Regional Workshop on Measuring the Informal Sector and the Non-Observed Economy

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Method of production – sectoral (branch) approach

UNITED NATIONS SIAP Statistical Institute for Asia and the Pacific

Industry approaches

* To determine the total manufacturing industry
* Conduct additional calculation if the coverage of regular statistics there are gaps (household enterprises, large and medium-sized enterprises)
* Keep in mind the fact that evaluation of the industry which can duplicate data from other industries, where the main industry is as a secondary activity

1. Agriculture

* In some countries, it is one of the main activities
* In the absence of regular data on agricultural output, intermediate consumption and value added (small production households), calculations and estimates of the number of crop production based on producing data on the cultivated area, the average yield and the costs associated with production. uction.

1. Agriculture

* From regular agricultural statistics can be used information on of changes cultivated land, land use data derived from agricultural censuses
* Additional information about the cost structure can be extracted from land maps, compiled with the help of aerial photographs and surveys to compile the land cadastre, agricultural surveys, studies in the field of plant

1. Agriculture

* From government statistics (statistics supply data on the balance sheets of certain products, their exports and imports) can also help as indicators
* Availability of annual data on the amount of agricultural stocks and the number of head of livestock, its reproduction and faces to the base period can be used for extrapolation in the years where data are not available for various reasons

1. Agriculture

* Data on the centralized distribution of the costs of fertilizers, seeds, medicines, and they serve as intermediate consumption. On the other hand data on the manufacturing industry purchases of meat, milk, wool and other products are used as indicators of product

1. Agriculture

* *Household income and household expenditure provide data on the production of household production for own final use and for sale on the market (agricultural, animal livestock, fishery, apiculture)*

2. Mining and quarrying

* *Mining is a capital-intensive activity, usually undertaken by large enterprises and they are coveraged by regular statistical account*
* *In most cases there is no data on the mining activities undertaken by households that do not always act on the basis of licenses (gold prospectors, coal mining , sulfur and amber artisanal)*

2. Mining and quarrying

* If there is data on the employment information is needed on the average income of the places on the basis of special studies, surveys. On the basis of data on manufacturing industries, with the full scope of the accounts, it is possible to use these data as indicators for the missing data for intermediate consumption in the mining industry registered export and import transaction

C Manufacturing

* In manufacturing, the production can be underestimation associated with the activities of households that are involved in the production of industrial goods but usually using less capital-intensive technologies with the release of less knowledge-based and less complex products

C Manufacturing

* Although business surveys of industry are held regularly, but part of the producing units are not subject to survey because they are not significant volumes. However, these units can be a huge amount, mostly in faraway regions, where small industrial production is a part of life (dressing of leather, wool processing and production of fabric, wood processing and furniture manufacturing)

C Manufacturing

* Therefore there is a need for additional payments to small-scale production. Payments for base years with full coverage (if they also cover small producers) are possible on the basis of periodic manufacturing censuses
* To obtain estimates for the current period, you can use the data in the calculations for the base years of employment, manufacturing exports, imports of raw materials and taxes combined

C Manufacturing

* Activity in the manufacturing sector of households, especially in the production for own consumption may be derived from income and expenditure surveys of households or one-time surveys cottage industries

4. Construction

* *Construction of private houses often comes off the regular collection of data, but the data can be obtained from population censuses or housing serves as a benchmark. Inter-annual indicators for housing may be obtained using building permits, housing construction in operation, forecasts of demand for housing*

* *Construction activity generally measured using the indirect method*

4. Construction

* The cost of construction is calculated using the issue of trade flows, by means of which first defined the resources of building materials entering the construction activities then the ratio of input and output obtained from the calculation basis for the years or other data sources, with full coverage, calculate the volume of the issue (market products)

4. Construction

* Various types of construction affect the ratio of input and output, which are necessary to obtain estimates of Manufacture

* You can use the data on housing stock in combination with certain calculations (method of amortization) for the estimate of the average cost for the maintenance of dwellings

5. Trade

* Trade includes the potentially huge amount of small traders, but the ability to make some shady schemes allow even relatively small Number of traders, and optionally in the wholesale trade to achieve greater sales volumes

5. Trade

* In the absence of direct information activities of retail trade, for the value of retail trade turnover can be combined resource estimate product groups with information on the percentage of the overall resources distributed through retail channels (the sum of groups for different types of goods should be in equal to total volume of goods)

5. Trade

* *Levels of margins in retail trade is best determined by means of special sample surveys, as margins may differ significantly from each other depending on the type of product and the location and the region's sales*

* *Comprehensiveness calculations on the basis of trade flows depends on the coverage of the statistics of resources where the statistics of imports of goods does not reflect the fact pair of shuttle trade, which has a pair of significant market share (cigarettes, drag stones, alcohol)*

5. Trade

* Calculation of retail trade turnover can be based on purchases of goods by households with household expenditure surveys but amendments on purchases in other retail customers (enterprises, state, tourists)

* If there is evidence of employment, they may be considered to generate income from trading activities not covered by regular surveys of trade

* The calculation of trade margin can be made by applying the use table

6. Restaurants and hotels

* In the absence of data for small restaurants, bars, cafes and other catering, furnished rooms and pensions as a basis for calculating the value added can be used employment data, or the tax payable by the manufacturer, or records that are maintained by local authorities or associations entrepreneurs

6. Restaurants and hotels

* Data for hotels and restaurants services consumed by households can be obtained from household expenditure surveys but consider other directions for their use within the country, such as intermediate consumption as well as export and import

6. Restaurants and hotels

* Information on value-added tax, indicators of tourism statistics, such as the arrival of tourists, overnight hotel stay, length of stay, the average cost may be an indicator of added value, and the issue of hotel business

* As an indicator for estimating the amount of the tip can be used data on employment in the industry

7. Transportation and Communications

* In the absence of data on road transport in terms of taxis, vans and trucks can use the information on the registration of cars and transport statistics

* For information on income and expenditure per unit of transportation (e.g. freight ton-kilometer or taxi ride) can be collected by special surveys

7. Transportation and Communications

* The data on the carriage of goods can be obtained from the foreign trade statistics
* Records of public institutions or business associations can provide information on the number of business units of communication services, such as e-mail services, fax and telephone

7. Transportation and Communications

* If possible, it is necessary to carry out cross-check the calculations of release transport and communication services by comparing them with data on the use of such services can be obtained from household surveys, business statistics, data of state institutions and the balance of payments
* On the basis of the use of the table by applying the calculated levels of transport margins to the different flows in the composition can be produced by the use of the calculation of transport margins

8. Business, professional and technical services

* Information about the number of specialists involved providing various business, professional and technical services can be obtained on the basis of licenses granted by the authorities, or professional associations, with the census or labor force survey, with data on the tax on gross income, adjusted understatement of income on tax returns (based on the decision of the working groups)

9. Education, health and other personal services

* Sources of data on private education services, health care and other personal services (which often are important small producers) are often absent

* In addition to the survey, or to confirm the estimates, we can use indicators from administrative sources in kind to education and health services

9. Education, health and other personal services

* The number of establishments or professionals can be obtained from administrative records, data on granting licenses and by professional associations

* For information on the number of persons employed in these activities can be drawn from the census or labor force survey

9. Education, health and other personal services

* Household expenditure surveys can often provide data on the consumption of these services by households, but these surveys can not provide them with full coverage, since they do not involve the use of these services is financed by insurance programs

10. Household services

* Small-scale activities in this area can be covered by a population and labor force surveys, which often contain data on total number of persons engaged in the provision of domestic services
* The average income for employed can be calculated on the basis of specific small-scale surveys and surveys cost to households

11. Services to stay in own homes

* Calculations of the cost of services to stay in their own homes can not be based on direct observations, as to these services do not have market operations
* The most common method is to determine the number of dwellings occupied by their owners, according to the census of population and housing, or the calculation of cost of services to stay in their own homes, on the basis of the rent for similar dwellings, which can be obtained from a census of housing or real estate agents

11. Services to stay in own homes

* An alternative method is to calculate imputed rents based on the opportunity cost where net value added is obtained by multiplying a certain rate of interest on the estimated cost of housing occupied by their owners, this is added to the consumption of fixed capital and intermediate consumption to get the total output of services to stay in own home. This method leads to a variability in estimates of production and consumption of these services because of the volatility of interest rates. When an undeveloped financial system in rural areas as well as in developing countries, interest rates may be uncharacteristically high

11. Services to stay in own homes

* Assessment on services to stay in their own homes are usually made on the basis of estimates for the base year, where there are detailed data such as price index of rents included in the consumer price index, construction statistics, data on building permits are used to update estimates of the housing stock, particularly for urban areas, where housing is regulated

11. Services to stay in own homes

* Calculations are made for the reference year with the release of urban, rural and other areas (resorts)
* The calculations for the base year must be updated periodically, and the indicators used in the calculations should be reviewed regularly

Problems calculations by production

* National accounts (output, intermediate consumption and value added) are calculated with the help of some relations based on assumptions about the relationship between computed and indicators

Problems calculations by production

* Calculation of indicators of production accounts (output, intermediate consumption and value added) is required, as the attempts to directly calculate the value added have serious drawbacks

Problems calculations by production

* The most important disadvantage is that the value added by itself does not have the characteristics of volume and prices, which could be observed, and this makes it impossible to obtain reliable estimates at constant prices, on the basis of the data at current prices, and vice versa

Problems calculations by production

* To deflate the value added at current prices, or valuation at current prices of its value in constant prices are used, or the cost of manufacture
* The use of a fixed ratio of input and output to the estimates at current prices could lead to unacceptable results in terms of deflators that are calculated indirectly
* If calculations are made at constant prices, the calculations at current prices can be obtained by using price indices

Problems calculations by production

* If there are indicators for the issue, and for intermediate consumption, there should use the double deflation method for calculating value added at constant prices
* The composite indicator of construction products may include the cost of basic construction materials and labor

Problems calculations by production

* Selection of appropriate indicators depends on the quality of data and the correlation between the indicators and production. Composite indicators reduce the risk of systematic error that can occur when using a single indicator

* Complete and detailed data can be obtained only from time to time, or in special cases (costly general survey)