at cross-country consistency of collected data, the OECD/UNIDO joint questionnaire and the UNIDO questionnaire were developed under mutual consultation between the two organizations.

With regard to the industrial statistics, UNIDO disseminates the data in the global context including the data for OECD countries together with those for other countries while OECD disseminates the data for its member countries only.

### (3) CONFLICTING DATA IN ORGANIZATIONS EVEN WHEN THE SAME ORIGINAL NATIONAL DATA IS USED AS A STARTING POINT

In the case of the worldwide industrial statistics, UNIDO is the sole data source. Therefore, there is no conflict between international data sources. With regard to MVA data, mixed use of the data published by different international and national sources together with the organization's data estimation often results in data conflicts with other sources.

### (4) CONFLICTS BETWEEN NATIONALLY SUPPLIED DATA AND INTERNATIONALLY COMPARABLE DATA PREPARED BY SOME INTERNATIONAL ORGANIZATIONS

Conflicts arise between INDSTAT data and NSO's data when the original data reported by the NSO are adjusted/modified by UNIDO to achieve international comparability of the data. However, the data modification/adjustment by the organization is, in most cases, transformation of the data in accordance with national standard to those in accordance with international standard (e.g., reclassification of data from national classification to ISIC). Therefore, those apparent data conflicts are often not real conflicts.