Review of Concepts and Measurement Techniques in Employment and Unemployment Surveys of NSSO

National Sample Survey Organisation
(Survey Design and Research Division)*

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Abstract

The employment and unemployment surveys undertaken by the National Sample Survey Organisation (NSSO) have established over the years are one of the prime sources of statistics on factor market of labour and activity participation of the population. The architecture of these surveys is complex, since the measurement of its indicators through the households, necessitates percolation of investigation into multilayered cross classification of various characteristics of age, sex, education, skill and training, industry, occupation, time disposition, mobility and wages.

After the initial experimentations for evolving the concepts and methods of various measurements to capture the diverse facets of labour force, since the 27th Round (1972-73), these surveys have become the integral part of quinquennial household socio – economic survey programme of NSSO. The concepts and definition adopted therein are primarily based on the recommendations of the Committee of Experts on Unemployment Estimates (Dantwala Committee), setup by the Planning Commission in 1970. Within the established and stabilised framework, the concepts and measurement methods have been fine tuned for their refinement to meet users' requirements as well as their harmonisation with international standards. The present paper attempts to provide a comprehensive account of these concepts and measures, changes thereof adopted over the period, exploring along with their uses, emerging issues and comparability with the alternative data sets on the subject.

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1 Introduction

1.1   Since its inception in 1950, the National Sample Survey Organization (NSSO) has been collecting socio-economic data through nation wide surveys. Multi-subject enquiries are generally conducted in each cycle of surveys – known as NSS rounds. In the initial evolutionary rounds, the NSSO has experimented with various concepts and definitions in its surveys, which were firmed up and stabilised over time, maintaining consistency and comparability, harmonising with international standards and acceptability by various users. Among various subjects of its survey enquiry, employment and unemployment is considered as an important subject in the NSSO surveys. NSSO has been undertaking these surveys regularly for generating estimates of various parameters of factor market of labour, activity participation of the population and to assess the volume and structure of employment and unemployment in the country.

1.2   The surveys on employment and unemployment, conducted by NSSO, can broadly be divided into two phases: those carried out till 1966-67 and surveys after that. In the initial rounds, prior to 1967-68, considerable experimentation was done with concepts and definitions. The data on employment and unemployment was first collected in the 9th round (May-September, 1955) using a reference period of last week, followed by numerous experimentations till 19th round (1967-68).

1.3   These experimentation contributed to further study and understanding of various concepts and methods involved in measuring the labour force activity participation. The Committee of Experts on Unemployment Estimates (Dantwala Committee), setup by the Planning Commission (PC) in 1970 comprehensively studied various dimensions of employment and unemployment and recommended the concepts and definitions for conducting such surveys. In NSS 27th round (1972-73) the survey on employment and unemployment (EUS) was conducted, for the first time, using the concepts and definitions suggested by Dantwala Committee. Since then, it became the integral part of quinquennial programme of NSSO - last and the seventh quinquennial survey on the subject was conducted in its 61st round during 2004-05. The quinquennial surveys on employment and unemployment were conducted in 32nd (July 1977-June 1978), 38th (January-December 1983), 43rd (July 1987-June 1988), 50th (July 1993-June 1994) and 55th (July 1999-June 2000) rounds.

1.4   In addition, to meet the need for an annual series of key indicators on employment and unemployment, data on selected items on employment and unemployment particulars of the household members were collected through the annual survey on household consumer expenditure (Schedule 1.0) from the 45th round (July 1989-June 1990) of NSS.

2. Concepts of the Terms, Methods of Measurements and Changes thereof

2.1 NSSO collects data on employment and unemployment using three measures or approaches **'usual activity status' (US)**[1] **'current weekly activity status' (CWS)**[2] and **'current daily activity status'** (CDS)[3] in the quinquennial surveys by canvassing a separate schedule (Schedule 10). In the annual rounds, 'usual activity status' and 'current weekly activity status' of the household members, along with the industry of work (at 2 digit level of NIC code) only were collected in the demographic block of the consumer expenditure schedule. Later, to meet the additional requirement of PC for collection of employment and unemployment data on 'current daily status', a separate schedule on employment and unemployment, a slightly different from that used in the quinquennial rounds, was canvassed in the 60th round (January 2004–June 2004) survey of NSSO. In the 62nd round survey, a separate schedule on employment and unemployment was also canvassed on the line of the schedule canvassed in the 60th round.

2.2 It may be noted that in the annual surveys, survey on Household Consumer Expenditure is always integrated as a part of other main surveys of either households (literacy, social consumption, housing condition, land holdings, etc.) or establishments (manufacturing, trade, etc.). The quinquennial surveys on Employment and Unemployment, on the other hand, are integrated with the survey on Household Consumer Expenditure.

2.3 Keeping the basic concepts and definitions, outlined by the Dantwala Committee, unchanged in collecting data on employment and unemployment indicators in these rounds of survey, some changes in the concepts and definitions have been adopted in the employment and unemployment surveys. These changes are gradual and systematic based on experience drawn from the survey results and practices over the years instead of being abrupt. This mechanism of gradual changes, prompted by the changes in national and international requirements, have also helped the users to adapt to the changes without losing comparability in the NSS data.

2.2 Changes in the Coverage of Production Boundary

2.2.1 Prior to NSS 50th round survey, NSSO has used the term 'gainful activity' in defining the work, and then worker who were found to be engaged in 'gainful activity' for a specified period during the reference period. The concept of 'gainful' activity was similar to that of 'economic activity' used now, and the coverage of 'gainful activity'

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[1] Usual activity status (US) relates to the activity status of a person during the reference period of last 365 days preceding the date of survey. The activity status on which a person spent relatively longer time (major time criterion) is considered the usual *principal activity status*. To decide the usual principal activity status of a persons, a two-stage dichotomous classification is used to determine the broad activity status, viz., employed, unemployed and out of labour force. Within the broad activity status so determined, the detailed activity status is determined depending on the relatively longer time spent in the activities. Besides the usual *principal activity status*, a person may be engaged in economic activity, during the last 365 days, for a period of 30 days or more. The status in which such economic activities are pursued is the subsidiary economic activity of the person.

[2] The current weekly activity status (CWS) of a person is the activity status obtaining for a person during a reference period of 7 days preceding the date of survey. According to the CWS approach, a person is considered as worker if he/she has performed any economic activity at least for one hour on any day of the reference week, and is obtained from the daily activities or in-activities performed in each day of the last seven days prior to the date of survey.

[3] The current daily activity status (CDS) of a person is determined on the basis of his/her activity status on each day of the reference week using a priority-cum-major time criterion (day to day labour time disposition).

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was same as that defined in the production boundary of United Nations Systems of National Accounts (SNA), except that the activity of 'own account construction of fixed assets for own use', was not considered as a 'gainful activity'. Moreover, the activities under 'smuggling' were kept outside the 'gainful activity' till NSS 61st round. At present, while defining the coverage of *economic activities* based on the United Nations Systems of National Accounts, the NSSO has included all activities other than that with the *processing of primary products for own consumption.*

2.2.2   In NSS 43rd round survey, a question was asked to ascertain whether a person was engaged in the 'own account construction of fixed assets during last 365 days'. The objective was to know the magnitude of the estimated persons engaged in such activities and to see whether the inclusion of these activities in the existing coverage of 'gainful activity' would vitiate the comparability of the indicators of employment and unemployment with the earlier round estimates or not. The survey results revealed that only about 0.73% of the people in rural and 0.37% in urban India were engaged in 'own account construction of fixed assets' (see Table 1). This fact suggested to bring the activity of 'own account construction of fixed assets' within the coverage of 'gainful activity' to make it comparable with the coverage of SNA and without loosing much of the comparability with the estimates of earlier rounds. Thus, in the 50th round survey, the coverage of 'gainful activity' was extended to include the activity of 'own account construction of fixed assets' and thereafter, 'gainful activity' was termed as 'economic activity' - as in the SNA - in NSS surveys.

Table 1: Percentage of persons engaged in own construction of fixed assets during NSS 43rd round

sector	male	female	person
(1)	(2)	(3)	(4)
rural	0.90	0.50	0.73
urban	0.50	0.30	0.37

2.2.3   As mentioned earlier, prior to NSS 61st round, activities under 'smuggling' were kept outside the coverage of 'economic activity'. In these survey rounds, in assigning the activity status of an individual in the field, probing was perhaps not extended due to operational difficulty to ascertain whether the production of goods and services was carried out in the form of smuggling. Thus, in practice, production of goods and services in the form of smuggling had actually been considered as 'economic activity' in NSS surveys. In view of this, activity status of a person was judged, in 61st round and in the NSS surveys on employment and unemployment undertaken thereafter, irrespective of the situation whether an activity was carried out illegally in the form of smuggling or not. In fact from the 61st round survey, all activities under Indian Systems of National Accounts (ISNA) production boundary were covered under the 'economic activity' in NSSO.

2.2.4 *Voluntary participation without remuneration in production of goods and services:* Some European Countries include the production of *goods* and *services* by the people voluntarily without remuneration within the production boundary and persons engaged are included in the workforce. In the Indian context, the first part, that is, production of *goods* voluntarily without remuneration is taken into account within the production boundary, but not the production of *services* produced voluntarily without remuneration. In employment and unemployment surveys of NSSO, participation without remuneration in production of goods and services is not considered as an economic activity, and thus, the persons engaged in such activities are not considered as

workers. At the request of National Accounts Division (NAD) of CSO, information in respect of 'voluntary participation without remuneration in production of goods and services' along with the industry of activity was collected in NSS 61st round for understanding the magnitude of such persons. Note that the information was collected for persons who were not employed in usual principal status as well as in usual subsidiary status**.** The summary of results obtained from the survey is presented in Table 2.

2.2.4.1 The voluntary participation of non-working people in the rural areas in the production of goods and services at least for 30 days during the period of 365 days preceding the date of survey is merely 1 per cent. The proportion is found to be even lesser in the urban areas. Secondly, among the people who participated voluntarily in the production of goods and services, in the rural areas, a large proportion were engaged in the production of goods (76 per cent) and remaining were engaged in the production of services. The corresponding proportion was much lower at 25 per cent in the urban areas where a majority was engaged in the production of services. Using these results, one may attempt to adjust the worker-population-ratio (WPR) considering 'voluntary production of goods' or 'voluntary production of services' or both as economic activity. However, it appears that the sample size at the all-India level was too small and also, the effect of adjustment might not be significant. Keeping this in view, the inclusion of voluntary participation without remuneration in the production of goods and services within production boundary may be looked into in respect of ISNA.

Table 2: Number of persons participated in voluntarily production of goods and services per 1000 non workers according to the usual status (ps+ss), and number of persons participated in the production of goods per 1000 persons who participated in voluntarily production of goods and services

		all-India
category of persons	no. participated in voluntary production (goods and services) per 1000 non workers	no. participated in production of goods only per 1000 persons participated in voluntarily production (goods and services)
(1)	(2)	(3)
rural		
male	7 (266)	597
female	11 (693)	790
person	10 (959)	759
urban		
male	6 (157)	216
female	3 (234)	268
persons	4 (391)	245

Note: Figures in parenthesis denote the number of sample persons participated in voluntary production

2.3 Change in the Measurement Approach

2.3.1 The surveys of NSSO on employment and unemployment aim to measure the extent of 'employment' and 'unemployment' in quantitative terms disaggregated by various household and population characteristics following the three reference periods of (i) one year, (ii) one week, and (iii) each day of the week. Based on these three reference periods three different measures, termed as *usual status*, *current weekly status*, and the *current daily status*, are arrived at. While all these three approaches are used for collection of data on employment and unemployment in the quinquennial surveys, the first two approaches only are used for the purpose in the annual surveys.

2.3.2   *Usual principal status:* In NSS 27th round, the usual principal activity category of the persons was determined by considering the normal working pattern, i.e., the activity pursued by them over a long period in the past and which was likely to continue in the future. For the identification of the usual principal status of an individual based on the major time criterion, in NSS 27th, 32nd, 38th, 43rd rounds, a trichotomous classification of the population was followed, that is, a person was classified into one of the three broad groups 'employed', 'unemployed' and 'out of labour force' based on the major time criterion. From NSS 50th round onwards, the procedure was changed and the prescribed procedure was a two stage dichotomous one which involved a classification into 'labour force' and 'out labour force' in the first stage, and thereafter, the labour force into 'employed' and 'unemployed' in the second stage. While this could marginally affect the principal and subsidiary classification theoretically, the 'all workers' considering both principal and subsidiary statuses taken together would remain the same. It is to be noted that in deciding this, only the normal working hours available for pursuing various activities was considered, and not the 24 hours of a day.

Table 3: Number of persons employed per 1000 persons (i.e., WFPR or WPR) according to usual status during 1972-73 to 2004-2005

all-India

round (year)	cate-gory of worker	usually employed								
		rural			urban			all		
		male	female	person	male	female	person	male	female	person
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
61st (2004-05)	ps	535	242	391	541	135	346	536	215	380
	ss	11	85	48	8	31	19	11	72	40
	all (ps+ss)	546	327	439	549	166	365	547	287	420
55th (1999-00)	ps	522	231	380	513	117	324	520	203	365
	ss	9	68	37	5	22	13	7	56	32
	all (ps+ss)	531	299	417	518	139	337	527	259	397
50th (1993-94)	ps	538	234	390	513	121	327	532	206	375
	ss	15	94	54	8	34	20	13	80	45
	all (ps+ss)	553	328	444	521	155	347	545	286	420
43rd (1987-88)	ps	517	245	385	496	118	315	512	217	369
	ss	22	78	49	10	34	22	19	68	43
	all (ps+ss)	539	323	434	506	152	337	531	285	412
38th (1983)	ps	528	248	391	500	120	320	521	218	374
	ss	19	92	54	12	31	20	17	78	46
	all (ps+ss)	547	340	445	512	151	340	538	216	420
32nd (1977-78)	ps	537	248	395	497	123	319	529	224	371
	ss	15	83	49	11	33	22	14	73	52
	all (ps+ss)	552	331	444	508	156	341	543	297	423
27th (1972-73)	all (ps+ss)	545	318	*	501	134	*	*	*	*

ps = principal status;   ss = subsidiary status;   ps+ss: principal and subsidiary status taken together
*: proportions not derived for NSS 27th round

2.3.3   *Usual subsidiary status***:** In the usual status approach, besides principal status, information in respect of subsidiary economic status of an individual was collected in all employment and unemployment surveys. For deciding the subsidiary economic status of an individual, no minimum number of days of work during the last 365 days

was mentioned prior to NSS 61st round. In NSS 61st round, a minimum of 30 days of work, among other things, during the last 365 days, was considered necessary for classification as usual subsidiary economic activity of an individual. It is seen from Table 3 that the changes in the measurement used to collect data on usual principal and usual subsidiary economic activities over the different quinquennial rounds, did not have much effect on the worker population ratio (WPR).

2.3.4 *Current weekly status*: It is important to note at the beginning that in the EUS of NSSO, a person is considered as worker if he/she has performed any economic activity at least for one hour on any day of the reference week and uses the priority criteria in assigning work activity status. This definition is consistent with the ILO convention and used by most of the countries in the world for their labour force surveys. In NSSO, prior to NSS 50th round and in all the annual surveys till NSS 59th round, data on employment and unemployment in the CWS approach was collected by putting a single-shot question 'whether worked for at least one hour on any day during the last 7 days preceding the date of survey'. The information so collected was used to determine the CWS of the individuals. This procedure was criticised for being not able to identify the entire workforce, particularly among the women. It was then decided to derive the CWS of a person from the time disposition of the household members for the 7 days preceding the date of survey. The procedure was used for the first time in NSS 50th round. It may be seen from Table 4 that the change in the method of determining the current weekly activity had resulted in increasing the WPR in current weekly status approach - more so for the females in both rural and urban areas than for males. The trend observed in NSS 50th round in respect of the WPR according to CWS suggested continuing with the procedure for data collection in CWS in NSS 55th and NSS 61st rounds.

Table 4: Number of persons employed per 1000 persons (WPR) according to current weekly status and current daily status during 1972-73 to 2004-2005

all-India

round (year)		cws				cds			
		rural		urban		rural		urban	
		Male	female	male	female	male	female	male	female
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
61st	(2004-05)	524	275	537	152	488	216	519	133
55th	(1999-00)	510	253	509	128	478	204	490	111
50th	(1993-94)	531	267	511	139	504	219	496	120
43rd	(1987-88)	504	220	492	119	501	207	477	110
38th	(1983)	511	227	492	118	482	198	473	106
32nd	(1977-78)	519	232	490	125	488	194	472	109
27th	(1972-73)	530	277	491	123	503	231	477	108

2.3.4.1 On many occasions, users of EUS data criticise the definition 'a person is considered as worker if he/she has performed any economic activity at least for one hour on any day of the reference week' used by the NSSO for measuring employment and unemployment indicators in the CWS approach. They argue that the priority criterion results in overestimation of the labour force because people who remain outside the work force (labour force) most of the time would get included in the work force (labour force) if they spent just one hour in a week in an economic activity. In fact, they argue in favour of adopting major time criterion in the CWS approach, that is,

the two stage dichotomous classification into 'labour force' and 'out labour force' in the first stage, and thereafter, the labour force into 'employed' and 'unemployed' in the second stage.

2.3.4.2 There are enough reasons for not to be worried with the definitions used in EUS of NSSO. In this context, the distribution of CWS workers by number of days worked along with the average number of days unemployed (sought or available) obtained during the reference week based on NSS 61st round, given in Table 5, may be examined. Application of major time criterion in the CWS approach, that is, the two stage dichotomous classification for identification of CWS workers raises following situation:

1. those who worked for 3.5 days during the reference week with or without some unemployed days,
2. those who worked for 2 to 3 days during the reference week with or without some unemployed days, and
3. those who worked for less than 2 days during the reference week with or without some unemployed days.

Table 5: Per 1000 distribution of CWS workers by number of days worked (P) along with the average number of days (A) unemployed (sought or available) during the reference week during NSS 61st round

all-India

number of days worked in a week	rural						urban					
	male		female		person		male		female		person	
	P	A	P	A	P	A	P	A	P	A	P	A
(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
0.5	0	-	0	-	0	-	0	-	2	-	0	-
1.0	4	-	9	-	6	-	2	-	7	-	3	-
05-1.0	4	3.3	9	1.2	6	2.2	2	3.5	9	0.7	3	2
1.5	1	-	8	-	3	-	0	-	7	-	2	-
2.0	13	-	35	-	20	-	7	-	20	-	10	-
1.5-2.0	14	3.2	43	0.9	23	1.8	7	3.5	27	0.7	12	2.1
2.5	1	-	10	-	4	-	0	-	7	-	2	-
3.0	23	-	41	-	29	-	10	-	25	-	13	-
2.5-3.0	24	2.6	51	1.1	33	1.8	10	3.2	32	0.9	15	2.2
3.5	7	-	180	-	65	-	4	-	117	-	27	-
4.0	43	-	68	-	51	-	19	-	28	-	21	-
3.5 - 4.0	50	1.9	248	0.3	116	0.8	23	2.2	145	0.3	48	1
4.5	2	-	8	-	4	-	1	-	3	-	1	-
5.0	49	-	60	-	53	-	23	-	30	-	25	-
4.5 - 5.0	51	1.2	68	0.6	57	1	24	1.4	33	0.8	26	1.2
5.5	3	-	6	-	4	-	0	-	1	-	1	-
6.0	29	-	28	-	29	-	23	-	18	-	22	-
5.5 - 6.0	32	0.5	34	0.2	33	0.4	23	0.5	19	0.3	23	0.4
6.5	1	-	1	-	1	-	1	-	1	-	1	-
7.0	825	-	547	-	732	-	909	-	734	-	873	-
6.5 - 7.0	826	0	548	0	733	0	910	0	735	0	874	0
all	1000	0.29	1000	0.23	1000	0.28	1000	0.16	1000	0.13	1000	0.16
ave. no. of days worked	6.52		5.51		6.18		6.77		6.10		6.63	

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2.3.4.3 In situation 1, all are to be considered as workers in NSS approach and modified approach, and account for 93.9 per cent of the CWS workers in the rural areas and nearly 97.1 per cent in the urban areas. The situation 2 accounts for 94.7 per cent of the CWS workforce in the rural and 97.5 per cent in the urban areas. It is likely that a few of them may not be categorised as workers in the modified approach if they did not seek or were available for work for some days during the reference week to be qualified for (3.5 days) in the labour force. Note that those who worked for 2 to 3 days during the reference week sought or were available for, on an average, 1.8 days of work in the rural and 2.2 days in the urban areas. Clearly, a large proportion among them is expected to be included in the CWS workforce in the modified CWS approach too. The third categories of CWS workers described under situation 3, who are CWS workers in the NSS approach, will never qualify for 'workers' in the modified approach even if they were in the labour force for 3.5 days or more, but their numbers are minuscule – 0.9 per cent in the rural and 0.5 per cent in the urban areas. Thus, one may use these estimates, if truly interested in, for measuring adjusted (modified) CWS workforce. In fact, the way CDS data are collected in EUS of NSSO, one may attempt to generate many estimates of workforce or labour force using many combinations, but the effect is expected to be negligible.

2.3.4.4 It may be noted that in the modified approach, it would not be possible to estimate the unemployed unless some priority criterion or other is used. For example, those who did not work any time during the week but sought or available for work for less than 3.5 days, according to major time criterion, will be classified as out of labour force. Again, all persons described under Situation 3 will be classified as unemployed. This seems irrational. Therefore continuing with the present practices of measuring CWS workers not merely for the sake of building comparable series but also for international comparisons is advisable.

2.3.5 *Subsidiary Economic Activity*: For the particulars of one usual subsidiary economic activity, particulars of the household members were collected in all the quinquennial rounds of NSS, except in the NSS 55th round. The understanding in the earlier period was that the people would mostly be engaged in or pursuing one economic activity throughout the year and a few would be engaged in two economic activities. Participation of an individual in more than two economic activities would be rare considering the economic situation and employment pattern then in the country. The participation of principal status workers in subsidiary economic activity, in EUS of NSSO, is largely decided by the change in work-activity status or in industry of activity (at two-digit level of NIC) during the reference period. These apart, some persons other than the principal status workers, participate in economic activity for a small period of time during the reference period in subsidiary capacity – they are considered as workers in subsidiary status. In the post liberalisation period, it was thought prudent to collect information in respect of participation in two subsidiary economic activities. This was experimented, for the first time, in NSS 55th round during

Table 6: Percentage of persons with subsidiary economic activities during NSS 55th round (1999-2000)

		all-India
sector	with one subsidiary economic activity	with two subsidiary economic activities
(1)	(2)	(3)
rural	15.0	1.3
urban	2.9	0.1

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1999-2000. The results of the survey revealed that participation in more than one subsidiary economic activity was found to be very low (see Table 6). Only about 1.3% in the rural and 0.1% in the urban areas had participated in two subsidiary economic activities during the period of one year before the date of survey. As a result, in the 61st round survey, collection of data in respect of two subsidiary economic activities was discarded and instead, particulars of one usual subsidiary economic activity particulars of the household members as usual were collected.

2.3.6 In view of the above observations, it is felt that immediate and abrupt changes in the methods of measurements and the related concepts may not be a necessity, unless some specific data requirements dictate incorporation of such changes. However, even in that case also, before incorporating the changes, a study of past data and experiences will be necessary to evaluate the benefit that is likely to accrue through such changes.

3 Relevance of Measuring Indicators in Three Approaches

3.1   The three measures or approaches, viz., 'usual activity status' 'current weekly activity status' and 'current daily activity status' reflects the labour market indicators under perennial (long term) and short-term situations. The first measure is tipically framed and used in our country, and the second one is used by most of the countries in the world. Based on the three approaches used in the classification of activity statuses of the persons surveyed, four different estimates of the employed can be generated. These estimates, as one can see from the following discussions, instead of conflicting each other, supplement the information content of each other. The specific estimates that are generally generated using these three approaches are:

(i)   number of persons employed according to the *usual status* (ps) i.e. by considering usual principal activity only,

(ii)   number of persons employed according to the *usual status* (ps+ss) i.e. by considering usual principal and subsidiary activity together,

(iii)   number of persons employed according to the *current weekly status* approach, and

(iv)   number of person-days employed according to the *current daily status* approach.

3.2   The estimate of employed (or worker) according to the *usual principal status* gives the number of persons who worked for a relatively longer part of the reference period of 365 days preceding the date of survey. The work force, considering both the *usual principal status* and the *subsidiary status,* includes the persons who (a) either worked for a relatively longer part of the 365 days preceding the date of survey and (b) also those persons from among the remaining population who had worked some time during the reference period of 365 days preceding the date of survey. The work force measured in terms of *current weekly status* gives the average picture of the work force in a short period of one week during the survey period. The estimate of work force, according to the *current weekly status* provides the number of persons worked for at least 1 hour on any day during the 7 days preceding the date of survey. The work force measured in terms of *current daily status* gives the average picture of the person-days worked in a day during the survey period. For each person, 7 person-days were assigned for the 7 days preceding the date of survey and the estimate of the number of person-days worked in the reference week was obtained on the basis of the person-days

worked according to the current daily status approach. The number of person-days worked on a day during the survey period is obtained by dividing the person-days worked in a week by 7.

3.3 The usual status approach identifies the activities (economic and non economic) in which a person usually disposes himself/herself and it reflects the perennial activity situation of population. Having long reference period of last 365 days as the reference period for measurements, it fails to take into account the short-term fluctuations in the employment and unemployment situation in the economy. The current weekly status approach and the current daily status approach, on the other hand, can efficiently measure short-term fluctuations owing to seasonality in the labour market. More important is that a cross examination of the activity status of the population in respect of these three approaches, can throw light on the extent of visible underemployment. Underemployment is commonly defined as the under-utilisation of labour time of the workers. Some of the persons categorised as usually employed, do not have work throughout the year due to seasonality in work or otherwise and their labour time is not fully utilised - they are, therefore, underemployed. Their underemployment is termed visible underemployment if they report themselves to be not working with respect to a shorter reference period. Visible under-employment rate is approximated by three sets of indicators: (i) current weekly statuses of usually employed (ps+ss), (ii) current daily statuses of usually employed (ps+ss) and (iii) current daily statuses of those employed under the current weekly status. Rate of under-employment is given by the proportion of person-weeks/person-days not worked under (i), (ii) and (iii) (please see Tables 7, 8 and 9).

Table 7: Per 1000 distribution of usually employed by their broad current weekly status 2004-2005

all-India

current weekly status	rural		urban	
	male	female	male	female
(1)	(2)	(3)	(4)	(5)
employed	958	833	977	914
unemployed	22	20	14	15
not in labour force	21	147	9	71
all	1000	1000	1000	1000

Table 8: Per 1000 distribution of usually employed by their broad current daily status 2004-2005

all-India

current daily status	rural		urban	
	male	female	male	female
(1)	(2)	(3)	(4)	(5)
employed	893	657	945	798
unemployed	61	47	37	31
not in labour force	46	296	19	171
all	1000	1000	1000	1000

Table 9: Per 1000 distribution of person-days of current weekly status employed persons by their broad current daily status 2004-2005

all-India

current daily status	rural		urban	
	male	female	male	female
(1)	(2)	(3)	(4)	(5)
employed	932	787	967	871
unemployed	42	33	23	18
not in labour force	27	180	10	111
all	1000	1000	1000	1000

3.4 Measuring activity status in more than one approach will be meaningless if the status of work of the persons measured in one approach is not different in the other approaches, because in that case no additional information is gathered by measuring the status in two different approaches. One can make a comparison of similarity of the distribution of the activity status of the persons measured in usual status and current weekly status. In Table 10, the percentage

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of persons with specific activity status in usual status who had same current weekly status is presented for different activity statuses. The percentage of persons with specific activity status in usual status who had same current daily status is presented in Table 11. It can be seen that a significant proportion of persons had different status in usual activity and current weekly statuses. Similarly the activity status differed significantly between the usual status approach and current daily status approach for a significant proportion of persons. In this context, it is worth mentioning that the current weekly activity status is derived from the current daily activity status and not much informant's time is spent to collect the industry of work and occupation of the workers in the current weekly activity status.

Table 10: Percentage of persons who had the same activity status in both usual activity and current weekly status approaches during 2004-05
all-India

activity status	rural		urban	
	male	female	male	female
(1)	(2)	(3)	(4)	(5)
self-employed	93.4	81.2	97.6	89.5
regular wage/ salaried	97.6	96.1	98.1	96.5
casual labour	82.8	71.7	91.6	81.3
unemployed	96.0	82.1	97.1	92.9
not in labour force	99.8	99.6	99.7	99.8

Table 11: Percentage of persons who had the same activity status in both usual activity and current daily status approaches during 2004-05
all-India

activity status	rural		urban	
	male	female	male	female
(1)	(2)	(3)	(4)	(5)
self-employed	90.2	63.4	95.7	71.8
regular wage/ salaried	97.6	96.1	98.1	96.5
casual labour	67.9	53.1	75.3	62.5
unemployed	96.4	80.7	97.2	90.6
not in labour force	99.8	99.8	99.8	99.8

3.5   Thus, all the three approaches provide different indicators of employment and unemployment with distinct connotations and interpretations. Besides, using the three approaches, the extent of underemployment in the economy can be measured. It may be mentioned that National Accounts Division of CSO is one of the prime user of data on usual status workers for estimating labour inputs. In view of these, the practice of collecting information in any of these approaches have their inevitable utility.

4 Feasibility of Providing Absolute Estimates in Household Surveys with Special Reference to Employment and Unemployment Indicators

4.1   *Presentation of rates/ ratios in NSS reports:* It has been observed in the case of population estimates that compared to the census population or the projections thereof, population estimates from the NSSO surveys are, in general, on the lower side. This difference arises mainly due to the differences in coverage and methods adopted in NSS in comparison with the census operation. However, the ratios obtained from the survey are expected to be robust. This is why the estimates on employment-unemployment or any such indicator, in general, are presented as ratios. To estimate an absolute number in any category, the survey estimates of ratios can easily be applied to the census population or projections thereof, for that category. It may also be noted that as the tables are generally presented as per thousand distributions, the figures are rounded off. Thus, while using the ratios from the survey results, the accuracy of these derived aggregates will be limited to the number of significant digits available in the ratio or percentage estimates presented in the report. A caution on this line is always made in the report for the users requiring estimates in absolute numbers.

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4.2   *Availability of Census/Projection Data on Population:* Census data on population are commonly available state-wise with rural-urban, male-female, literate-illiterate, worker-non worker, etc. break ups. Age distribution of the population for all-India and states are developed at a very later stage of census data release. These are all available for one time point, namely for the year 2001 only. On the other hand, projected population estimates by the Expert Committee are also obtained at a quite later stage and it provides age-specific population estimates with male-female and rural-urban break up for the states and the estimates are available 5-year intervals between 2001 and 2026, for Census 2001. Precisely, they provide three sets of tables (for Census 2001) as given below:

1. Projected population by sector and sex for 2001 to 2026 for India and all the states,
2. Percentage distribution by age (5 year age groups) and sex for India and states for 2001,
3. Projected population by age and sex for 2001 to 2026 for India, states (except Goa) and NE states combined.

Moreover, these projections are based on certain assumptions on fertility behaviour and changes in the overall population and may not be appropriate for the different segments of population. One may, therefore, obtain different projections for different segment of population under alternative assumptions.

Table 12: Percentage difference between NSS 61st round estimates of population and projected population as on 1st January 2005 All-India

sector	source		% difference to *census pop*
	Projected popln.	NSS 61st round	
(1)	(2)	(3)	(4)
rural+urban	1089521	981608	-10
rural	769610	733103	-6
urban	312697	248505	-21

It is, thus, evident that population estimates for all kinds of domain, say, for the educated youth, or for agriculture labour households, or for persons in an economic class, etc., for which employment-unemployment indicators are provided and thus, are required for adjusting the population estimates, are not available. For the intervening period corresponding to the survey, projections of population need to done by interpolation, again under some assumptions.

4.3   *Survey Based Population Estimates – Magnitude and Divergence:* It would be worthwhile to examine the magnitude of survey based estimates and compare them with the census/projected population estimates, and to see whether the divergence can be explained by the margin of errors in the estimates, whether the divergence is uniform in respect of class/group/category/domain and whether there is any unique direction in the difference. In Table 12, percentage difference in the population estimates between NSS 61st round and projected population as on 1st January 2005 is given for all-India. Extent of underestimation of NSS 61st round estimates compared to Census 2001 population is given in Table 13 for all-India. The following observations are noted below:
1. The magnitude of divergence is very large in most cases.
2. The magnitude of divergence is not same for all kinds of domain.
3. The magnitude of divergence ranges from 6% (rural) to 21% (urban) at the all-India level. It ranges from (-)10.6% to (+)12.6% when age specific population is considered.
4. The difference is not uni-directional.

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Table 13: Extent of underestimation for different age groups for NSS 61st round estimates compared to Census 2001 population

all-India   rural + urban

age-group	persons			male			female		
	cen-2001	est-61	% differ-ence to census	cen-2001	est-61	% differ-ence to census	cen-2001	est-61	% differ-ence to census
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
0-4	110447164	100772428	-8.8	57119612	52276847	-8.5	53327552	48495581	-9.1
5-9	128316790	114703287	-10.6	66734833	61118694	-8.4	61581957	53584593	-13.0
10-14	124846858	116001299	-7.1	65632877	61600314	-6.1	59213981	54400985	-8.1
15-19	100215890	95669099	-4.5	53939991	52030535	-3.5	46275899	43638564	-5.7
20-24	89764132	87300628	-2.7	46321150	43367223	-6.4	43442982	43933405	1.1
25-29	83422393	77844203	-6.7	41557546	38803302	-6.6	41864847	39040901	-6.7
30-34	74274044	71664011	-3.5	37361916	34758412	-7.0	36912128	36905599	0.0
35-39	70574085	69215038	-1.9	36038727	34703414	-3.7	34535358	34511624	-0.1
40-44	55738297	57357292	2.9	29878715	29311615	-1.9	25859582	28045676	8.5
45-49	47408976	50344148	6.2	24867886	26754389	7.6	22541090	23589759	4.7
50-54	36587559	38229403	4.5	19851608	19832795	-0.1	16735951	18396608	9.9
55-59	27653347	31131111	12.6	13583022	15621774	15.0	14070325	15509337	10.2
60 +	79360793	71376390	-10.1	39268889	35305133	-10.1	40091904	36071257	-10.0
all ages	1028610328	981608336	-4.6	532156772	505484448	-5.0	496453556	476123889	-4.1

In Table 14, the estimate of RSEs of the survey based population estimates are given for all-India. The magnitude of RSEs is very small as compared to the difference in the population estimates.

Table 14: RSEs of population estimates 61st round

all-India

sector	% RSE	Sample FSUs	Sample households
(1)	(2)	(3)	(4)
rural + urban	0.3	12502	124644
rural	0.3	7944	79298
urban	1.1	4558	45346

4.4 *Feasibility of Generating Adjusted Absolute Estimate of Population:* It is evident from the magnitude of divergence and RSEs of the estimates that large part of the difference is due to non-sampling errors. In this context, some of the observations made by the Bimal Roy Committee on "Underestimation of Population in NSS" may be referred to. It appears from the report of the Committee that the reasons for underestimation are mainly attributable to the sources of non-sampling errors, and are more likely to be different for different segments of the population and may vary from round to round. This makes it difficult to construct correction factor to adjust for variable degrees of underestimation for different segments of the population. The census data, and more so the population projections, may also be subject to criticism.

4.4.1 Moreover, the above observations on the magnitude and direction of divergence suggest strongly calculating separate adjustment factor for each class/group/category/domain. On the other hand, projected population estimates are not available for the required domains for obtaining appropriate adjustment factors. In such a

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situation, one may think of obtaining adjustment factor for a higher domain in the hierarchy depending on the availability of projection estimates and applying it to any sub-domain which is not technically tenable from the observations.

4.4.2   Projected population by age and sex are available at 5-year intervals between 2001 and 2026. For the intervening period corresponding to the survey, projections of population need to done by interpolation, again with some assumptions. Moreover the users may be interested for studying a specific domain and use a different population projection of his/her choice. For example, one may be interested in studying the employment-unemployment indicators for a district or for a specific social group. It is thus practically not feasible for NSSO to know the various requirements and produce absolute estimates in advance or on demand.

4.4.3   Most important is that whatever be the procedure suggested for adjusting the survey based estimates for the purpose of generating and bringing out estimates in absolute numbers, ideally one has to:
- In the first stage, finalise all results of the survey in respect of the tabulation plan at least,
- In the second stage, decide the lowest level at which the adjustment factors is to be applied,
- In the third stage, calculate domain-wise adjustment factor using census/projected population,
- In the fourth stage, integrate them with survey based weights (multipliers) in case it is thought appropriate, and
- Finally, generate another set of tables corresponding to the tabulation plan giving adjusted absolute numbers,

4.4.4   This procedure is, obviously, time consuming – leading to further delay of data release. Further, the third stage mentioned above will involve crude assumptions that may again be under criticism.   The consequence in this method is that if one again generates employment and unemployment indicators, say, WPR or UR, etc., for the combined domain or for a higher order domain based on adjusted absolute estimates, these may not tally with those calculated originally unless all adjusted factors are same for all domains.

4.4.5   The question of unit level data release has to be addressed then. That is, whether the primary data posted with survey based weights or adjusted weights will be released. Keeping in view the above observations, it is suggested to continue with present practice of data release in the reports. The users may obtain the adjustment factor of their choice and apply them on the survey based estimates.

5 Usability of EUS for Providing Estimates of Jobs as Used in LIM

5.1.   *Methods Used in NAS:* In India, Labour Input Method (LIM) is used for obtaining the aggregate estimate of *value added* for an economic activity or a group of economic activities and is arrived at by multiplying an estimate of *labour input* going into the process of production and an estimate of *value added per unit of labour input* for the respective economic activity or the group of economic activities. Thus, the essential information that is required for NAS compilation by the LIM method are the estimates of *labour input* and *value added per unit of labour input* for the unorganised segment.   For the conventional series till 1970-71, the LIM method was felt not

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necessary for NAS compilation and thereafter, adopted the LIM method using the workforce data of Population Census till the current (1993-94) series. In the current series, MWOW[4] rates have been used for deriving *labour inputs*. However, no information on secondary work of the main workers has been collected in Census 2001 and therefore, it is not possible to get MWOW ratios for deriving *labour input*. The Working Group set up for revision of base year for NAS compilation from 1993-94 to 1999-2000, has recommended the count of jobs as a superior measure of *labour input* and the use of NSS estimates of count of jobs obtained on the basis of *usual status* approach in deriving the *labour input* and thus, in turn, the *labour input ratio* – defined as *labour input* per thousand population. The count of all jobs has been derived by using the estimates of *principal-* and *subsidiary-capacity* employment obtained from Employment and Unemployment Survey (EUS) of NSS 55th round (1999-2000). The *labour input* has been obtained as the *sum* of estimated number of workers in *principal* capacity and that of workers in *subsidiary* capacity separately for each activity category relevant for compilation of NAS. The main advantage of using this method of deriving a measure of *labour input* from the EUS data is that the distribution of the additional work of the individual workers by activity categories are also generated in the process.

5.2.   ***Count of Jobs -An Alternative Approach:*** The 1993 SNA argues that output per job would be an excessively crude measure of productivity and total hours worked would be a better measure of *labour input* (SNA 1993, 15.103 and 17.11). However, in view of multiple economic activities carried out by a part of working population and the constrains of collecting data on hours worked, the Working Group on Workforce Estimation on Compilation of National Accounts Statistics with base year 1999-2000 recommended to consider the count of jobs as a superior measure of *labour input*.

5.2.1   In view of the methods recommended for obtaining *labour input* in the NAS compilation for 1999-2000 series and the recommendations of the 1993 SNA for it, there are obvious difficulty in using the estimates of workforce obtained on the basis of *usual status* for deriving the *labour input* because of the concepts and procedures adopted in identifying the workers according to the usual status approach in EUSs surveys and that in Enterprise Surveys (ESs) of NSS. Keeping parity with the methodology adopted for estimating *value added per unit of labour input* for an economic activity or the group of economic activities in the ESs in NSS, the *daily activity data*, collected for each day of the last seven days prior to the date of survey for each individual of the sampled households in the EUS surveys of NSS, can be used for estimating the count of jobs. The estimate of count of jobs so obtained is expected to be nearer to the one that can be obtained following the recommendation of 1993 SNA in respect of 'total hours worked' for measuring *labour input* and also, in parity with the methodology adopted for estimating *value added per unit of labour input* for an economic activity or the group of economic activities in the ESs in NSS.

5.3   ***Labour Input and Value Added Per Unit of Labour Input:*** The estimates of *labour input* may be obtained from PCs and / or EUSs of NSSO and those of *output* or *value added per unit of labour input* may be obtained from Enterprise Surveys (ESs) of NSSO. What is important to note is that an estimate of *labour input* is also generated in the ESs, *inter alia* for the purpose of working out an estimate of *value added per unit of*

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[4] Apart from the count of 'main' and 'marginal' workers, the PC 1991 also provided count of MWOW, i.e., 'main' workers who were engaged in an economic activity other than the 'main' work. The MWOW ratio was defined as the ratio of MWOW to total workforce ('main' workers *plus* 'marginal' workers). The labour input was then derived by inflating the estimated workforce with the MWOW ratios.

labour input. The estimates of *labour input* obtained from the Census and EUSs are essentially based on household data and those from the ESs are based on data collected from enterprises. The data from households like those collected in PC and EUS of the NSSO are usually in terms of employment of persons. It is important to note that the data from enterprises, collected in the ESs, are usually in terms of jobs. In fact, 'worker' in ESs refers to a position or a 'job' and a person can pursue one job alongside another. Moreover, in relation to the measurement of productivity of labour, count of jobs is relevant for measuring *labour input* as well as *value added per unit of labour input* or in the context of ESs, in principle, *value added per worker (*VAPW*).* The ES estimates of *labour input* used for deriving *VAPW* engaged for an activity, in fact, represent the *average number of workers* engaged in carrying out regular work in that activity on a typical day of the reference year of the survey, counting both full-time and part-time workers with equal weights.

5.3.1   It may be noted that in the ESs, the enterprises are categorised into three types depending upon the number of months of operation during the reference year. The *perennial* enterprises generally carry out their activities through out the year, while the *casual* enterprises operate their business for some months of the year and others operate during the seasons only – known as *seasonal* enterprises. The workers engaged for a few months of a year in seasonally operated enterprises get the same weight as the other enterprises. According to the ES during 2000-01[5], about 92.7% of the unorganized manufacturing units were perennial, 6.2% was seasonal and 1.1% was casual. The distribution of unorganized units among the three types in the service sector (excluding trading units), obtained from the following ES during 2001-02[6], had been 98.3%, 1.3% and 0.4%, respectively. The reference period being one year, the typical information collected on *average number of workers* engaged in an enterprise in the ESs is, theoretically, expected to take into account the seasonality or fluctuations in the job positions in the enterprise during the reference period. This is the main contention against the use of workforce estimates according to *usual status* approach. And this is stronger for the seasonal enterprises. The workforce estimate according to *usual status* approach is unable to take care all kinds of seasonality and labour market fluctuations as it is measured on the basis of the situation obtaining for a person based on a reference period of one year. It is important to mention here that some studies[7] have indicated the existence of seasonality in the labour market data. Thus, whatever be the method used for estimating the *labour input* it should be free from seasonality and market fluctuations. On this account, *current activity data* (considering both *current weekly activity* and *current daily activity* data simultaneously) collected in EUSs can be used to estimate the count of jobs or in other words, the *labour input.* Another argument against the estimates based on *usual status* approach is that the reference period being last one year from the date of survey in obtaining the *usual status* of a person, it describes the job market beginning with 365 days before the survey period and therefore, theoretically loses its relevance, to some extent, in measuring *labour input* corresponding to the survey period in the dynamic economy. On the other hand, the *current activity data* refers to the instant situation, obtained on the basis of each day of the last seven days prior to the date of survey, and corresponds more or less to the survey period.

[5] NSS Report No 478:Unorganised Manufacturing Sector in India, 2000-2001.
[6] NSS Report No 483: Characteristics of Enterprises: Unorganised Service Sector in India, 2001-2002.
[7] Report of the Group on Generating Quarterly Labour Market Data under SDDS, Ministry of Statistics and Programme Implementation, April 2005

5.4 *Daily Activity Data in EUS and SNA Requirement:* For each individual, irrespective of age and sex, the various activities or in-activities performed in each day of the last seven days prior to the date of survey are recorded in quantitative terms of 'half' or 'full' intensity. Thus, on a particular day, a person may have any number of activities; the particulars relating to at most two activities identified on the basis of priority cum major time criterion are only considered for recording. Generally, a current activity, which is pursued for more than 1 hour but less than 4 hours, is considered to have been pursued with 'half' intensity. In case it is pursued for more than 4 hours, the activity is considered to have been pursued with 'full' intensity. On the other hand, if two or more activities are performed each with 4 hours or more, then at the most two activities are recorded on the basis of priority (employed over unemployed and unemployed over out of labour force) cum major time criterion. It is important to note that the various activities of a person are distinguished one from another by the *status-cum-industry* (at 2-digit level of NIC) of the activities performed in a day. The different work activities in terms of *status-cum-industry* (at 2-digit level of NIC) performed during the seven days of the week by a worker according to the *current weekly status* has been considered as the jobs held by such workers according to the *current status* approach. This information in respect of *status-cum-industry* has utility for counting the jobs classified according to sex, industry and rural-urban sector. The job count from this data is more analogous to *hours of work* (as recommended in SNA 1993) and representative of *average number of workers* engaged in an enterprise in the ESs.

Table 15: Labour input ratio according to *current status* approach separately for each sex and sector: NSS 55th round (1999-2000)

category of persons	labour input ratio	wpr (according to cws)
(1)	(2)	(3)
rural male	650	510
rural female	294	253
rural person	476	384
urban male	645	509
urban female	155	128
urban person	410	327
rural + urban male	649	510
rural + urban female	259	222
rural + urban person	459	370

5.5 *Estimate of Labour Input Ratio from Current Activity Data:* The *labour input ratios* obtained by using the *current activity data* are given separately for each sex and sector at the national level in Table 15. Data used for this exercise relate to EUS survey of NSSO during 1999-2000. Out of every 1000 persons in the country, about 370 are found to be workers according to *current weekly status* (cws) and they worked, on an average, against 459 job positions – termed as *labour input ratio*. In other words, each worker engaged themselves in 1.24 jobs – call it *job worker ratio*. Either of the ratios, *labour input ratio* or *job worker ratio*, can be used on the projected population or the workforce, respectively, to get the *labour input* required for NAS compilation. Similar statistics in respect of *labour input ratio* are given in Table 16 separately for each tabulation category of activities (NIC 1998) side-by-side with that based on *usual status* approach for NAS compilation (1999-2000). The two sets of estimates, at the broad level, reveal perceptible, and coherent magnitudes and directions in respect of the approaches and methodologies. The NAS estimates of *worker population ratio* (wpr: number of workers per 1000 population), *labour input ratio* and *job worker ratio* are found to be 397, 485 and 1.22, respectively.

Table 16: Labour input ratio by tabulation category[8] as obtained from *usual status* and *current status* approach: NSS 55th round (1999-2000)

tabulation category	labour input ratio	
	usual status*	current status
(1)	(2)	(3)
A+B	320	279
C	2	2
D	46	51
E	1	1
F	20	19
G	38	43
H	5	5
I	15	16
J	2	3
K	3	3
L	10	12
M	8	10
N	3	3
O	11	10
P	2	2
Q	0	0
all India	**485**	**459**

* Source: Report of the Working Group on 'Workforce Estimation for Compilation of National Accounts Statistics with Base Year 1999-2000'.

Table 17: Labour input ratio by broad categories of industry as obtained from *usual status* and *current status* approach: NSS 55th round (1999-2000)

broad categories of industry (tabulation category)	labour input ratio		% change in *current status* over *usual status*
	usual status	current status	
(1)	(2)	(3)	(4)
primary (A-C)	322	281	-12.73
secondary (D-F)	67	71	5.97
tertiary (E-O)	94	105	11.70
all (A-Q)	458	459	-5.36

5.5.1 It is important to note that the *labour input ratio* according to *current status* approach is lower than that according to the *usual status* approach in the case of primary sector but higher in the case of secondary and tertiary sectors (Table 17). The *labour input ratio* according to *current status* approach is expected to behave in a similar way for the unorganized activities in the secondary and tertiary sectors, as it is obtained by the residual method by subtracting the *labour input* for the organized sector from the total *labour input*.

5.5.2 The overall decrease in *labour input ratio* according to *current status* approach as compared to the *usual status* approach may be due to the fact that *labour input ratio* obtained from the *current status* approach takes into account the seasonality and fluctuations in the labour market. The increase in the *labour input ratio* in the secondary and tertiary sector along with decrease in the primary sector according to *current status* as compared to the *usual status* approach may be due to the fact that some persons assigned primary industry (for a period of 365 days) according to the *usual status* approach may not have worked in the primary sector throughout the year. Some of them may have worked in secondary/ tertiary sector during the off-season in the primary sector or when they do not have adequate employment in the primary sector and this is reflected in the *labour input ratio* obtained in the *current status* approach.

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[8] Description of tabulation categories: A – Agriculture, Hunting and Forestry; B – Fishing; *C - Mining and Quarrying; D - Manufacturing; E - Electricity, Gas and water supply; F - Construction; G - Wholesale and retail trades; repair of motor vehicles, motor cycles and personal and household goods; H.- Hotels and restaurants; I - Transport, storage and communications; J - Financial intermediation; K - Real estate, renting and business activities; L - Public administration and defence; compulsory social security; M - Education; N - Health and social work; O - Other community, social and personal service activities; P - Private households with employed persons; Q - Extra – territorial organisations and bodies*

5.6   *Limitations in Current Activity Status Data:* It may be mentioned that there are some limitations in estimating the count of jobs from the data available according to *current activity status* approach due to the procedures adopted for recording the *status-cum-industry* of each individual in EUSs of NSSO. In the *current daily activity status* approach, 'full' intensity of work is recorded corresponding to the *status-cum-industry* for the regular wage/salaried employees, irrespective of their other works performed on a particular day, and thus, the secondary work for them, if any, remains uncounted in the job counts. The secondary work of the regular wage/salaried employees has been estimated in an indirect method using the proportion of workers, among the regular wage/salaried employees according to *usual principal status*, having subsidiary jobs Even after this adjustment too, there are still some reasons to believe that the number of jobs count according to *current activity status* approach remains undercounted. This is also due to the procedures in EUSs surveys adopted for recording the intensity of work for a person who performed two or more jobs in a day – one for a duration of 4 hours or more, and others for 1 to less than 4 hours. In this case, the procedure in the EUSs is to record 'full' intensity against the first job, ignoring the other jobs from the purview. Third, the *labour inputs* are necessarily to be estimated for the compilation categories of the activities for NAS purpose. This is not directly possible from the *daily activity status data*. The data in respect of *daily activity status* are collected at the 2-digit level of NIC and hence, the distribution of jobs at the compilation categories of the activities cannot be directly obtained. On the other hand, based on the *daily activity status-cum-industry*, a 5-digit industry of activity is ultimately assigned for the working persons in the *current weekly status* based on *priority-cum-major time* criteria.

5.7   *Some Suggestions:* First, the data in respect of *daily activity status* may be collected at the 5-digit level of NIC also, as is done in the *usual* or *current weekly statuses*, but change in the *status-cum-industry* may be restricted to *status-cum-2-digit level* of NIC as is done now in EUSs surveys. This is only to facilitate the estimation of *labour inputs* at the compilation categories of the activities required for NAS compilation. In fact, this is now done, in general, in deciding the *current weekly status* and industry of activity for those who perform single activity throughout the week. In the case of those who perform multiple jobs in the week, 5-digit industry of activity is recorded against one of the work activities based on *priority-cum-major time* criteria. It implies from the job worker ratio (1.24) that, in about 19% cases, the 5-digit industry code is to be recorded additionally, to comply with this suggestion. Second, the multiple jobs performed by the regular wage/ salaried persons in the reference week, can be estimated by making provision to record more than 1 work activities also as is done for self-employed or casual labours, alternatively, adjustment factor using the *usual principal status* cross-classified by *usual subsidiary status* can be used to estimate the multiple jobs by the regular/wage salaried employees. Third, two jobs in a day can be recorded in terms of *status-cum-industry*, if performed two or more jobs - one for 4 hours or more and others for 1 to 4 hours - with 'half' intensity each by using *priority-cum-major* time criteria. This procedure will enhance the scope of recording multiple jobs, at the most two, performed in a day and thus, estimating the *labour inputs* more precisely.

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6 Recording of Multiple Activities for Regular Employees

6.1   *Count of Jobs and the Method of Calculation of wages per day:* In the current daily status approach, an activity, which is pursued for more than 1 hour but less than 4 hours, is considered to have been pursued with 'half' intensity. In case it is pursued for more than 4 hours, the activity is considered to have been pursued with 'full' intensity. On the other hand, if two or more activities are performed each with 4 hours or more, then at the most two activities are recorded on the basis of priority (employed over unemployed and unemployed over out of labour force) cum major time criterion. This method of recoding is followed for all the activity status except when one of the activity status is regular wage/ salaried category. In the current daily activity status approach, 'full' intensity of work is recorded corresponding to the *status-cum-industry* for the regular wage/salaried employees, irrespective of their other works performed on a particular day, and thus, the secondary work for them, if any, remains uncounted in the job counts. Thus, for the regular wage/ salaried persons with multiple activities in a day, the current data recording mechanism fails to account for the total number of jobs in the economy. On the other hand, for other activity statuses, if one activity is pursued for 4 hours or more and another activity is pursued for 1 hour or more but less than 4 hours, the data reporting mechanism fails to count the job performed with half intensity. In all other cases, total number of jobs is accounted for properly for all the activity statuses. However, this problem of counting the total number of jobs in the economy can be addressed with slight modification in the present method of data collection. This can be done by following the existing mechanism of recording the multiple activities for regular wage/ salaried persons also. Since in the present method there is scope for omission of multiple activities performed under various conditions mentioned above, a small module (or a new sub-block) can be designed to record other work activities in a day, in addition to those recorded in the detailed block for recording daily time disposition data, which are pursued for at least 1 hour in a day by the persons in each of the 7 days of the week in different status and industry without violating the 7-man-days norm in work per week for each person. Note that not more than two work activities (jobs) will be recorded in a day considering both the time-disposition-block and the newly designed module (see Annexure-I).

Table 18: Percentage of usual principal status workers who had full time work by status in employment during NSS 55th and NSS 61st rounds

all-India

status in employment	rural			urban		
	male	female	person	male	female	person
(1)	(2)	(3)	(4)	(5)	(6)	(7)
NSS 61st round						
self-employed	96.7	89.5	94.5	97.8	84.6	95.6
regular wage/ salaried persons	98.6	96.2	98.2	99.5	96.4	98.9
casual labours	95.2	93.7	94.7	93.7	91.6	95.6
NSS 55th round						
self-employed	95.1	89.1	93.4	96.5	80.1	93.9
regular wage/ salaried persons	97.7	93.1	97.0	98.8	95.0	98.2
casual labours	93.7	91.3	92.9	94.0	88.5	92.8

6.1.1 It is felt that the usual daily time disposition block along with the proposed module will resolve the problem of total job counts in the economy.

6.2   *Likely effect on the estimate of wage rate*: In the present practice, all the regular wage/ salaried persons are assigned full intensity (1.0) for all the 7 days of the week and the wages actually earned by them are reported. The wage rates for regular

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wage/ salaried persons are calculated under the consideration that wage reported actually relate to the full days wage. It may be useful to see the wage rate in respect of nature of employment (full time of part time) of the regular wage/ salaried employees. It is seen from Table 18 that nearly 98 per cent of workers in the regular wage/ salaried status had full time job, but the proportion was much less for either self-employed or casual labours. Thus, the method of calculating wage rate considering full-intensity of work for all the 7 days of the reference week for the regular wage/ salaried persons, as is the present practice, is likely to yield same results even if adjusted for full-time work.

7 Recording of Data on Earning from Employment

7.1 In the quinquennial round surveys on employment and unemployment, wage and salary earnings, for the work done during the week, are collected in respect of the employees (i.e., regular wage/salaried employees and casual labours). In order to get an idea about the earnings of the self-employed, two indirect questions were asked to the self-employed persons according to usual status (ps+ss), namely, 'do you regard the current earning from the self-employment as remunerative?' and 'what amount per month would you regard as remunerative?'. Table 19 presents the proportion (per 1000) of the self-employed persons who reported their current earnings from all self-employment activities as remunerative, and their distribution over the amount of earnings regarded as remunerative by them.

7.2 The operational definition to determine whether earning from self-employment was remunerative was devised. The current earning from self-employment was regarded as remunerative, if total earnings from self-employment were able to meet the desired level of income of the individual under the existing situation in respect of type of activity, scale of operation of the business (s), market condition, location of the business, etc. If the actual earnings from the self-employment activities fell short of the desired level, the employment was not regarded as remunerative. The situation for the 'helpers' was judged in the similar manner as for the 'own account workers' or 'employers' and no distinction was made for them in this regard. If the owners of the enterprise were from the same household, earning was judged by considering equal distribution of income among all the owners including the helpers irrespective of the shares held by the individual member. If the owners of the enterprise were from the different households, earning from the partnership business was distributed first, according to the agreement (verbal or written), among the partner households. Then, the share of the earning from self-employment held by a household was distributed among its owners including the helpers equally. The complications involved, in determining whether earning from self-employment was remunerative or not can be comprehended easily, because it is difficult to address such complex issues through a single-shot question. Even the data collected about earning or GVA from the unorganised sector (manufacturing and service sector) through detailed schedule are criticised for their quality. Besides, whether the data collected has served its desired purpose or not is not clear. Hence, the collection of data on quality of employment or earning from self-employment through single-shot question may not be worth proposing. Only possible alternative is to canvass a detailed schedule in the line for unorganised sector survey to calculate the earning from the self-employment persons, but that is not possible to integrate with the employment and unemployment schedule, because the survey has to be an enterprise approach instead of household approach to avoid duplication. If more than one self-employed person is engaged in the same enterprise and they belong to

different households, data cannot be collected by household schedule because that will result in duplication.

Table 19: Number of self-employed persons according to usual status (ps+ss) reporting their earning from self-employment as remunerative per 1000 of self-employed persons and their per 1000 distribution by amount (Rs.) regarded as remunerative during 2004-05

all-India

category of persons	no. per 1000 of self-employed persons reporting earning as remunerative	per 1000 distribution of self-employed persons reporting earning as remunerative by amount (Rs.) regarded as remunerative						
		0 - 1000	1001 - 1500	1501 - 2000	2001 - 2500	2501 - 3000	more than 3000	all (incl. n.r.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
rural male	511	129	175	165	114	129	273	1000
rural female	514	342	235	154	89	72	99	1000
rural person	512	212	197	160	105	107	205	1000
urban male	609	49	82	99	72	122	565	1000
urban female	509	328	202	126	77	81	183	1000
urban person	586	104	106	104	74	115	489	1000

8 Additional Categories for Status Classification

8.1   In NSS surveys on employment and unemployment, the following activity status classifications are used:

code   **description**
working (or employed)
self-employed
11   worked (self-employed) in household enterprises as own-account worker
12   worked (self-employed) in household enterprises as an employer
21   worked (self-employed) in household enterprises as helper
regular salaried/ wag employee
31   worked as regular salaried/wage employee
casual labour
41   worked as casual wage labour in public works
51   worked as casual wage labour in other types of works
61   did not work owing to sickness though there was work in household enterprise
62   did not work owing to other reasons though there was work in household enterprise
71   did not work owing to sickness but had regular salaried/wage employment
72   did not work owing to other reasons but had regular salaried/wage employment
not working but seeking/available for work (or unemployed)
81   sought work or did not seek but was available for work (for usual status approach)
81   sought work (for current weekly status approach)
82   did not seek but was available for work (for current weekly status approach)
neither working nor available for work (or not in labour force)
91   attended educational institutions
92   attended to domestic duties only
93   attended to domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use
94   rentiers, pensioners, remittance recipients, etc.
95   not able to work owing to disability
97   others (including beggars, prostitutes, etc.)
98   did not work owing to sickness (for casual workers only)

It may be noted that information on *nature of employment* (permanent/ temporary) or *type of job contract* is collected in the quinquennial rounds of NSS. While information on *type of job contract* was collected, in NSS 61st round, for those engaged in industry groups/ divisions 012, 014, 015, 02-99, information on *nature of employment* was collected for workers in the principal status and also for workers in subsidiary status with or without principal status work. There is scope for suitably restructuring the codes for *type of job contract* for regular wage/salaried persons setting the objective fixed. This may help in assessing the quality of wage/salaried employment.

8.2 *Home-based worker and home-worker*: The ILO Home Work Convention adopted in 1996 refers exclusively to *home workers*. It defined a *home worker* as a person who carried out work for remuneration in premises of his/her choice, other than the work place of the employer, resulting in a product or service as specified by the employer, irrespective of who provided the equipment, material or inputs used. This is a sub-category of *home-based* workers. The term *home-based* worker is used for two types of workers who carry out remunerative work within their homes. They are independent *own account workers* and dependent sub-contract workers. The term *home worker* is used to designate the second category of dependent workers only. The *home workers* have some degree of autonomy and economic independence in carrying out the work, and their work is not directly supervised like the work of employees. Like the other self-employed, these workers have to meet certain costs, like actual or imputed rent on the buildings in which they work, costs incurred for heating, lighting and power, storage or transportation, etc. That means, they have some tangible or intangible means of production. NSSO has considered the *home-worker or out-workers* as self-employed in its employment and unemployment surveys. But, prior to NSS 55th round, they have never been categorised separately in the surveys to obtain the dimension of these workers. Collection of information for identification and measurement of them based on a separate set of questions (see Annexure-II) was one of the special features of NSS 55th round. A *home worker* can, therefore, be defined as one who:

Table 20: Incidence of home-workers in the non-agricultural sector: 1999-2000

all-India

sector	% of home-workers in non-agricultural sector	% of home-workers among self-employed persons in non-agricultural sector
(1)	(2)	(3)
rural	7.5	15.2
urban	5.0	12.2
rural+urban	6.2	13.8

i. carries out the work in his or her home, or in other premises of his or her own choice, but not in the work place of the employer. There is usually no direct supervision by the 'employer'. The term 'employer' means a person who either directly or through intermediary gives out work to the 'home workers'. The 'employer' may or may not provide the equipment, raw material or other inputs used;

ii. carries out the work as per the product-specifications (i.e., mainly or solely under order/ contract) of the 'employer'; and

iii. receives remuneration for work based on output, normally on piece rate basis.

8.2.1 The estimate of the proportion of home-workers whose location of work place was 'out-side employers dwelling/premises' and who worked 'wholly or mainly', under given specifications and for whom the method of payment was 'piece rate', is given in Table 20. It may be mentioned that the estimate of *home worker*, home-*worker or out-workers* among the self employed may very well be generated from the data of NSS 55th round survey, but discontinued in NSS 61st round.

8.2.2 It is clear from the above discussion that identification of *home worker*, *home-worker or out-workers* from among the self employed is a crucial issue, and they can largely be segregated only through the detailed probing on 'location of work place', 'who provided product-specifications', 'who provided the equipment', 'who provided material or inputs used', 'number of outlets', etc. To ascertain the situation on each of these aspects, we feel strongly, separate structured questions are to be asked to each self-employed persons in the survey, rather than providing separate codes for these categories for activity classification as this do not ensure uniform and exhaustive probing on all the issues.

9 Informal Employments and Employment in Informal Sector

9.1   It would not be out of place to mention here that growth of informal sector enterprises and informal employment[9] has currently drawn attention of planners, policy makers and researchers in the country, particularly in the post liberalisation period. The NSSO has been regularly collecting information for both registered and unregistered non-agricultural enterprises in the country. Although the processing of the data in respect of registered manufacturing enterprises is done by the Industrial Statistics Wing of the Ministry, the rest of the enterprises in the non-agricultural sector, commonly known as unorganised sector non-agricultural enterprise, is periodically covered and analysed by the NSSO. While the surveys of unorganised non-agricultural enterprise collects data on operational expenses, receipts, jobs held, capital assets, loans and borrowings; it also collects some qualitative information including

Table 21: Per 1000 distribution of usual status (ps+ss) workers in different industry divisions/ groups during 2004-05

all-India

category	industry groups/ divisions			
of	011,	012, 014,	10-99	01-99
persons	013	015, 02, 05		
(1)	(2)	(3)	(4)	(5)
rural				
male	631	34	335	1000
female	690	143	167	1000
person	653	74	273	1000
urban				
male	49	13	939	1000
female	129	52	819	1000
person	66	21	912	1000
rural+urban				
male	480	28	492	1000
female	609	130	261	1000
person	523	62	415	1000

Ref: NSS Report No. 515 (Employment and Unemployment Situation in India, 2004-05)

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[9] *Informal Sector*: As per resolution concerning statistics of employment in the *Informal sector*, adopted by the Fifteenth International Conference of Labour Statisticians (January 1993), for statistical purposes, *informal sector* is regarded as a group of production units which, according to the definitions and classifications provided in the United National System of National Accounts (Rev. 4) form part of the household sector as household enterprises or, equivalently, unincorporated enterprises owned by households.
Informal employment: As per guidelines concerning a statistical definition of *informal employment*, endorsed by the Seventeenth International Conference of Labour Statisticians (November – December 2003) comprises the total number of informal jobs whether carried out in formal sector enterprises, informal sector enterprises, or households, during a reference period.

type of enterprise such as proprietary, partnership, cooperative, corporate, etc. This information helps broadly to identify jobs in the informal sector. However, this information was thought by the planners not enough for the study on employment in informal sector and informal employment. They felt the necessity of collecting elaborate information on the subject through household surveys, and thus, appropriately through the schedule on employment and unemployment.

9.2   The collection of data to measure employment in informal sector, according to 15th International Conference of Labour Statisticians (ICLS) convention, begun in NSS 55th round. The collection of data, following 17th ICLS convention, was repeated in NSS 61st round. In the 55th round, the information was collected for all usual (principal and subsidiary statuses) workers engaged in the non-agricultural sector only, and in the NSS 61st round this was extended to the workers engaged in agricultural sector, as well, as covered in the Economic Census 1998[10]. Among other things, mainly the information on 'type of enterprise' in which the workers were engaged were used and workers engaged in proprietary or partnership enterprises were classified as engaged in informal sector. These apart, certain probing questions were asked to collect information on informal employment to all the workers engaged in the usual principal status or in the subsidiary status in non-agricultural sector as well as in the agricultural sector as covered in the Economic Census 1998. The broad estimates obtained from NSS 61st round are presented in Table 21. Moreover, in the 61st round, for the purpose of measuring informal employment, additional information on conditions of employment that largely depict the aspect of welfare and social security in employment was collected from the employees (i.e., regular wage/salaried and casual labours) engaged in such enterprises (i.e., NIC-98 divisions/groups 012, 014, 015, 02, 05, 10-99). The particulars of the conditions of employment collected were:

- i)   type of job contract-
  - a. no written job contract, and
  - b. written job contract (viz., for 1 year or less, 1 year to 3 years and 3 years or more)
- ii)   whether eligible for paid leave
- iii) availability of social security benefits (viz., PF/pension, gratuity, health care, maternity benefits, etc.)
- iv)   method of payment.

The sample size obtained from the 61st round survey for these variables are given in Tables 22 to 25.

9.3   Following the 17th ICLS convention, identification of informal employment from among the jobs held by the employees, based on the above set of information, will not pose any bigger problem. But for the self-employed, the issue of identification of informal employment based on the jobs held by them, especially in the agriculture sector, remains, to some extent, unresolved. In a country, the welfare and social security in employment are generally governed and protected by the labour laws of that country, and accordingly, the jobs held by the workers are characterised as informal employment or not. In the case of self-employed, all engaged in the unincorporated non-agricultural enterprises and jobs held by them are considered as informal

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[10] In the NSS 61st round, information was collected for all the industry divisions/groups of NIC –1998, excluding growing of crops, market gardening, horticulture (industry group 011 of NIC -98) and growing of crops combined with farming of animals (industry group 013 of NIC -98) of the agricultural sector.

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employment. The solution is not straight forward in the case of jobs held by the self-employed in the agriculture sector. According to the 17th ICLS convention, all the self-employed persons engaged in the agricultural sector for subsistence farming are considered to hold informal jobs. The question is how to categorise those self-employed who are engaged in the agricultural sector for subsistence farming. This issue is to be translated into the appropriate survey instruments for facilitating the assessment of informal jobs in the agriculture sector more objectively.

Table 22: Number of sample employees surveyed with different types of job contract during 2004-05

all-India

type of employees	no	less than 1 year	1 year or more	all (incl. n.r.)
(1)	(2)	(3)	(4)	(5)
rural				
regular/wage/salaried	8084	344	7808	16682
casual labours	12070	93	119	12682
urban				
regular/wage/salaried	15163	437	10192	26139
casual labours	9258	81	115	9675
rural+ urban				
regular/wage/salaried	23247	781	18000	42821
casual labours	21328	174	234	22357

Table 23: Number of sample employees eligible for different social security benefits during 2004-05

all-India

category of persons	eligible for some of the social security benefits	not eligible for social security benefits
(1)	(2)	(3)
rural male	8201	15723
rural female	1459	3482
rural person	9660	19205
urban male	10781	17287
urban female	2375	5034
urban person	13156	22321

Table 24: Number of sample employees (i.e., regular wage/ salaried workers, casual labourers) according to usual status (ps+ss) engaged in the non-agricultural (NIC-divisions 10-9) and NIC groups/divisions 012, 014, 015, 02, 05 during 2004-05

all-India

category of persons	status in employment								
	regular wage/ salary			casual labour			all workers		
	industry groups/ divisions								
	012, 014, 015, 02, 05	10-99	012, 014, 015, 02-99	012, 014, 015, 02, 05	10-99	012, 014, 015, 02-99	012, 014, 015, 02, 05	10-99	012, 014, 015, 02-99
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
rural									
male	296	13723	14019	537	10207	10744	833	23930	24763
female	27	2987	3014	203	1905	2108	230	4892	5122
person	323	16710	17033	740	12112	12852	1063	28822	29885
urban									
male	122	20605	20727	180	7680	7860	302	28285	28587
female	6	5652	5658	38	1861	1899	44	7513	7557
person	128	26257	26385	218	9541	9759	346	35798	36144
rural + urban									
male	418	34328	34746	717	17887	18604	1135	52215	53350
female	33	8639	8672	241	3766	4007	274	12405	12679
person	451	42967	43418	958	21653	22611	1409	64620	66029

Table 25: Number of sample employees eligible for paid leave during 2004-05

		all-India
category of persons	eligible for paid leave	not eligible for paid leave
(1)	(2)	(3)
rural male	9144	14781
rural female	1854	3101
rural person	10998	17882
urban male	12074	15973
urban female	2978	4427
urban person	15052	20400

9.4 The following observations can be made in respect of the sample sizes:

i) The number of sample employees for the industry groups/divisions 012, 014, 015, 02, 05, even at the all-India level were very small and as such this posed severe limitation in drawing valid inferences on the basis of the estimates for such category of employees even at the all India level. However, for the industry divisions 10-99, i.e., for the non-agricultural sector the number of sample employees was found adequate.

ii) Only 408 sample casual labours had written job contract of different durations. For the regular wage/ salaried employees, however, sufficient number of sample employees were surveyed who had written job contract.

iii) Sufficient number of employees who were covered under the different social security benefits was netted at the all-India level.

iv) Adequate number of sample employees who were eligible for paid leave was netted in the survey.

10 Comparability of Estimates on Employed from Different Sources and Grey Areas in the Classification in Employment Status

10.1 Estimates of any parameter based on different surveys or based on survey and census will be comparable only when concepts, measurement techniques and reference periods used in data collection are same. The estimates of employed and unemployed persons at the country level are available either from the decennial censuses and EUS of NSSO. There are differences in the two sets of estimates due to various reasons and those have been addressed by the Expert Committee on Data Divergence[11] . The recommendations of the Committee on the aspects of estimation of labour force parameters are given in Annexure-III. The main reasons observed by the Committee were due to divergence in concept of economic activity and the time criterion for categorising a person as worker by the two agencies.

10.2 The enterprise surveys of NSSO also provide another set of estimates of employed persons engaged in various sectors. As discussed in Section 5 above, in the enterprise surveys, the number of positions (jobs) rather than a person employed are counted and in that sense they are not strictly comparable. There are other reasons too for the estimated persons employed obtained from the enterprise survey being not comparable with that from the EUS of NSSO. In the EUS, the activity status and industry of work of a person is decided based on the employment situation obtaining for him/her during a reference period. The status in employment and industry of work to some extent is dependant on the NIC classification used for the purpose. For example, a porter or coolie, in the earlier rounds prior to NSS 61st round, was treated as casual labour. The activity of porter was not separately classified in NIC 1987 that were used

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[11] Expert Committee to Examine Wide Variations in Data Sets on the Same Subject, Min. of Statistics & Programme Implementation, Govt. of India

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in earlier surveys. In NIC 1998, which was used in NSS 61st round, a separate industry code (93090) has been provided to classify the activities of porter. In the context of determination of status in employment, it may be noted that in case of a porter/ coolie in their professional rounds to search jobs contracts with several clients, the amount of remuneration would depend upon the quantity and volume of goods to be carried for a given distance. Thus in a day, he/ she, in fact, serves several clients and generally, posses some tangible assets to perform these activities. Moreover, they decide the scale of operation of their own. In view of this, a porter/ coolie is to be considered as self-employed in EUS of NSSO. Whereas, the treatment of porters or coolies may differ in the enterprise surveys depending on whether the enterprise employ them on a fairly regular basis. Another example may be the case of domestic servants. They are employed by a household or a group of households on some wages. Thus, they are to be considered as employees of the employer households in the employment and unemployment survey and a separate code (Div. 95) is provided in NIC 1998. But, in the enterprise surveys, it is operationally difficult to list all such employer households as enterprise. To capture value added for them through enterprise survey, the domestic servants are to be considered as own account workers and thus, own account enterprises. It may be noted that the value added for them is nothing but the wages only. The wages for all the employees are collected in all the quinquennial surveys of EUS. A view therefore may need to be taken for appropriately sourcing the data on such workers for their economic contribution to the respective sectors.

11 Emerging Issue

11.1   In the recent past, there is an increasing demand to generate statistics on *child labour* at the National and Sub-national level, specifically at the district level, so that the identification of the areas with high concentration of *child labour* could be possible, in-turn facilitating formulation of interventions and rehabilitation programmes. The main criteria used to classify a child worker as a *child labour,* according to ILO conventions, is in terms of hours spent in economic and specified non-economic activities during a week, and whether those relate to hazardous activities or not (Annexure-IV).

11.2 It is quite often discussed that the measurement of *child labour* is a crucial issue involving finer measurement of time disposition in hours in respect of domestic chores and economic activities. Therefore, the method to be adopted for measurement of *child labour* is to be suitably decided to minimize the non-sampling error due to recall lapse and the length of the reference period that eliminates intermittent fluctuations in the activities during the week. Accordingly, the collection of time disposition data in unit of hours during the last week may be thought of in one of the four ways as follows:

1. By collecting data on time disposition on the previous day of the survey, and then multiplying it by 7 to get it for the week;
2. By collecting data on time disposition on each day the last week, and then adding them for the week;
3. By collecting data on a single short question on time disposition during the last week prior to the date of survey;
4. By collecting data on time disposition for 3 (or 4) days prior to the date of survey, and then multiplying it by 7/3 (or 7/4) to get it for the week.

11.3   The first method is based on the reporting of a day and subject to least non-sampling error and thus, expected to be theoretically less robust. Moreover, it fails to take into account the intermittent situation that arises for the person in a week. The second method is based on the reporting of each of the 7 days and takes into account the intermittent situation that may arise for the person in a week and thus, expected to be theoretically more robust. But the estimates are subject to relatively large non-sampling error, particularly for the days which are distant (i.e., fifth, sixth and seventh days) from the days of survey. The third method, although eliminates, theoretically, the intermittent situation during the week, but is subject to relatively high non-sampling errors and poses difficulty for the informants to recollect the time disposition in respect of the reference week. The fourth method seems to be the improvement over others as it defuses the possibilities of large non-sampling errors arising from the reporting of time disposition for the 4th, 5th, 6th and 7th days of the week, and takes into account, to some extent, the intermittent situation that arises for the person in a week.

11.6   The argument may continue regarding the quality of data to be collected in NSSO on time disposition in unit of hours during the last week. At present, for collecting data on CDS, certain amount of probing is done to ascertain the time disposition in carrying out the economic activity(s), roughly in unit of hours, to record half or full intensity of work on each day during the reference week. The probing is limited, in the current situation, to determine whether the time spent on economic activity(s) is more than one hour or not, or more than one hour but less than four hours, or more than four hours. In the process, in fact, a rough assessment of time spent on economic activity(s) is done. In the case of measurement of child labour, the probing is to be made to ascertain precisely the hours spent on carrying out *economic activity(s)* and *household chores*.

12 Conclusions

12.1 The architecture of labour force survey is complex. The measurement of its indicators through the households, necessitates percolation of investigation into multilayered cross classification of various characteristics of age, sex, education, skill and training, industry, occupation, time disposition, mobility and wages. The data needs have multiplied to measure the dynamics of labour force over time and space in the contemporary volatile labour market and statutory public interventions in its rural segment.

12.2   There is, however, no immediate necessity to change the existing concepts and definitions in the collection of employment and unemployment data which have stabilized over the years and are generally in conformity with international concepts and definitions. The inclusion of voluntary participation without remuneration in the production of goods and services within production boundary may be looked into in respect of ISNA.

12.3   Collection of data in employment and unemployment surveys in none of the three approaches (*usual status approach, current weekly status approach and current daily status approach*) can be dispensed with, since the data collected by the three distinct approaches provide very useful information on the extent and nature of underemployment.

12.4   Since the NSS estimates of population is on the lower side but the rates and ratios are accepted to be robust, it is not advisable to provide the estimates of the indicators in absolute numbers. Moreover, since the population figures for different domains and segments of the population are not available for inter-censual period, it is not possible to use census projected population to calculate the adjustment factors to account for the underestimation of the NSS estimates. Hence, it is suggested to continue with present practice of data release in the reports.

12.5   In providing labour input, the use of data on current statuses are found to be superior. The existing modules of data collection may further be improved upon to count the total number of jobs in the economy.

12.6 There is limitation to adjudge the quality of employment of the self-employed persons in respect of earnings through a single shot question. Technically, only possible alternative is to canvass a detailed schedule in the line for enterprise (unorganised sector) survey to calculate the earnings of the self-employment persons, or to integrate with the employment and unemployment schedule. The integration with the employment and unemployment schedule would be operationally most inconvenient – may vitiate the results of the entire survey.

12.7 Information on *type of job contract* was collected in NSS61st round. There is scope for suitably restructuring the codes for *type of job contract* for regular wage/salaried persons setting the objective fixed. This may help in assessing the quality of wage/salaried employment.

12.8 The wages for domestic servants or like workers are collected in all the quinquennial surveys of EUS. The value added for them is nothing but the wages only. We suggest that for them, the enterprise survey need not be carried out, rather the value added for them may be derived from the EUS of NSSO.

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Module for Recording Additional Work Activities onEach Day of the Reference Week

srl. no. as in col.1, bl. 5	age (yrs.) as in col. 2, bl. 5	activity status and industry									
		7th day		6th day		…….		2nd day		1st day	
		status	industry division (2-digit NIC-2004 code	status	industry division (2-digit NIC-2004 code)			status	industry division (2-digit NIC-2004 code)	status	industry division (2-digit NIC-2004 code)
(1)	(2)	(3)	(4)	(6)	(7)			(18)	(19)	(21)	(22)

[6] details of additional multiple work activities (status x 2-digit-NIC)

The relevant information collected from self-employed persons separately for principal status and subsidiary status in NSS 55th round

location of workplace (code)	whether worked under given specifications (code)	who provided credit / raw material / equipments (code)	no. of outlets of disposal (code)	basis of payment *(piece rate -1, contract basis-2)*	type of specifications *(written-1, oral-2, not known-9)*
(1)	(2)	(3)	(4)	(5)	(6)

col. (1): *location of workplace*: *no fixed workplace -10,*
  workplace in rural areas and located in: *own dwelling-11, own enterprise/unit/office/shop but outside own dwelling -12, employer's dwelling -13, employer's enterprise/unit/office/shop but outside employer's dwelling -14, street with fixed location-15, construction site-16, others -19*

  workplace in urban areas and located in: *own dwelling -21, own enterprise/unit/office/shop but outside own dwelling -22, employer's dwelling -23, employer's enterprise/unit/office/shop but outside employer's dwelling -24, street with fixed location-25, construction site-26, others -29*

col. (2): whether worked under given specifications: *yes: wholly -1, mainly -2, partly -3; no-4, not known –9*

col. (3): who provided credit / raw material / equipments: *own arrangement -1, provided by the enterprise: credit only -2, raw material only -3, equipments only -4, credit and raw material only-5, credit and equipments only -6, raw material and equipments only -7, credit, raw material and equipments -8, not known -9*

col. (4): no. of oulets of disposal: *one outlet -1, two outlets -2, three or more outlets -3; not known –9*

The Sub-Group recommends the following:

1. Effort should be made adapt a uniform concept of economic activity, preferably, as defined by the ILO. Also the time criterion for categorising a person as worker should be made the same in the NSS surveys and the censuses.

2. The economic questions in census should be made as simple as possible so that they are easily comprehensible to enumerators leading to improvement in quality of data collected.

3. In census, effort should be made to capture the participation of persons in economic activity, in general, and for the females, in particular.

4. Post enumeration checks may be taken up by an independent agency to assess the extent of non-sampling errors in collection of information relating to economic activity in the census.

5. In order to minimise non-sampling errors, possibility of reducing the size of schedules/questionnaires of both surveys and censuses may be explored.

Brief Concept of *Child Labour*

1. International Labour Organisation (ILO)

1.1 *Child*: According to the ILO guidelines, any person in the age group 5-17 years should be considered as a *child*. For operational purposes, children are classified in to three age brackets, viz., 5-9, 10-14 and 15-17 years.

1.2 *Child labour*: *Child labour* is *work*, which impairs the health and development of the children. It is understood as paid and unpaid activities (SNA and extended SNA production boundary), performed within or outside the household, that are harmful to children (that is impairing the health and development of the children), including work done by very young children, long hours of work for low wages, hazardous working conditions (physically and mentally), causing deprivation of education, abusive treatment by the employer and other detriments to development. It refers to work that:

- o Is mentally, physically, socially or morally dangerous and harmful to children; and
- o Interferes with their schooling by:
    - ❖ Depriving them of the opportunity to attend school;
    - ❖ Obliging them to leave school prematurely; or
    - ❖ Requiring them to attempt to combine school attendance with excessively long and heavy work.

1.3 Not all *work* done by children should be classified as *child labour*. Children's or adolescents' participation in *work* that does not affect their health and personal development or interfere with their schooling, is generally regarded as being something positive. This includes activities such as helping their parents around home, assisting in a family business or earning pocket money outside school hours and during school holidays. These kinds of activities contribute to children's development and to the welfare of their families; they provide them with skills and experience and help to prepare them to be productive members of society during their adult life.

Whether or not particular forms of work can be called child labour depends on the child's:
- ❖ Age,
- ❖ The type of work performed,
- ❖ Hours of work performed,
- ❖ The conditions under which it is preformed, and
- ❖ The objectives pursued by individual countries (typically mentioned in the relevant legislations of the country).

1.4 ILO Convention No. 138 on the "Minimum Age for Admission to Employment and Work" states that one of the most effective methods of ensuring that children do not start working too young is to set the age at which children can legally be employed or otherwise work. The main principles of the ILO's Convention concerning the minimum age of admission to employment and work are below.

nature of work	the minimum age at which children can start work.	possible exceptions for developing countries
Hazardous work Any work, which is likely to jeopardize children's physical, mental or moral heath, safety or morals, should not be done by anyone under the age of 18.	**18** **(16 under strict conditions)**	**18** **(16 under strict conditions)**
Basic Minimum Age The minimum age for work should not be below the age for finishing compulsory schooling, which is generally 15.	**15**	**14**
Light work Children between the ages of 13 and 15 years old may do light work, as long as it does not threaten their health and safety, or hinder their education or vocational orientation and training.	**13-15**	**12-14**

1.5 In identification of *work* that impairs health and development of the child, the ILO norm permits the child to work for a few specific hours in a week. The age specific distribution of the allowable limits is as follows:

- No work up to the age of 12 years,
- 14 hours a week in **permitted light work** for children in the age group 12-14,
- 42 hours a week in **light job** for children in the age group 15-17,
- **No hazardous job** up to age 17.

2. Data on Participation of Children in Work and Domestic Duties from NSS Surveys

2.1 In Table 1C, the percentage of workers (WPR) among children of age 5-14 years and percentage of children of age 5-14 years engaged in either economic activities or in domestic duties (WEDD), as per current weekly status approach, are presented for the last 3 quinquennial rounds of NSS. It is observed that during 2004-05 (NSS 61st round), in the rural areas, WPR was around 3 per cent and was around 2 per cent in the urban areas, and there is a decreasing trend, over the periods 1993-94 to 2004-05, for all the categories of children. It is noteworthy that proportion of female children in WEDD far exceeds those of male children - indicating engagement in domestic duties by the female children in higher proportion.

Table 1C: Percentage of workers (WPR) among children of age 5-14 years and percentages of children of age 5-14 years engaged in either economic activities or in domestic duties (WEDD), as per current weekly status approach for the last 3 quinquennial rounds

category of children (age: 5-14 years)	NSS round (year)					
	50th round(1993-94)		55th round(1999-2000)		61st round (2004-05)	
	WPR	WEDD	WPR	WEDD	WPR	WEDD
(1)	(2)	(3)	(4)	(5)	(6)	(7)
rural male	6.38	7.31	4.66	5.44	3.10	3.59
rural female	6.23	15.80	4.36	11.01	2.95	8.15
rural person	6.31	11.25	4.53	8.06	2.97	5.68
urban male	3.58	4.04	2.98	3.28	2.41	2.69
urban female	2.48	7.49	2.03	6.05	1.73	4.77
urban person	3.08	5.71	2.56	4.65	2.28	3.88