

***Background paper for the workshop on conceptual issues in measurement of employment-unemployment:***

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## **1. Measurement of employment-unemployment in NSS**

### **1.1 Background of the concepts used in NSS:**

The National Sample Survey (NSS) has been associated with the measurement of employment-unemployment since its inception in 1950. Most of the methodologies followed in the measurement of employment and related aspects of the population have its origin in NSS. During the early rounds of NSS, the “gainful occupation” approach which pre-supposes a stable functional attachment for each person to a gainful activity ignoring seasonal or casual changes or shifts from this activity was used. Such an approach necessarily tends to overestimate employment and underestimate unemployment. Later on, NSS used the labor force approach, which is based on the current status of the person, during a short reference period, usually a week.

In its 9<sup>th</sup> round survey the NSS adopted the usual status approach with an year as the reference period while at the same time collecting data on the number of hours worked during a reference period of seven days. The results clearly indicated that the usual status concept severely underestimated the important dimension of unemployment namely underemployment. Thus it became clear that as far as the situation in India was concerned, the longer the reference period, the smaller will be the rate of unemployment and the shorter the reference period, the larger the unemployment rate. In 1961, the CSO prepared a “standards for surveys on labor force, employment or unemployment”. In this standard the labor force or current status approach with a reference period of one week was recommended. It also specified clear guidelines for classifying persons to various classes so that statistical measurement can be made unambiguously. It laid down slightly different criteria for rural and urban areas.

Not satisfied with the estimates of unemployed used for the five year plans, the planning commission appointed a committee under the Chairmanship of Prof. Dantwala in 1968 to examine the methods used for estimating the unemployment and for suggesting improvements in the estimates of various aspects of employment-unemployment. The committee recommended that no one-dimensional measure was meaningful in the Indian context and that estimates should be generated for various homogeneous segments of the population. **Instead of averaging different weekly statuses, it recommended the use of daily record of diverse activities pursued by the persons.** However the usual and weekly status approaches were to be continued as the latter allowed comparability over past data and the former alone could give an estimate of the actual number of persons employed or unemployed. Over the different rounds since then, these three approaches have been generally followed though slight modifications were made in some rounds.

Thus the National Sample Survey Organisation (NSSO) currently produces three types of estimates of employed and the unemployed. These are, as noted above, the usual status employed (unemployed), current weekly status employed (unemployed) and the daily status employed (unemployed). The usually employed are considered both according to their principal and subsidiary status. The methodology for assigning the three statuses is different and therefore their interpretation is also bound to be different.

## 2. Issues in interpretations of the measures used in NSS

### 2.1 Usually employed

The concept of usual status employment has been used in NSSO for quite sometime. In the 27<sup>th</sup> round where the current framework was first adopted, the definition employed for identifying the usually employed did not have scope for measuring the subsidiary status workers and the usually employed had a rather open-ended reference period. This was slightly modified in the second quinquennial round (1977-78) i.e. 32<sup>nd</sup> round and since then the usual status has two components with the year preceding the date of interview as the reference period. These are the principal and subsidiary statuses. The definitions for these two statuses and the procedure for its identification are well known and are not reproduced here. The interpretation of the usually employed persons does not pose much problem. These are persons who are ‘usually’ employed or ‘usually’ unemployed for a major time during the reference period. The usually employed therefore is an indicator of the persons who have a stable attachment with some economic activity though they may not be pursuing the same at any given time. The persons reporting unemployment in the usual status would be those who are chronically unemployed. In the Indian situation with predominantly self-employed and owner operated household enterprises and large-scale employment in the agricultural sector, such numbers are not expected to change within short periods.

By definition, the subsidiary status employed are those not having employment on a regular basis, but performing economic activity on a minor scale, again ‘usually’. They include among others, females in the rural areas helping in agricultural activities during peak periods of activity to supplement the labour requirements, students undertaking part time activities bringing economic benefits, retired persons engaged in some work on part time basis etc.

The concepts of usual status and the broad activity statuses of employed, unemployed and out of labor force and the two-fold division of gainful activities into principal and subsidiary activities as used in 32<sup>nd</sup> round (1977-78) have been broadly followed in subsequent NSS rounds. The procedure for identifying the principal status was changed in 50<sup>th</sup> round. Instead of a three-way classification into employed, unemployed and out of labour force for ascertaining the major-time activity, a two-way classification into labour-force and out of labour-force on the basis of major time criteria was made in the first stage. In the second stage, for those in the labour-force, employed and unemployed were identified again on the basis of major time criteria. As can be seen, the usually employed, measured as the sum of the principal and subsidiary status employed remains the same in both the approaches.

### 2.2 Extent of employment in subsidiary status

The table below (table 1) gives the percentage of persons reporting “NO” subsidiary status employment in the 55<sup>th</sup> and 61<sup>st</sup> rounds. In the NSS, subsidiary employment is noted for those with principal status employment and those not in employment. Among the employed, subsidiary employment is reported mostly from the employed persons in rural sector. [This is a case of multiple employment. However multiple employment is not important for estimating the number of employed persons. This is of course of relevance when estimating ‘jobs’ as against employed persons.]

Among those not employed, subsidiary status employment is significant only for females. It turns out that subsidiary employment is mostly reported for unemployed in the rural areas, and to a much less extent in the urban areas. The other important issue is the subsidiary employment of rural females who are otherwise classified as out of labour force. These are women who provide some labour input while remaining out of labour force most of the time. The subsidiary status employment as a percentage of total usual status employment has varied over the years. For rural males it was 4.08 % in the 43<sup>rd</sup> (1987-88) round and 1.69 % in the 50<sup>th</sup> (1993-94) round; for rural females it varied from 28.66 % in 50<sup>th</sup> round (1999-00) and 22.74 in 55<sup>th</sup> round; for urban males it was 2.34 % in 38<sup>th</sup> (1983) round and 0.97 in 50<sup>th</sup> round; for the urban female category the percentage varied from 22.37 in 43<sup>rd</sup> round to 18.67 in 61<sup>st</sup> (2004-05) round. [These figures are computed from various NSS rounds as the percentage of subsidiary status employed to the total employed viz principal status plus subsidiary status employed]

Table 1: Percentage of persons reporting “NO” subsidiary employment

Status	Rural male	Rural Female	Urban Male	Urban Female
<b>% of persons reporting ‘no’ subsidiary status employment- 55<sup>th</sup> round</b>				
Working in principal status	70.1	70.5	95.1	94.7
Unemployed	83.1	89.0	94.2	94.6
Out of labour force	98.5	91.2	99.3	97.6
all	83.6	86.4	97.0	97.2
<b>% of persons reporting ‘no’ subsidiary status employment-61<sup>st</sup> round</b>				
	RM	RF	UM	UF
Working in principal status	68.7	70.4	94.2	93.9
Unemployed	75.5	75.9	87.5	90.8
Out of labour force	98.1	88.9	98.9	96.5
all	82.1	84.3	96.1	96.1

## 2.3 How usually are the usually employed?

During the 61<sup>st</sup> round, and also in earlier rounds, a series of questions were asked to the usually employed to examine the extent of employment and under-employment for such persons. One such question was whether the usually employed had engaged mostly in full time or part time work during the reference period of 365 days. The second important question in this series was whether the usually employed worked more or less regularly during the 365 days. Though the exact distinction between these two questions has not been elaborately enumerated in the instructions, it is expected that the proportions of those having full time job and those who worked more or less regularly would be consistent.

Besides the above two questions, a question on the approximate number of months without work was also asked from all those who were usually employed. These months were to be counted after deep probing and identifying all months without work even if they were isolated months and the days rounded off to the nearest month. Yet another question was to know if the usually employed had sought or were available for **additional** work during the time they had work.

An examination of the results from these sets of questions is now attempted in Table 2. The published results are for the age-group 15 years and older.

As is to be expected the percentage of principal status employed not having full time employment are very small. For males it is 2 to 3 % and for females it is 8 to 9% (first row of table 2). These persons clearly are engaged in part-time work most of the time of the year, having been counted as usually employed on the basis of their major time engagement in economic activities during the year.

Table 2: Some features of the usually employed (**61<sup>st</sup> Round**)

For age 15 years and above	Rural male	Rural female	Urban male	Urban female
Percentage of principal status workers <b>not</b> having full time employment	3.6	8.5	1.7	9.2
Percentage of subsidiary status workers <b>Not</b> full time employed	65.9	57.6	59.6	72.8
Percentage of regularly working subsidiary status workers to total subsidiary status workers	38.1	73.2	34.5	65.6
Percentage of regularly working principal status workers to total principal status workers	89.0	86.1	93.8	91.1
Percentage of subsidiary status workers <b>Not</b> seeking additional work	83.3	92.1	78.6	87.5

Source: (Tables 68, 69, 71, Report No 515, 61<sup>st</sup> round NSS)

A similar question to those employed in the subsidiary status has elicited different response. By definition one would expect a substantial number among the subsidiary status employed to be not full-time employed. The results show that among rural males about 65.9 % has reported part-time engagement most of the time while this is much less for females (57.6 %). In the urban sector these are at 59.6 % for males and 72.8 % for females. The only explanation for this result could be that the full-time or part-time engagement relates to the days in which the person was employed and not to the employment for the entire period.

One kind of consistency can be assessed from the percentages of subsidiary status employed working more or less regularly. By 'regular' it is meant the length of time during the year. As such it was expected that the subsidiary status employed would not be employed for a considerable time during the reference year and the percentage of them regularly employed would be small. The results are otherwise. Among the females almost three-fourth of them (73.2 %) in rural areas are regularly employed, while in urban areas this is 65.6 %. For males employed in subsidiary status, this percentage is rather high at 38 % in rural sector and 35 % in urban sector. For principal status workers the percentages are high as expected.

Further, during the period they were engaged in work, most of the subsidiary status employed were also not seeking additional work. This raises another oft-repeated question of withdrawal from labour force by women. This withdrawal is generally identified from a tabulation of the usually employed (both in principal and subsidiary status) by their daily status employment.

Among the subsidiary status employed males, 78.6 % in urban and 83.3 % in rural areas did not seek additional work. Considering that the share of subsidiary status employed among males is very small, we might say that the so-called involuntary under-employed among the subsidiary status employed is minimal. For females this is even more so as almost 92 % of them in rural and 88 % in urban did not seek additional employment. Thus the results indicate that most of the subsidiary status employed are employed in subsidiary status **by choice**.

## 2.4 Period without work for the usually employed

For all the employed, the approximate number of months without work are also recorded in the NSS. This gives another dimension of the usually employed. Among those employed in the principal status in the rural sector around 21 to 22 % were without work for up to 3 months. Over 10 percent of them were without work for periods up to 6 months. However these percentages for the subsidiary status employed are in the opposite direction, which is quite in order.

Table 3: Percentage of principal status and subsidiary status employed persons without work (61<sup>st</sup> round)

Period without work	Rural		Urban	
	Male	Female	Male	Female
employed in principal status				
1 to 3 months	21.31	22.33	8.17	9.62
3-6 months	10.03	14.86	3.95	6.69
6-11 months	0.55	0.95	0.40	0.84
employed in subsidiary status				
1 to 3 months	6.57	7.36	8.16	11.14
3-6 months	9.88	12.50	8.39	13.52
6-11 months	33.23	9.23	45.06	13.15

Source: derived from tables 66, 17 & 19, Report No 515, NSS 61<sup>st</sup> Round

What the foregoing results indicate is that among the principal status employed there exist a certain percentage of persons who are not fully employed throughout the year. This is expected for the workers in the self-employed and the casual workers category. The table below based on the daily time disposition of those usually self-employed, shows that nearly 90% males worked throughout the week. For females this is around 50% only. The table also shows that most of them have not reported total unemployment for the days they were not working. For females an interesting peak is observed in the distribution, centred round the middle.

Table 4: Distribution of self-employed (PS+SS) by number of days worked in a week and number of days unemployed (Source Table 75, Report No. 458, NSS 55<sup>th</sup> round)

No of days worked in a week	Rural male		Rural female		Urban male		Urban female	
	Distribution of usually employed	Average no of days unemployed	Distribution of usually employed	Average no of days unemployed	Distribution of usually employed	Average no of days unemployed	Distribution of usually employed	Average no of days unemployed
0.0	30	2.2	170	0.5	23	2.7	142	0.2
0.5 – 1.0	3	1.7	8	0.1	2	2.7	9	0.2
1.5 – 2.0	8	1.7	33	0.1	4	2.0	31	0.4
2.5 – 3.0	10	1.6	32	0.1	6	1.7	41	0.3
3.5 – 4.0	24	0.9	194	0.0	15	1.1	167	0.1
4.5 – 5.0	21	0.6	36	0.1	17	0.7	24	0.1

5.5 – 6.0	21	0.2	21	0.1	40	0.1	21	0.1
6.5 – 7.0	884	0.0	507	0.0	895	0.0	565	0.0
All	1000	0.1	1000	0.1	1000	0.1	1000	0.1

The foregoing discussions highlight the difficulties in approximating the usually employed as a **one dimensional measure of the number of fully employed**. To bring-in more specificity in to the concepts, it was agreed to prescribe a minimum period of 30 days in employment for inclusion in the subsidiary employment during the 61st round. One possibility would be to further classify the activity status classification into more detailed categories to disaggregate the usually employed. Such categories could include home-based and other workers for self-employed persons, different types of employees among regular salaried (like those with permanent job, short term contract job etc). For example, this could be done by subdividing the self-employed further by attaching the place of work.

## 2.5 Issues in interpretation of Current weekly status

The adoption of week as a reference period follows the use of “labour force concept for measuring employment- unemployment”. In the given economic conditions of India and most other similarly placed countries, the use of the usual status concept fails to account for the seasonal changes in the activity pattern. The longer the reference period the larger would be those who have worked, and shorter the reference period, smaller the number of employed; the opposite happens for the unemployed. NSSO had experimented even with a day reference period in some of the rounds in the 1950s and the point was well established. Consequent to the recommendation of standards for labour force surveys by the CSO, ‘week’ was accepted as the reference period in India for all labour force surveys and NSSO has followed this reference period in all its quinquennial surveys since then.

Current weekly status is the unique activity status, which, according to a certain priority-cum-major time criterion, stood out as the most important during the reference period of 7 days preceding the date of enquiry. According to the specified priority criterion, the status of ‘working (or employed)’ was given priority over the status of ‘not working, but seeking or available for work (or unemployed)’ if such work was carried out for at least one hour for at least one day of the reference period of 7 days. Similarly, the status of ‘not working, but seeking or available for work (or unemployed)’ was given priority over the status of ‘not working and not available for work (or not in labour force)’. In the priority scale, the status of ‘working (or employed)’ was given the highest order, the status of ‘not working but seeking or available for work (or unemployed)’ came second and the status of ‘not working and not available for work (or not in labour force)’ last in order of importance. Hence, a person found ‘working’ for at least one hour for at least one day during the reference week was categorised as ‘working’ in current weekly status even if he was seeking work or available for work for the rest of the period.

Similarly, a person pursuing no economic activity during the reference period of 7 days but who sought work or was found to be available for work during any time of the reference week was categorised as ‘seeking or available for work (or unemployed)’ even though he or she was not available for work for a substantial period of time during the reference period. A person who had neither worked nor was available for work any time during the reference week even for one hour was considered to be engaged in non-economic activities and so, not in labour force. But in assigning the detailed current activity status to a person pursuing multiple economic activities, the

major time spent criterion was adopted. As a consequence, the activity status category corresponding to the economic activity, pursued during the major part of 7 days reference period, became the current weekly status.

As in all NSS surveys, the reference period is fixed only in relation to the date of survey but is a moving reference period for different sample household covered during the survey period of either a year or half-year. For usual status an entire year is referenced, though the year may be different for different persons in the sample. To obtain the rate of unemployed or the work force participation rates we can consider in the numerator the total persons getting classified as unemployed or employed and a suitable denominator consisting of the estimated total number of persons in labour force in the relevant population. Such a rate should have no problem of interpretation as an average rate for the persons in the population.

In the case of current weekly status, we consider a particular week of a person out of the 52 weeks in the year. Different weeks are considered for different persons. Based on certain criteria explained earlier we classify the persons as unemployed or employed during that week. Estimated weeks under any category are then taken, sum total of such weeks under different categories remaining equal to the number of persons surveyed. What do we call such a rate? Many experts raised this question in the initial days of the quinquennial employment surveys. Is it a time rate or a person rate? Can this be used to estimate the number of employed or unemployed during a year or any other reference period?

Suppose the situation is such that a person remains unemployed on a continuous basis or remains employed on a regular basis without intermittent breaks throughout the preceding year, then a week or even a day would be enough to identify the status without error. Current weekly status then would more or less be the same as the usual status. Referring the status based on a week, as the person's status would not be totally inappropriate. The rate obtained from a week would then be as good as a person rate.

The diversity of the employment situation is far from this ideal. As data show, the status of persons changes during the year frequently for a very large segment of the population. This being so, the status obtained on the basis of a single week in the year cannot be equated as the status of the person during the survey period. Therefore the rate cannot be called a rate for persons.

Some of the experts who were instrumental in devising these employment surveys have called such estimates as the unemployed (employed) person-weeks. Prof. Raj Krishna had called this as the end of the week stock rate perhaps because the status is obtained after taking in to account the statuses till the end of the reference week. Prof. Visaria had considered 'person week' as the more appropriate term to designate the estimate.

In this approach a week is designated as 'employed' week, 'unemployed week' or 'out of labour force week'. We have thus a large number of weeks though pertaining to different persons. The 'employed weeks' are aggregated to obtain the total number of employed weeks and similarly aggregated for other categories of weeks. The denominator for obtaining such rates is the total number of weeks surveyed which will equal the total number of persons surveyed. Can the status of a single week of a person be added to that of another person for another week and divided by the number of persons to obtain any meaningful average? Perhaps if we take the denominator as the aggregation of weeks and the numerator as another aggregation of a category of such weeks, forgetting that these weeks belong to different persons, then we may call this rate as the average weekly rate of employed (unemployed) or a proportion of employed (unemployed) weeks etc.



Thus, as cautioned by many experts, conceptually the current weekly status estimates are not suited to building up estimates of either persons employed or unemployed. However the extent of its deviation from the usual status rates is an indicator of the variability of the labour market situation arising essentially out of the seasonal nature of economic activities.

## **2.6 Current daily status**

Day-to-day accounting of the available labour time (in terms of ‘half-day’ units) of persons classified under the categories employed and unemployed (labour force) is done according to the current weekly status concept separately for each of the seven days period of reference. (This was referred to as weekly labour time disposition in the 27th round.) By adopting this procedure of accounting of labour time for the last seven days, the days of persons already classified as belonging to labour force according to current weekly activity status, are again classified according to the activity status categories which they pursued on each of the seven days reference period. Since a person in labour force categorised by current weekly activity status may pursue multiple economic activities on any day of the reference week or may even seek work or be available for work for part of the day while pursuing economic activity in the remaining part of the day or may even utilise either a full or half of a day for non-economic activities, the daily accounting of labour time on each day of the reference week is made in terms of ‘intensity’ of such activities expressed in quantitative terms, such as, ‘full’ or ‘half’. Utilisation of 4 hours or more in one activity qualifies a person to be considered as pursuing the activity with full intensity and utilising less than 4 hours but more than one hour in one activity qualifies a person to be considered as pursuing the activity with half intensity. In view of operational convenience, the chance of one person having more than two activities on a day has been ignored for taking account of the weekly labour time utilisation. Thus, on any particular day, a person can pursue either only one activity with full intensity or two activities with half intensity each.

In assigning intensity for an activity on a particular day, if a person had worked at least one hour (but less than 4 hours), the activity of work would get half intensity and the other activity (seeking / available for work or engagement in non-economic activity) the remaining half intensity for the day. But the person who had not worked even one hour but was available for work at least for one hour (but less than 4 hours), the activity of being available for work gets half intensity and the other activity (non-economic) gets the remaining half intensity for the day. In the case of persons engaged in self-employment, such as a doctor, a stationary or peripatetic trader or vendor, a free-lance artisan or a carpenter or a mason, the conventions to be followed while assigning intensities to their work are given below:

In making estimates based on this approach, the different types of days (employed, unemployed and out of labour force) are identified in terms of full or half intensity and aggregated. As seven days are considered, an average can be worked out taking the number of days under a particular category in the numerator and the total number of days considered (equal to the number of persons surveyed multiplied by seven) in the denominator. This will give the average days in employment or unemployment etc out of the total number of days available.

Without doubt the Current Daily Status (CDS) provides the most comprehensive or detailed picture of the employment–unemployment situation during the week. It takes in to account the day-to-day changes of the week as against the current weekly status where only status is recorded for the whole week. One possible issue with the daily status of persons for a continuous period of seven

days is that, mostly these days would be closely correlated. Can this estimate be related to persons in the population?

It is to be noted that all the seven days of the reference week are accounted. For regular employed or self-employed persons, holidays are recorded as employed if they had work in their establishments on holidays but had availed holidays as part of their work contract or weekly routine. Similarly for the unemployed, all days are treated as unemployed if they report so without forcing any holidays on them. Similarly students, housewives etc are also given their respective statuses on holidays also.

Now consider a sample of 100 persons. Let us assume that 50 of them are fully employed on all the seven days of every week and the other 50 are all fully unemployed. Since only half of the persons are fully employed, the proportion of usually employed would be 50 %; those employed on the current weekly status would also be 50 %. The Current daily status would give an estimate of 350 person-days as employed out of the 700 days available for the 100 persons, again giving an estimate of 50 per cent person days as employed. Now consider an alternate scenario where all the 100 persons are regularly employed for only half the days of a week. The percentage of usual status and the current weekly status employed would be 100 %. However the number of days employed would be 350 as in the previous case, giving the same estimate of CDS employment.

In the current daily status approach we get the number of days employed (unemployed) as a fraction of the total number of days available. Applying this rate to the population on the ground that everyone has an equal number of days to get an estimate of the number of persons employed (unemployed) would, as in the above case, lead to erroneous conclusions. The seven days selected for an individual are not independent. Just as in the case of CWS, given a stable employment/unemployment profile with no seasonal changes through out the year, the CDS would be identical to CWS and the usual status. So the problems would remain in accepting the CDS as an estimate for arriving at estimates of persons employed, unemployed etc, as in the case of CWS.

As already noted, the proposition to record the daily time disposition for a longer period is not practical. However recording the time disposition on more than one occasion would provide a better estimate and reflect changes in the activity statuses more accurately than just one week. This would mean a panel survey approach instead of a one time survey of the household. Labour Force surveys in many countries follow such an approach.

## **2.7 Some issues in recording employment details in EUS**

### ***Recording of multiple activities for regular employees***

Presently the daily status for the seven days of the reference week is noted with intensity 1.0 for the regular wage and salary earning (RWS)workers irrespective the holydays (Saturday and Sundays usually) and other activities performed by the workers beyond the regular work on other days. Actual data for 55th round shows many cases where other activities are recorded for regular employees which are subsequently auto-corrected, losing a lot of information about the real life situation. By recording only one activity for RWS employees, information on multiple activities performed by them is ignored on different days of the week.

Table 5: Distribution of regular workers reporting statuses other than 31 for NSS 55<sup>th</sup> round

Daily Status codes	Intensity for activities other than 31 for regular workers													total
	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	
11	11	230	43	95	30	43	115	35	4	8	5	5	1	625
12	3	27	1	14	1	7	2	3	1	1	0	0	0	60
21	7	74	14	41	4	9	29	14	2	5	0	0	0	199
41	0	0	0	1	0	1	0	1	0	0	0	0	0	3
51	0	19	9	21	4	23	14	25	3	17	4	10	0	149
61	0	0	1	8	0	8	0	0	0	0	0	1	0	18
62	6	204	3	33	0	9	0	4	0	3	0	2	0	264
71	1	88	6	39	0	41	0	19	0	10	0	9	0	213
72	132	8753	131	1671	11	284	3	101	5	52	1	28	0	11172
81	0	62	1	24	2	16	6	8	0	5	0	1	0	125
82	10	215	1	36	2	11	4	5	0	4	0	1	0	289
91	0	11	0	7	4	4	11	5	0	1	1	0	0	44
92	27	472	14	108	9	19	110	18	2	7	5	1	0	792
93	3	71	4	11	1	5	34	8	1	0	1	0	0	139
94	0	0	0	0	0	1	1	1	1	1	0	0	0	5
95	0	1	0	1	0	0	0	0	0	0	0	0	0	2
97	45	1126	19	150	4	47	8	10	0	6	0	2	0	1417
98	0	6	0	1	0	3	0	1	0	0	0	0	0	11
99	245	11359	247	2261	72	531	337	258	19	120	17	60	1	15527

Source: Tabulation form unit level data of NSS 55<sup>th</sup> round (figures are sample cases)

[The codes used have the following meaning:

*worked in h.h. enterprise (self-employed) : own account worker -11, employer-12, worked as helper in h.h. enterprise (unpaid family worker)-21, worked as regular salaried/wage employee-31, worked as casual wage labour: in public works-41, in other types of work-51; had work in h.h. enterprise but did not work due to : sickness-61, other reasons-62; had regular salaried/wage employment but did not work due to : sickness-71, other reasons – 72, did not work but was seeking and/or available for work-81, did not seek but was available for work-82, attended educational institution-91, attended domestic duties only-92, attended domestic duties and was also engaged in free collection of goods (vegetables, roots, fire-wood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use-93, rentiers, pensioners , remittance recipients, etc.-94, not able to work due to disability-95, beggars, prostitutes-96, others-97, did not work due to temporary sickness (for casual workers only)-98. Code 9 refer to children under 5 years of age.9]*

There are 4142 cases where regular workers have been provided with codes other than 71 or 72 out of the 31614 cases reporting different codes under regular worker status. This is roughly 13 % of the total cases compared to nil cases in the 61<sup>st</sup> round.

### ***Recording of data on earnings from employment***

Presently earnings are reported only for wage employment. No information on the earnings from self-employment is asked. In the 61st round of NSS a question was asked to find out if the earning form self-employment was remunerative or not. 50 to 60 percent of the self-employed have reported that the earning was not remunerative enough. Relating employment to earning would

facilitate much more meaningful analysis. The proxy used currently is the household expenditure. However the household expenditure cannot directly be related to an individual's earnings from employment.

### *Additional categories for status classification*

Another area for consideration is the expansion of the present activity status classifications to include more categories. Such categories could be home-based and other workers for self-employed persons, different types of employees among regular wage and salaried (like those with permanent job, short term contract job etc)

## **3. Estimates of workers from Enterprise surveys and Employment - Unemployment surveys**

Another very important source of data on employed persons is the enterprise surveys of NSSO covering unorganised sector enterprises. In these surveys workers employed in various types of enterprises are enumerated along with other information.

### **3.1 Concept of worker in the Enterprises Surveys**

A worker is defined as one who participates either full time or part time in the activity of the enterprise in any capacity – primary or supervisory - and may or may not receive wages / salaries in return (Para 3.6.0.1 of Instructions to Field Staff Vol. I, NSS 56<sup>th</sup> round). The average number of persons usually working on a working day during the reference month is recorded. **A worker refers to a position rather than a person.** They include working proprietors and apprentices (paid or unpaid), unpaid helpers and part time workers as long as they are engaged on a fairly regular basis.

The workers are categorized under three categories

1. Working owner: In the case of proprietary or partnership enterprises the owner (s) personally working in the enterprise on a fairly regular basis are treated as working owners.
2. A hired worker is a person employed directly or through any agency on payment of regular wage / salary in cash or kind. Apprentices, paid or unpaid are to be treated as hired workers. Paid household workers, servants and resident workers of the enterprise are also to be considered as hired workers.
3. Other workers / helpers: This includes all other categories such as persons of the household working without regular salary or wages.

### **3.2 Counting of workers**

Full-time workers are those who work for more than half of the normal working hours on a fairly regular basis. Two part-time workers will be treated as two and not one full time worker. Average number of workers will be calculated by counting the total man-days worked by different workers divided by the total number of working days and rounded off to a whole number. As against this, in Employment and Unemployment surveys, a person is termed employed (worker) if he or she is engaged in economic activities on the criterion of major time during a pre-specified reference

period. Duration of such engagement depending upon whether one is looking at the usual principal or principal plus subsidiary status, current weekly status or current daily status .

### 3.3 Problems in comparing the estimates of workers from the two surveys<sup>1</sup>

**Counting of owner workers with multiple activities:** In the enterprise surveys, a person is termed a worker taking in to account the enterprise activities alone. A large number of persons are engaged in multiple activities in addition to those in enterprise. About 44% of the entrepreneurs pursue multiple activities. For the E-U survey they are counted only against one activity in which they spent major part of the reference period. Their activity will be manufacturing only if they are found engaged in it for major part of the reference period. For the enterprise survey, the only criterion is engagement on *a fairly regular basis during the reference month in the enterprise*. In this sense the number of workers as obtained from the Enterprise survey should exceed that obtained from the E-U Survey for certain activities. Such situations will occur for agriculture in conjunction with manufacturing.

**Reference period:** About 10 percent of the enterprises have operated for less than 6 months. Half of them operated only for less than three months. In the enterprise survey all the persons employed in these enterprises are counted as workers, making no allowance for the duration. As the reference period for the usual status criteria is taken as a year, the usual status in E-U survey for these entrepreneurs will be decided on the basis of the activity pursued by them during the remaining part of the year. They will be considered employed only in the subsidiary status if they have not followed any other economic activities during the major period.

**Position versus persons:** Counting a position as done in the enterprise survey is a rather a tricky thing to do. In an enterprise managed by a wife and her husband, dividing their time, there would be two employed in the E-U survey. In the enterprise survey, they would be treated as two separate workers only if they divide their time on a fairly regular basis. If he is engaged only irregularly for less than one month in a year, as then engaging in any other economic activity then he would not be counted as worker. Casual irregular engagement of workers is likely to be missed in Enterprise survey and not in E-U survey. This would therefore depress the number of workers in the Enterprise survey.

**Part-time workers in enterprise survey:** Part-time workers are those who work for less than half the normal working hours of the enterprise on a regular basis. As per the 56<sup>th</sup> round survey, 15.7% percent of the total workers in manufacturing were part-time workers. As nearly half of the enterprises operate only with one worker, it has to be presumed that many of the workers operate only on a part time basis. Counting of part-time workers in the enterprise surveys would therefore inflate the estimates of workers in enterprise survey. The distribution of the enterprises by industry also gives a clue about the likely nature of employment. Roughly 78 % of the enterprises are in five industry groups viz Manufacture of food products & beverages (17.69 %), Manufacture of tobacco products (12.36 %), Manufacture of textiles (14.17%), Manufacture of Wearing apparel, dressing and dyeing etc (16.50%) and Manufacture of wood products (16.52 %); mostly agro-based and cottage industries likely to be run along with other activities.

Added to the above are the problems of assigning an enterprise to casual workers; workers in construction, non-mechanised freight etc will get counted under construction, transport etc. as the

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<sup>1</sup> Results quoted are for illustrative purposes and refer to 56<sup>th</sup> round survey on manufacturing

case may be and their status of employment would be recorded as casual workers. However no corresponding enterprises would be available that employs them. There are similar grey areas like home workers who are currently labelled self-employed though they do not run up risk usually associated with other self-employed.

Thus in view of the inherent irregularity of the employment pattern in the economy and the highly informal and transitory nature of the enterprises, a straight forward comparison of the number of workers engaged in the manufacturing sector, from the two surveys is often difficult.

**Procedure used for recording number of worker in the Economic Census** is similar to that followed in the enterprise surveys. The number of workers/employees represents, on an average, the number of persons usually working on a working day during the last year of activity of the enterprise. The figures relate to the position in the last year for perennial enterprise and last working season for non-perennial enterprises. All categories of workers - supervisory and primary level workers - are included. A worker need not mean that the same person should be continued but it should refer to the position. Apprentices paid or unpaid, are treated on par with hired workers. Part-time employees are treated as employees as long as they are engaged on a regular basis. Persons receiving honorarium for the services rendered on fairly regular basis to the enterprises are treated as hired workers.

### ***3.4 Use of EUS data to meet the requirement of National Accounting***

Labour Input Method (LIM) is often used in national accounts to estimate the value added and output for an economic activity, where direct estimates of output and input are not available. In LIM, estimate of value added for an economic activity is obtained by multiplying amount of labour input going in to the activity and the value added per unit of labour input arrived at independently. The second component is usually estimated from enterprise surveys using the estimated value of value added and the estimated number of workers. The first part is generally obtained from EUS (or Population Census) independently.

The question that arises in the LIM is one of comparability of EUS and enterprise survey based estimates of employment, the latter being arrived at in terms of jobs or positions in the enterprises and the former in terms of *persons* in the workforce. To account for the multiple economic activities undertaken by a part of the workforce appropriate adjustments are usually made in the EUS (Census) estimates.

For example in the National Accounts, the Census estimates of workers were inflated by the ratio of main workers with other work to the total workforce to adjust for the multiple employments. A similar procedure using the principal and subsidiary status workers can be considered while using the EUS data. (Report of the Working group on workforce estimation for NAS, MoS&PI, March 2004)

The issue therefore is whether the EUS can be steered towards providing estimates of jobs as used in the LIM and if so, the kind of restructuring required in the questionnaire

## **4. Definition of worker in ASI**

**Workers** include all persons employed directly or through any agency whether for wages or not and engaged in any manufacturing process or in cleaning any part of the machinery or premises

used for manufacturing process or in any other kind of work incidental to or connected with the manufacturing process or the subject of the manufacturing process. Labour engaged in the repair & maintenance, or production of fixed assets for factory's own use, or employed for generating electricity, or producing coal, gas etc. are included.

**Employees** include all workers defined above (production process workers) and persons receiving wages and holding clerical or supervisory or managerial positions engaged in administrative office, store keeping section and welfare section, sales department as also those engaged in purchase of raw materials etc. or purchase of fixed assets for the factory as well as watch and ward staff.

**Total Persons Engaged** include the employees as defined above *and* all working proprietors and their family members who are actively engaged in the work of the factory even without any pay, and the unpaid members of the co-operative societies who worked in or for the factory in any direct and productive capacity.

#### **4.1 Method of computing number of workers in ASI**

The number of workers or employees is an average number obtained by dividing total man-days worked in the factory by the number of days the factory had worked during the reference year. Total number of man-days worked during a month will be obtained by summing up the number of workers attending in each shift over all the shifts worked on all working days during a month. Thus the number of workers obtained from ASI would be the actual *labour input* in the manufacturing process rather than the actual *number of individuals* who worked in the factory. As such comparing this number with estimates of organised sector workforce from administrative sources or the Employment-Unemployment surveys would not be conceptually valid.

### **5. ISSUES FOR CONSIDERATION**

- i. The conceptual basis for the currently conducted NSS on Employment-Unemployment was provided by the Dantwala Committee appointed by the Planning Commission in 1970. This has been followed with minor modifications since the first quinquennial round in 1972-73. Do we need to bring about **major changes in this conceptual basis** in the light of the developments in the Indian economy since then?
- ii. **If so, what are the concrete suggestions?** These suggestions should take due account of the constraints under which the large scale sample surveys are carried out by hired investigators on a recall basis by interviewing the households.
- iii. The current surveys provide multiple measures (usual principal status, usual principal and subsidiary status, weekly status and daily status) based on time criterion. Do we need any modifications in these measures in the light of the comments on the first set of issues relating the conceptual basis? If the conceptual basis is appropriate, do we need to focus only on one of the measures? If so, which one and why?
- iv. There has been under-estimation of the population in the National Sample Sample Surveys – more so in the urban areas than rural areas. In view of this limitation,

NSS reports have been giving ratios rather than absolute magnitudes. Should the NSS reports provide absolute magnitudes of employment and unemployment? If so, should they be based on National Sample survey-based estimates of population or on the estimates of the projected population? What are the arguments underlying the proposed choice?

- v. Do the current surveys meet the requirement of National Accounting?

Labour Input method (LIM) is often used to estimate the value added and output for an economic activity, where direct data on output and input are not available. In LIM, estimate of value added for an economic activity is obtained by multiplying amount of labour input going in to the activity and the value added per unit of labour input arrived at separately. The second component is usually estimated from enterprise surveys using the estimated value of value added per worker and the estimated number of workers. The first part is generally obtained from EUS (or Population Census) independently. The question that arises in the LIM is one of comparability of EUS and enterprise surveys figures on employment, the latter being arrived at in terms of jobs or positions in the enterprises during the net month and the former in terms of persons in the workforce. To account for the multiple economic activities undertaken by a part of the workforce appropriate adjustments are usually made in the EUS (Census) estimates. For example in the National Accounts, the Census estimates of workers were inflated by the ratio of main workers with other work to the total workforce to adjust for the multiple employments. A similar procedure using the principal and subsidiary status workers has been recommended while using the EUS data for identified compilation categories taking into account the reliability of the workforce estimates. (Report of the Working Group on workforce estimation for NAS, MoS&PI, March 2004) The issue therefore is whether the EUS can be steered towards providing estimates of jobs as used in the LIM and if so, the kind of restructuring required in the questionnaire

- vi. Recording of multiple activities for regular employees

Presently the daily status for the seven days of the reference week is noted with intensity 1.0 for the regular workers irrespective the holidays (Saturday and Sundays usually) and other activities performed by the workers beyond the regular work on other days. Actual data for 55th round shows cases where other activities are recorded for regular wage and salary earning employees which are subsequently auto-corrected. By recording only one activity for regular wage and salary earning employees, information on multiple activities performed by them is ignored. Does this procedure require change?

- vii. Recording of data on earnings from employment

Presently in NSS, earnings are reported only for wage employment. No information of the earnings from self-employment is asked. In the 61st round of NSS, a question was asked to find out if the earning from self-employment was remunerative or not. 50 to 60 percent of the self-employed reported that the earning was not remunerative enough. We might consider if the attempts should be made to collect data on earnings in annual earning intervals.

- viii. Additional categories for status classification



Another area for consideration is the expansion of the present activity status classifications to include more categories. Such categories could include home-based and other workers for self-employed persons, different types of employees among regular salaried (like those with permanent job, short term contract job etc)

ix. Comparability of estimates on employed from different sources

Is it required that the estimates on employed obtained from the labour force surveys should be comparable to those obtained from enterprise surveys/Annual Survey of Industries and other sources, and if so, what changes are required to be made in the concepts and procedures?

x. Grey areas in the classification of employment status

Ascertaining the status of employment of certain categories of workers like workers engaged in construction, transport, porters, domestic servants etc working for different employers on the same day poses problems in EUS. This has in turn problems in comparability of estimates from enterprise surveys and EUS. Is it possible to devise an unambiguous classification of status in employment?

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