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THE INFORMAL SECTOR IN THE NATIONAL ACCOUNTS OF INDIA

Ramesh Kolli¹

*Additional Director General, Central Statistical Organisation
Ministry of Statistics and Programme Implementation, India*

I INTRODUCTION

1. In the Indian national accounts, the informal sector is referred to as the unorganised sector. This sector broadly corresponds to the household sector including private unincorporated enterprises. The unorganised sector also includes some formal activities on which there is no regular system of data availability. However, contribution of these formal activities in the GDP of unorganized sector is quite small.

2. The unorganized sector contributed 58.0 per cent of the Net Domestic Product (NDP) in the year 2004-05, of which 18.7 per cent was from the agriculture and allied activities, 4.5 per cent was from the manufacturing, 4.4 per cent from construction, 14.5 per cent from trade, hotels and restaurants, 5.1 per cent from transport, storage and communication, 6.5 per cent was from financing, insurance, real estate and business services and 4.0 per cent from community, social and personal services (Table 1).

Table 1: Contribution of factor incomes to the Net Domestic Product, by organized and unorganized sectors (at current prices)

industry		1999-2000			2004-05		
		ORGD.	UNORGD	TOTAL	ORGD.	UNORGD	TOTAL
1. Agriculture, forestry & logging and fishing	CE	0.5	4.2	4.7	0.5	3.2	3.7
	OS/MI	0.4	21.4	21.8	0.6	15.5	16.2
	NDP	0.9	25.6	26.5	1.1	18.7	19.8
2. mining & quarrying	CE	0.9	0.1	1.0	0.9	0.1	1.0
	OS/MI	0.9	0.1	1.0	1.8	0.1	1.9
	NDP	1.9	0.2	2.1	2.6	0.2	2.9
3. manufacturing	CE	3.2	1.3	4.5	3.5	1.2	4.7
	OS/MI	4.8	3.6	8.4	5.8	3.4	9.1
	NDP	8.0	4.8	12.9	9.3	4.5	13.8
4. elect. gas & water supply	CE	1.0	0.0	1.0	0.9	0.0	0.9
	OS/MI	0.5	0.0	0.5	0.2	0.1	0.2
	NDP	1.5	0.0	1.5	1.1	0.1	1.1
5. construction	CE	1.8	2.9	4.7	1.8	3.6	5.5
	OS/MI	0.8	0.7	1.5	0.9	0.8	1.6
	NDP	2.6	3.6	6.2	2.7	4.4	7.1

¹ Views expressed in some sections are the personal views of author

industry		1999-2000			2004-05		
		ORGD.	UNORGD	TOTAL	ORGD.	UNORGD	TOTAL
6. trade, hotels & restaurant	CE	1.1	1.6	2.7	1.0	1.5	2.4
	OS/MI	1.3	11.5	12.9	2.5	13.0	15.6
	NDP	2.4	13.1	15.5	3.5	14.5	18.0
7. transport, storage & comm.	CE	2.1	1.1	3.2	2.0	1.4	3.4
	OS/MI	0.8	2.6	3.4	0.9	3.7	4.6
	NDP	2.9	3.7	6.6	2.9	5.1	8.0
8. financing, insurance, real estate & business services	CE	2.5	1.8	4.3	2.6	1.7	4.4
	OS/MI	4.4	4.7	9.0	5.4	4.7	10.2
	NDP	6.9	6.4	13.3	8.1	6.5	14.5
9. community, social & personal services	CE	10.6	1.0	11.5	9.5	1.1	10.6
	OS/MI	1.3	2.6	3.9	1.3	2.9	4.2
	NDP	11.9	3.6	15.4	10.8	4.0	14.8
10. net domestic product at factor cost	CE	23.7	14.0	37.7	22.6	13.9	36.5
	OS/MI	15.2	47.1	62.3	19.4	44.1	63.5
	NDP	38.9	61.1	100.0	42.0	58.0	100.0

CE: compensation of employees; OS: operating surplus (refers to organized sector)
MI: Mixed income (refers to unorganized sector)

3. The share of unorganized sector in the total net domestic product of the country is, however, declining. During 1999-2000, the unorganized sector contributed 61.1 per cent. The decline in the unorganized sector's share is mainly on account of declining share of agriculture in the overall NDP from 26.5 per cent to 19.8 per cent. The agriculture and allied activities are predominantly in the unorganized sector, to the extent of 94.4% of agricultural activities. Thus, if the agriculture and allied activities are excluded, the unorganized sector's contribution in the overall NDP increased from 35.5 per cent in 1999-2000 to 39.3 per cent in 2004-05. Within non-agricultural activities, the share of unorganized sector is 49% in 2004-05, up from 48.3% in 1999-2000.

4. The paper presents broadly the procedures of estimating the GDP of unorganized sector in the Indian system of national accounts, particularly in the new series of national accounts (base year 1999-2000), which was introduced in January, 2006. The coverage of organized sector in the Indian system of national accounts has been described in Section 2. An overview of the procedure of estimation of GDP for the unorganized segments of various economic activities is presented in Section 3. The concluding remarks are given in Section 4.

II COVERAGE OF ORGANISED SECTOR

5. For the purpose of compiling the GDP estimates separately for organized and unorganized sectors, the following definition of organized sector has been adopted in the Indian system of national accounts. The complementary units are in the unorganized sector.

- 1) **Agriculture**
 - government irrigation system, non-departmental public enterprises and crop production in plantation crops of tea, coffee and rubber covered in private corporate sector
- 2) **Forestry**
 - recorded production of industrial and fuelwood, as reported by the State Forest Departments

- 3) **Fishing**
 - non departmental enterprises (public undertakings)
- 4) **Mining & quarrying**
 - major minerals
- 5) **Manufacturing**
 - registered factories covered under Factory Act (largely, those employing 10 or more workers)
- 6) **Electricity, gas and water supply**
 - total activity of electricity, public sector part of gas and water supply
- 7) **Construction**
 - construction works in the public sector and private corporate sector (Joint Stock Companies)
- 8) **Trade, hotels & restaurants**
 - public and private corporate sector and cooperatives
- 9) **Railways**
 - Total activity
- 10) **Transport by other means**
 - public sector, private shipping companies, private airlines and road transport covered under the private corporate sector
- 11) **Storage**
 - warehousing corporation in public sector, cold storages covered under Factory Act
- 12) **Communication**
 - public sector and companies covered under the private corporate sector
- 13) **Banking and insurance**
 - total activity except the commission agents attached to life Insurance Corporation of India and unorganised non banking financial undertakings including professional moneylenders and pawn brokers
- 14) **Real estate, ownership of dwellings and business services**
 - real estate and business services companies in the private corporate sector and public sector
- 15) **Public administration and defence**
 - Total activity
- 16) **Other services**
 - public and private corporate sector medical, sanitary services, TV and radio broadcasting and other services and public and recognised educational institutions in the private sector

6. The above categorization was adopted keeping in view the nature of operations of the activities (such as in agriculture), size criteria (in manufacturing), data collection mechanism (mining), and recognition of the activity (educational institutions). Other than these criteria, units in public sector and private corporate sector are generally in the organized sector.

III ESTIMATION OF GDP FOR THE UNORGANISED SECTOR

7. The estimates of GDP for the entire economy are compiled and released through all the three approaches in India. However, the GDP compiled through production

approach is treated as firmer estimate of GDP. Using the same data sources, some income and expenditure GDP aggregates are derived as residuals, or through the commodity flow approach. While, the level of GDP from production and income side is same, discrepancy with GDP expenditures is recorded separately.

8. In view of the predominant preference to GDP from Production method, efforts are focused on exhaustively measuring the GDP from production side (covering economic activities that fall within the production boundary of 1993 SNA, namely production of all goods, production of services that are supplied to other units, and production of housing services by owner-occupiers and domestic services produced by employing paid employees).

9. In this context, compiling realistic and reliable estimates of GDP of unorganized sector becomes essential. However, the absence of annual enterprise surveys on unorganized sector and annual labour force surveys, makes the task somewhat difficult. Therefore, using the data that is available from the periodic benchmark enterprise and labour force surveys (generally once in 5 years), the contribution of unorganized sector to the GDP is estimated in India.

10. The procedures adopted for this include, compiling benchmark estimates of GDP through labour input method, and for subsequent years, extrapolating the benchmark estimates with proxy physical indicators. There is also significant reliance of rates and ratios, which are updated at the time of revision of base year, generally once in 5 years.

11. The procedure of estimation of GDP for the unorganized segments of economic activities is given in brief, below:

Agriculture, forestry, fishing and mining

12. The estimates of value added for the primary activities (agriculture, livestock, forestry, fishing and mining) are compiled by multiplying the data on production in quantities with the producers' prices, and deducting from therein, the material input costs. The commodity-wise data on production, prices and inputs are available from the administrative source agencies. The production data in agriculture, forestry and fishing includes production for own final consumption. Generally for these activities, the overall estimates are prepared, item-wise, and those covered under organized sector are excluded to obtain the value added estimates for the unorganized segment of these activities. However, for mining, the estimates of organized and unorganized segments are compiled independently.

13. For the agricultural activities, estimates of area under different crops are made from the village records generally on complete enumeration basis, and the estimates of yield for principal crops are based on about 500,000 crop cutting experiments conducted every year. For some of the other crops, especially those covered under plantation crops, the respective Boards provide the relevant production data. However, there is under coverage in this in respect of crops, although the gross cropped area is accounted for from the land use statistics. These relate to certain miscellaneous and 'other' crops, for which data on area under these crops is available from land-use statistics, but yield rates are not available. For the sake of exhaustiveness, an estimated value per hectare is applied on the area under these

miscellaneous and other crops to arrive at the value of output estimate. Similarly, in respect of output of grass used as feed of livestock, estimates are built up using the gross area available from all sources (including forest) for grazing purpose. The value of output of agriculture also includes agricultural production in the backyard/foreyard, which is estimated on the basis of data available on land under homestead and value per hectare of horticultural crops. The value added in the unorganized segment is estimated by subtracting the component of organized segment from the overall commodity-wise estimates.

14. In the case of livestock, the 5-yearly livestock census provides the data on various categories of livestock population, by age and breed. The growth rates observed between the previous two censuses are used to estimate the livestock population for the subsequent years. The annual yield rates of livestock products are estimated through the Integrated Sample Survey, which is conducted through administrative agencies. By applying the yield rates on the projected livestock population, estimates of various livestock products are obtained. The entire activity is taken to be under the unorganized sector.

15. In the case of forestry, the production data furnished by the forest agencies on industrial wood, minor forest products and firewood has some amount of under-coverage. In order to account for this under-coverage, the total production of industrial wood is taken as 110% of the reported production. For the firewood, the production is estimated from the data on household consumption of firewood (available from consumer expenditure surveys) suitably adjusted for inter-industry consumption and other agricultural by products used for firewood purpose. The data on household firewood consumption is available from the consumer expenditure surveys of National Sample Survey Organisation (NSSO), which includes consumption from own resources. From the overall estimates, the components of organized sector are subtracted to obtain the estimates of value added for the unorganized segment.

16. Data on fishing activity is available from the surveys conducted at landing centres to capture the production of marine and inland fish. The under-coverage in this case relates to subsistence fishing (mainly for own final consumption). Based on type studies conducted in some places, the subsistence fishing is estimated to be 12.5% of inland fish production. The data on production of salted and sundried fish is also available from the administrative sources. The value addition on account of these activities is included in the national accounts. The value added in the unorganized sector is estimated as residual from overall estimates, by subtracting the contribution of activities in the public sector.

17. For the mining and quarrying activities, data on major minerals, including salt production through pan drying process of reliable quality is available regularly from administrative sources. Contribution of minor minerals to the value added is estimated from the data available with State Governments, and is taken to be under the unorganized sector. The under coverage in this relates to subsidiary activities undertaken by the mining enterprises. The contribution of these subsidiary activities is assessed by analysing the annual reports of these enterprises. Mining activity is mostly in the public sector and the unorganized sector's share within mining and quarrying is about 8%.

Construction

18. In the absence of data on construction starts and building permits, the commodity flow and expenditure approach is adopted for exhaustively measuring construction activity. For measuring the output of Construction activity, it is divided into two components namely (i) Accounted Construction (Pucca Construction) and (ii) Un-accounted construction (Kutchha Construction). The output of construction of the total economy is compiled by a composite methodology comprising both commodity flow approach and expenditure approach and taken as the total production costs of accounted and unaccounted constructions. The value of accounted construction undertaken with the use of construction materials such as cement, steel, bricks, timber, fixtures etc., is determined by commodity flow method. The estimates of labour intensive unaccounted construction (undertaken mostly with the help of freely available or traditional, locally procured materials like leaves, reeds, mud, etc.) are prepared by expenditure approach using data from sample surveys (mainly from the decennial All India Debt and Investment Survey (AIDIS), the latest is for the year 2002-03). A fixed percentage of value of output (separately for accounted and unaccounted constructions), which is updated at the time of revision of base year, is taken to be the GVA. The estimates of value of output and value added, so derived include the own account construction undertaken by the households.

19. Both types of construction (modern and traditional) are undertaken in all the sectors, namely, public sector, private corporate sector and household sector. From the total estimated construction in the country, estimated through the above stated procedure, the components of public sector and private corporate sector (which are independently compiled from the annual accounts of companies) are subtracted to obtain the estimated construction by the household sector. This part constitutes the unorganized sector.

Ownership of dwellings

20. Estimates of services of ownership of dwellings are compiled from the data available on dwellings (separately in rural and urban areas) from the decennial population census. The annual estimates of number of dwellings are compiled using the growth rates observed in the previous two censuses. To this size of dwellings, an average rent per dwelling (separately for rural and urban areas), which is estimated from consumer expenditure surveys, is imputed to obtain the housing services produced by owner occupied dwellings. This is taken to be in the unorganised sector.

Unorganised Manufacturing, Utilities and Services

21. The organized sector for these activities broadly comprises, (i) registered manufacturing activity (establishments employing 10 or more workers using power or 20 or more workers not using power), and (ii) public and private corporate sector in respect of all other activities. Estimates of GVA for registered manufacturing are based on annual survey of industries (ASI). For Utilities and Services activities, estimates of GVA for public sector components are based on budget documents and annual reports of public enterprises. For the segment of the economy covered under joint stock companies, benchmark GVA estimates are based on the number of employees engaged in this segment and value added per worker estimated from the enterprise surveys. For subsequent years, the benchmark estimates are extrapolated

with the growth rates observed in respective economic activities, as available from administrative sources and analysis of sample companies' accounts, every year.

22. All units complementary to the above coverage of organized sector, comprise the unorganized sector in respect of manufacturing, utilities and services. In the absence of annual enterprise surveys, the gross value added (GVA) estimates for these activities are compiled through indirect methods, using the benchmark-indicator procedure. In this procedure, the benchmark GVA estimates are initially prepared at detailed economic activity level for the base year of national accounts series using the estimated workforce engaged in the particular activity and the value added per worker (VAPW) in the same activity. While preparing benchmark estimates, alternative data sources such as those available on consumption are also examined (for example in the case of health and education services). For subsequent years, the base year GVA estimates are extrapolated with appropriate indicators relevant to the economic activity.

Estimates of total workforce by economic activity

23. For estimating the total workforce in the country by detailed industry level, the large-scale household sample surveys on Employment and Unemployment conducted by the National Sample Survey Organisation (NSSO), which provide work force participation rates (WPR) in different industries, is the source that is adopted in the national accounts compilation. These WPRs used in conjunction with the estimated population (available from the Decennial Population Census of the country), provide workforce estimates, by industry groups, as per International Standard Industrial Classification (ISIC). However, the requirement of workforce estimates for use in national accounts compilation is the number of jobs performed, rather than the headcount, as the value added per worker estimate comes from the enterprise surveys, which includes multiple jobs performed by individuals. The data on total number of jobs performed in each economic activity is not directly available. The available data on employment from the NSSO is through household enquiry method, which gives data on number of workers. The difference between the number of workers and the number of jobs is the multiple jobs performed by employed persons, data on which is, however, available from the NSSO reports. The estimates of workforce using WPRs from Employment and Unemployment Survey (EUS) and population estimates from the Population Census are compiled separately for rural and urban areas and also by gender, male and female. The total workforce in the country estimated through this procedure refers to the number of jobs performed and is taken as the controlling total. The workforce in each industry group estimated from the EUS is then cross-validated with the workforce data available from the decennial population census, to check for inconsistencies. Suitable adjustments in workforce estimates are made from the population census for some of the industry groups, for which the sample survey estimates are not considered reliable, without changing the total estimated workforce from the EUS.

24. Once the total workforce is estimated by industry-group using WPRs from EUS, the workforce is divided between organized (comprising public sector and private organized sector) and unorganized sector. The data on total estimated workforce in public sector and private organized sector is available annually from the Administrative sources. These workforce estimates are compiled following the enterprise approach, therefore, they refer to 'number of jobs'. The estimated workforce in the unorganized

segments of various economic activities are derived as residual by deducting the organized sector workforce estimates from the total workforce of each industry group.

Estimates of Value Added Per Worker (VAPW) by economic activity

25. The estimates of VAPW for the unorganized manufacturing and services sectors are from the detailed data available from the enterprise surveys conducted by the NSSO, from time to time on different unorganised industries of the economy. These enterprise surveys typically cover all units other than those covered in the public sector, except the manufacturing industry. For the manufacturing industry, the enterprise survey covers all units not covered under Annual Survey of Industries (ASI). Other than the surveys on unorganised manufacturing, the enterprise surveys cover all units in the private sector – both organised as well as unorganised. These enterprise surveys provide information on value added, employment, etc. separately for the units covered under private corporate sector and the unorganised sector. The value added per worker of the units in a particular industry group is estimated as the ratio of gross value added to the total employment in all the units of the particular industry group. The VAPW is estimated separately for the private corporate sector part and the unorganised part of each industry group. While compiling detailed VAPW estimates, unit level data is thoroughly scrutinised for inconsistencies in the data among various items, such as output, inputs, salaries and wages, investment, etc. Also, suitable adjustments in the survey data are made according to the national accounts concepts.

26. The gross value added of the unorganised segment of a particular industry group in the benchmark year is the product of gross VAPW and the workforce in that industry group in the same year. This procedure is followed to estimate the value added of unorganized segments of all activities in manufacturing, utilities and services.

Annual Estimates Value Added of unorganised segments

27. The annual estimates of value added for the unorganized segments of agriculture, forestry, fishing and mining are compiled by direct methods as explained above.

28. In the case of unregistered manufacturing, the procedure followed for estimating the GVA annually, is to extrapolate the base year GVA estimates with the growth observed in the index of industrial production (IIP), at each detailed industry level. For the current price estimates of GVA for unregistered manufacturing, the relevant wholesale price indices (WPIs) are super-imposed on the constant price GVA estimates, at detailed industry level.

29. For electricity, gas and water supply, the GVA of unorganized part of water supply activity at current prices is estimated using the extrapolated workforce estimates and wages of municipality workers (smallest ones), while the constant price GVA estimates are compiled by deflating the current price GVA estimates by relevant price indices.

30. For the unorganized part of trade, hotels and restaurants, GVA estimates of base year are extrapolated with gross trading index (GTI), which is specially compiled using the trading incomes from the commodity producing sectors (trading income, in

turn, is compiled from marketing surplus ratios and the corresponding trade margins of each commodity) and imports. The GTIs are compiled separately at current prices and constant prices and are used to extrapolate the base year estimates, to obtain the current and constant price GVA estimates of unorganized trade, hotels and restaurants activities.

31. In respect of all other services, the estimates for the unorganized segments are prepared by extrapolating the base year estimates with suitable indicators or by extrapolating the two components, namely, workforce and value added per worker. Some of these indicators are the index of agriculture production, index of cargo handled for water transport, volume index in the case of communication, etc.

III CONCLUDING REMARKS

32. The unorganized sector in the national accounts broadly refers to the informal sector. India has a sizeable unorganized sector and it accounts for about 60% of NDP, and 39% if agricultural activities are excluded. The unorganized sector is predominantly in agriculture, construction, trade and transport activities.

33. In view of its size, it is essential that the contribution of unorganized sector is realistically captured, so that the estimates of GDP exhaustively cover all the economic activities in the country. The absence of annual enterprise surveys and annual labour force surveys, makes this task difficult. However, data available from the periodic benchmark surveys (generally once in 5 years) on enterprises and labour force, enables the CSO to compile the GDP estimates for the unorganized sector through indirect methods, such as the labour input method, commodity flow methods and application of rates and ratios.

34. While the estimates of value added for unorganized agricultural and mining activities are compiled by direct methods using the data on production and prices, those for construction are derived as residual after estimating the total output for the entire economy through commodity flow approach. For the unorganized manufacturing and services activities, the estimates are compiled through benchmark-indicator procedure.

35. It is important, while using indirect methods and rates and ratios for a sizeable part of GDP estimation, that they are frequently updated and their reliability is tested. Generally, most rates and ratios are updated at the time of revision of base year through type studies and input-output tables. Regarding indirect methods, it has been observed from the past experience that the revisions in the level of GDP estimates has been marginal, whenever results of new surveys are included in GDP compilation.

36. While estimating the component of unorganized sector in each economic activity, the task of exhaustive measurement of GDP is kept in view. While the benchmark GDP estimates of unorganized sector are considered reliable and are based on current direct data, the reliability of annual estimates depends on the suitability of proxy indicators used to track the performance of unorganized sector. In this context, both the levels and growth rates of GDP are dependant on the proxy indicators used for the unorganized sector and influence significantly on the overall GDP level and growth rate, in view of the large size of unorganized sector. In order to test their suitability, indicators used in indirect estimation of GDP are continuously evaluated

for their appropriateness and changes are made when needed. Further, it has been the experience that the extent of revisions in the level of GDP is marginal whenever the base year of national accounts series is revised, in which the long-term survey results are incorporated.

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Annex

SHARE OF UNORGANISED SEGMENT IN NET DOMESTIC PRODUCT, BY ECONOMIC ACTIVITY (percent)

industry		1999-00	2004-05
1	agriculture, forestry & fishing	96.5	94.4
2	mining & quarrying	8.4	7.9
3	manufacturing	37.6	32.8
4	elect. gas & water supply	2.7	4.7
5	construction	58.8	62.1
6	trade, hotels & restaurant	84.4	80.6
7	transport, storage & comm.	56.3	63.7
8	financing, insurance, real estate & business services	48.4	44.5

9	community, social & personal services	23.1	27.1
10	net domestic product at factor cost	61.1	58.0