

NSS Employment Surveys; Problems with comparisons over time

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Right after independence the policy makers of the country felt an urgent need for information on the nation's status with regard to socio-economic and demographic variables. This was essential in order to have an overview of the gap that existed between the desired and the state of development of the nation then. With this in mind, the National Sample Survey Organisation was set up in 1951 and since then has been conducting surveys with a view to measure amongst other variables, the level of employment and unemployment in India. One of the first such surveys was conducted in the year 1953 (the 6th round). Since then, the NSSO conducted employment/unemployment surveys till 1962 for rural and till 1967 for urban areas on an annual basis. This early period of 14 years of annual surveys was marked by experimentation with regard to the development of concepts in defining and measuring employment levels and the periods of reference used to question survey participants.

Annual surveys (1953-1967/68)

The annual surveys were the first surveys undertaken by the NSSO. The surveys on employment, amongst others, involved first identifying and defining all types of activities a person could be involved in throughout the length of a chosen reference period. Having done that, the surveyed population was divided into these various work or activity status categories. One of the earlier surveys of 1953, (6th round) began by questioning individuals on the nature and duration of the activity/activities they were involved in during the course of a reference period, of 1-month. The term 'Usual Industrial Status' was used in those days to describe the activity status of an individual. The activity status of the people could therefore fall into the two broad categories of 'gainful' or 'non-gainful' activities during the course of the chosen reference period. Gainful activities being synonymous with productive activities which resulted in the production of goods and services contributing to the national product and undertaken for pay, profit or family gain (including whole or part of agriculture production used for own account production, except prostitution, begging by convention and household chores or social commitments)

Those individuals who engaged in gainful activities for the major part of the reference period, (major time criteria) were termed 'gainfully employed.' Those who did not participate in gainful work but were 'seeking work', were categorized as 'unemployed' while those who neither engaged in any gainful work nor were seeking gainful work were designated as being 'not in the labour force'.

This classificatory practice continued and was adopted during the 'Primary survey of urban employment and the Calcutta employment survey' of 1953 and for the 9th round (1955) as well. In the 9th round, while the activity concept remained unchanged, the reference period changed to include three distinct time periods, these were, a long period (around 1 year), 1-week and 1-day. The 10th round again saw resumption of the 1-day reference period.

Labour force concept introduced

Given the inconsistencies in the concepts and reference periods used in the preceding rounds due to frequent changes being made to them, from the 11th round onwards the NSSO adopted the by then, universally accepted western concept of 'Labour force'. This concept was similar to the earlier concept but differed in that it included the addition of 'available for work if work is present' category to the 'seeking work' concept under the unemployed category. This was done to capture those rural inhabitants who were unemployed and were not actively seeking work but were available for work, if work was present or offered to them. The term 'usual industrial status' also gave way to the currently used 'activity status' term. The 11th and the 12th rounds

(1957-58) saw further experimentation with three different sub surveys being undertaken. The first of these was based on an integrated household schedule¹ using a 1-day reference period for both rural and urban areas. The second survey was of only the agriculture labour households², again with a 1- day reference period, for both rural and urban areas. The third however was restricted to the non-agriculture labour households³ using a 1- week reference period for both rural and urban areas. The purpose of this elaborate exercise was probably to ascertain not only the overall levels of employment/unemployment across all household types but also separately for the agricultural labour households who are most vulnerable to employment variations and the non agricultural households.

The 13th round again saw changes being made, with now a 1-day and 1-week reference period being used for the urban areas, whereas no data was collected for the rural areas at all. After the 13th round till the 21st round a uniform reference period of 1-week was applied to the urban surveys and similarly for the rural regions, though the rural surveys were discontinued after the 17th round.

Table1: Different annual rounds and the corresponding years along with the reference period and the definitional concepts used.

Round	Year: from	Year: to	Reference-Urban	Reference-Rural	Concept used
4	1952				
6	1953		1- Month	1- Month	Usual Industrial status \$
7	1953	1954	1- Month	1- Month	Usual Industrial status \$
9-All India	1955		L.Prđ (1-Year)+1-week+1-Day	1- Year	Usual Industrial status \$
10	1955	1956	1-Day	1- Day	
11-L.F					Activity status-Labour force concept Introduced-not seeking but available for work
12	1956-1957	*	1-Day	1-Day	
11					
12	1956-1957	#	1-Day (only for Agri.Lbr. Hh)	1-Day(only for Agri.Lbr. Hh)	
11					
12	1956-1957	@	1-Week (Hh. other than Agri.Lbr)	1-Week(Hh. other than Agri.Lbr)	
13	1957	1958	1-Day	data probably not collected	
13	1957	1958	1-Week	data probably not collected	
14	1958	1959	1-Week	1-Week	
15	1959	1960	1-Week	1-Week	
16	1960	1961	1-Week	1-Week	Same: + now only 15 to 60 considered, unlike all ages earlier
17	1961	1962	1-Week	1-Week	
18	1963	1964	1-Week	Rural L.F survey discontinued	
19	1964	1965	1-Week		
19*	1964	1965	1-Week		
20	1965	1966	1-Week		
21*	1966	1967	1-Week		
*	Based on integrated household schedule.				
#	For agricultural households only				
@	For nonagricultural households only				

¹ The schedule includes all the household types.

² House holds whose members were engaged in manual labour in agriculture.

³ Households whose members were engaged in manual labour but not in agricultural activities directly.

Comparability problems with the annual series:

Thanks to NSSO's yearly persistence one, obtains a continuous series of employment figures right from 1953 to 1967 for rural areas and from 1953 to 1962 for urban areas, from the annual surveys. Many have compared the employment figures and have derived decadal trends from the rural and the urban series. However problems of consistency are apparent in this exercise and need to be kept in mind while such over time comparisons are attempted.

To begin with, for instance an annual employment survey is expected to depict the pattern of employment over the past 365 days. A long reference period of say about a year would then be expected to capture not only the fluctuations in the employment levels but also give an overall general picture of the employment rate. As against this a reference period of 1- month or less (1- week, 1- day) would be open to large seasonal fluctuations. A 1- month reference period may or may not coincide with the seasonal employment patterns such as the agriculture peak and slack seasons. Moreover the peak and slack seasons may vary from one region to another across the country and across crops. Even if the reference month did coincide in a particular region it may show high or low employment levels depending on whether the peak or the slack season has coincided. If the peak season coincides then it could be open to influence from the weather conditions such as the monsoons or drought. Unless the month of survey is chosen with these considerations in mind so as to capture the yearly employment surges and troughs, especially in the rural areas, the employment levels would significantly vary from survey to survey depending on the month chosen, the sample region selected and the corresponding weather conditions.

Similarly a reference period of just 1- day or 1- week may capture the employment intensity for that particularly short period but may not reflect the overall pattern and level in terms of months, days worked round the year. Therefore each of the smaller reference periods, except the long period/ 1- year reference period, may not be completely representative of the employment patterns and incidence for the concerned year and moreover may not be suitable for comparison across reference periods of varying lengths over time.

Secondly, conceptual inconsistency would arise as the concept used to ascertain the activity status of a person continued to be 'Usual industrial status' till the 10th round, where after it was changed to that of 'Usual activity status' which is used till date. The major difference between the two concepts was in the definition of those categorized as being unemployed. The former concept termed those individuals as being unemployed who were 'not gainfully employed' and were actively 'seeking work', whereas by the latter concept those who were 'not actively seeking work but were available for work' were included with the 'not gainfully employed' and 'seeking work' category of people and deemed to be 'unemployed'. Thus the estimates of unemployed by the latter definition would be higher than those based on the former, had the latter been used in place of the former. Conversely if the former definition was used in place of the latter then the unemployment estimates would have come down, hence the inconsistency.

Lastly till the 15th round, unemployment estimates included all gainfully unemployed individuals, irrespective of their age. These therefore also included those below 15 years and above 60 years of age, not gainfully employed but seeking work (till the 10th round) and seeking work or not actively seeking but available for work (from 11th round) due to livelihood pressures. Children below 15 and elders above 60 compelled to seek work were thus also a part of the unemployment estimates. From the 16th round on wards, however only those falling in the age group of 15 to 60 and not gainfully working and seeking and/or available for work fell under the unemployment category.

Thus *ceteris paribus*, the unemployment estimates before the 16th round could have been much lower than what were generate if the age group criteria of 15 to 60 years had been applicable.

Therefore though one could, as many have in the past, arranged the employment estimate in a time series fashion from 1953 onwards till about early 1970's, the presence of reoccurring conceptual, reference period and age group differences in survey methodology have rendered their comparison over time some what imprecise if not altogether unlikely.

Quinquennial surveys

On the recommendation of an Expert Committee on Unemployment Estimates, headed by Prof. M.L Dantwala and set up by the planning commission in 1968, the NSSO methodology underwent drastic changes in the nature and manner in which employment surveys were being conducted till around early 1970's. NSSO thereafter embarked on five yearly employment surveys based on a large sample at both state and central level as against the small sample annual surveys. Till date six such surveys have been conducted, the first, the 27th round survey (1972-73) followed by the 32nd round (177-78), 38th round (1983), 43rd round (1987-88), 50th round (19987-88) and the 55th round (1999-2000) surveys.

These surveys were the first comprehensive, detailed and also comparable sources of data on nationwide and state wise employment/unemployment figures after the initial years of experimentation with concepts, reference periods and survey methodology till the 1960's. The first Quinquennial survey was conducted in 1972-1973 (27th round) and used three distinct reference periods, namely a long period in the past, usually a year, 1- week and 1- day. To ascertain the activity status of a person too, three distinct status categories were employed, namely the 'usual principle status', 'current weekly status' and 'current daily status'. These three different activity statuses have been in use since then and bring forth different aspects of the nature of employment of an individual thus facilitating a deeper understanding of employment patterns. Except for the long period in the past which was used in the 27th round, all the subsequent rounds employed a reference period of 1-year to ascertain the usual principle status. Table 2 shows the various Quinquennial rounds conducted so far, the reference periods and the concepts used.

Table 2: Years and the corresponding rounds of the Quinquennial surveys for Employment and Unemployment

Rounds	Year: from	Year: To	Reference-Urban	Reference-Rural	Concept Used		
					Usual principle status	Current weekly	Current daily
27	1972	1973	Long. Prd in the past (say 1- Year & likely to continue)+1-week+1-Day	Long. Prd in the past (say 1- Year & likely to continue)+1-week+1-Day	Unemployed primarily, lately working & expected to work in future = Employed	1 hr or 1 day of the week	>4hrs
28							
29							
30							
31							
32	1977	1978	1-Year+1-week+1-Day	1-Year+1-week+1-Day	Unemployed primarily, lately working & expected to work in future= Unemployed	1 hr or 1 day of the week	>4hrs
33							
34							
35							
36							
37							

38	1983		1-Year+1-week+1-Day	1-Year+1-week+1-Day	..	..	..
39							
40							
41							
42							
43	1987	1988	1-Year+1-week+1-Day	1-Year+1-week+1-Day	..	..	..
44							
45							
46							
47							
48							
49							
50	1993	1994	1-Year+1-week+1-Day	1-Year+1-week+1-Day	..	..	..
51							
52							
53							
54							
55	1999	2000	1-Year+1-week+1-Day	1-Year+1-week+1-Day	..	..	..

Comparability problems across the Quinquennial surveys

Despite the overall consistency across the quinquennial rounds some minor inconsistencies do emerge. In the 27th round and the rounds prior to that (7th till the 10th), the ‘usual status’ concept was interpreted in a manner by which “a person who remained unemployed for a long period in the past but became employed during the latter part of the period and if his/her status of being employed was likely to continue in the future, was identified as being ‘employed’ even though during the major part of the long period (usually a year) the person remained unemployed. This was so as the ‘priority rule’ was applied even to determine the activity status of an individual, whereby working status received priority over the unemployment status. Opposed to this a person in the same situation was categorized as being ‘unemployed’ in the subsequent rounds beginning from the 32nd till the 55th. As such the estimates of the employed would have been lower and that of the unemployed would have been higher in the 27th round, had the revised definition, used in the latter rounds, been applied to ascertain employment levels during the 27th round. Thus comparison of employment estimates from the 27th round with all the subsequent rounds would not be completely comparable.

The 32nd round also saw the concept of ‘usually employed’ being introduced. A person categorized as a ‘worker’ on the basis of his or her principle status was referred to as ‘principal status worker’ or ‘main worker’. A person categorized as a ‘non-worker’ (according to the principal/usual activity status) who pursued some gainful activity in a subsidiary capacity was considered to be usually working in a subsidiary capacity and was referred to as ‘subsidiary status worker’ or ‘marginal worker’. ‘Principal status worker’ and ‘subsidiary status workers’ taken together then constituted ‘all workers’ according the usual status classification. Thus the ‘usually employed’ could be disaggregated into those employed in a ‘principal’ capacity and those employed in a ‘subsidiary’ capacity.

As mentioned above in the 27th round a person was considered as working if he/she pursued some gainful activity (not for major part) during the latter part of a long period of time in the past and was likely to continue in the future as a ‘worker’. Thus the estimates of usual status workers based on the 27th round data included both categories of ‘workers’, those pursuing gainful activity in ‘principal’ capacity and also those pursuing gainful activity in ‘subsidiary’ capacity (those who got employed later). In other words both ‘principle status and’ subsidiary status’ workers together constituted the ‘usual status’ workers in the 27th round.

Therefore the estimates of ‘workers’ from the 27th round would then be comparable to the principle (main) and subsidiary (marginal) status workers (main plus marginal) taken together in the subsequent rounds.

The concepts, definitions and reference periods used in all the subsequent Quinquennial rounds 32nd to 50th are more or less identical enough to facilitate comparison of broad employment estimates over time. Though some changes have occurred over the years in the surveys reports with respect to the disaggregated presentation of data by age composition and the social back ground of the population surveyed. Moreover since NSS now makes available unit data at household level in a digital format on compact discs, for 1983 (38th round) onwards, such comparability problems arising from difference in variables selected in print reports and level of disaggregation are no more restrictive.

Resumed annual series from 45th round

Despite the success of the five yearly surveys, NSS felt that the Quinquennial surveys were spaced too far apart, and that a need existed for information relating to key variables on an annual basis for the planning commission's development programs. From the 42nd round onwards therefore, consumption expenditure surveys were resumed on an annual basis. These annual surveys are based on a thin sample, which is one fifth the size of the Quinquennial surveys. For every first stage unit chosen in the first round of sample selection, that is a village (rural) or a block (urban), only two households are chosen for actual questioning. From the 45th round onwards additional variables were incorporate in the demographic section of the CES to capture the employment situation. The survey thus gathered information on the 'usual principle status' and 'current weekly status' of the individuals. The former utilizing a reference period of 365- days while the latter of 1-week. These annual surveys collected information at the central, state and the union territories level. The concept of activity status and the reference periods used in these surveys have remained unchanged through out since the reintroduction of the series from the 45th round onwards, thus allowing easy comparison of employment rates over time.

Comparison of Employment rates over time

The NSS therefore does furnish data on employment/unemployment levels right from the very beginning of its formative years. However absolutely accurate comparison of these figures through out the length of this period from 1951 to 2003 is not entirely possible.

Till the 26th round, NSS was busy trying to get its act together by experimenting with different definitional concepts and the length of reference period so as to hit upon a combination which would accurately capture the levels of employment and unemployment in the country. However it was only after the introduction of the five yearly surveys that a level of consistency was attained with regards the concepts and the reference periods used, facilitating easy comparisons over time. Thus for the period from 1972 till 2000, there exists five yearly employment data that is detailed, comprehensive and highly comparable. However the employment data before 1970 is not at all comparable with any of the subsequent survey rounds.

A similar situation arises with regards the thin sample based annual consumption expenditure and employment surveys commenced from the 45th round, however this incomparability arises for altogether different reasons. From the 45th round onwards, each year a household sample was selected with a certain theme being kept in mind, which could be any thing from Unorganized trade (small trading units), Land & Livestock holding, debt and investment to Consumer expenditure and small trading units, but never employment/consumption expenditure levels of the state/country. This thematic sample was then used not only to ascertain the theme based variables but also the consumption expenditure and employment/unemployment variables.

Since the theme has changed from year to year so has the basis for selection of the sample. As such the problem of comparison arises from this difference in the thematic sample selection. Data on employment generated from a sample selected for a particular theme is therefore comparable with similar data, but from a sample based on the same theme. As long as the theme is the same comparison is possible.

However the themes for the surveys have change form one year to another consistently, as is seen below. Moreover the sample selection is determined by the theme, and no employment and consumption expenditure variable based considerations are part of the process making comparison over time across annual surveys themselves difficult, if not out right impossible

Topics Covered During Different Rounds of Surveys Carried Out by NSSO Since 1990

Round No:	Survey Period	Topic Covered*
46	July 90-June 1991	Unorganized trade(small trading units)
47	July-December 1991	Literacy and Disability
48	January-December 1992	Land & Livestock holding, debt and investment
49	July 1992-June 1993	Housing condition and migration(emphasis on slum dwellers)
50	July 1993- June 1994	Employment and Unemployment
51	July 1994- June 1995	Unorganized manufacturing sector
52	July 1995- June 1996	Education, Morbidity & medical care and Aging
53	June-December 1997	Consumer expenditure and small trading units
54	January- June 1998	Common property resources, sanitation & Hygiene and services
55	July 1998- June 1999	Employment, Unemployment and informal non- Agricultural enterprises
56	July 1999- June 2000	Unorganized manufacturing

* The NSSO started collecting data on an annual basis on ‘consumer expenditure’ from 42nd round (1986-87) and on ‘Employment and unemployment’ from 45th round (1989-90).

A comparison of thin samples based employment figures with those from the Quinquennial survey is also possible (however not for the same year as the year when a quinquennial survey is conducted, the thin survey is dropped). As the sample size of the thin survey becomes small, the variance of the sample increases, but no bias creeps into the results. However if for instance a particular state sample is small enough to make the variance level rise above a certain limit, then its comparison with the state level figure from the Quinquennial survey is problematic. However at the all India level, given the large size of the sample (thin) such comparisons across the thin and large samples are quit possible. Again the major source of comparative problem arises from the fact that the annual samples are thematic in nature, where as the large survey samples are employment oriented. Additionally the quinquennial surveys are randomised on population basis, while the annual survey based on thin samples are randomised on the basis of the economic censuses. The

economic census therefore decides the nature of the frame work used and the selection of a particular set of households, area etc, which may have nothing in common with the population based employment survey sample.

The Census of India

The Census of India began its country wide surveys way back in 1872, and is among a handful of such surveys undertaken worldwide which gather and provide continuous time series decadal data on a number of demographic and socio-economic population characteristics required for policy formulation and appraisal. The data is collected at the central, state and the district level (*the basic unit of administration*). Data on the activity status of individuals was gathered for the first time during the 1881 census. Since then each of the subsequent census rounds conducted till date, the last one undertaken in 2001 has gathered information on individual's activity status. The census therefore furnishes data on the 'work participation rate'⁴, in the country apart from the much more comprehensive and detailed figures thrown up by the NSS data. As the NSS commenced its operations only from 1951, the commensurate comparable census data is the one from the 1951 survey onwards, till the 2001 survey.

Changes over time

The 1951 census of India used **income** as the criteria to ascertain the activity status of a person. Thus the population was divided into the three categories of 'Self-supporting', 'Earning dependent' and 'Non-earning dependent'. Here the person's activity status depended on his/her income earning status. Did the person earn any income or not and if yes, then was it enough to support the concerned person or was he/she still dependent on others for subsistence. Those who earned enough to support themselves were categorised as 'self supporting', those who earned an income but not enough to support themselves entirely were 'earning dependents' while those who earned nothing and were completely dependent on others were labeled 'non-earning dependents'.

The next census of 1961 saw a departure from the 1951 survey, in so far as now in place of income, the concept of **work** was employed for the first time to ascertain the activity status of individuals. The population was thus divided into 'workers' and 'Non-Workers' (unlike the NSS classification of persons into employed, unemployed and out of the labour force). The 1961 census therefore merely divided the population into these two categories of 'workers' and 'non-workers', the unemployed and those out of the labour force (NSS categories) being clubbed together into the 'non-worker' category.

Moreover two separate reference periods were used for the two sub categories of 'seasonal workers' and 'regular employed' categories under the broad 'workers' category. Any one working for more than 1 hour a day through the greater part of the working season was considered as being a worker, in case of 'seasonal workers'. In case of the 'regular workers', those employed on any one of the fifteen days prior to the survey day were designated as being working.

The census of 1971 too, was modeled on the lines of the 1961 census, except for the fact that now the reference period for the seasonal worker was fixed at 1-year and that for the regular work category was fixed at 7-days. Those identified as workers were termed as '**Primary workers**', whereas those found to be primarily non-workers but worked marginally, for them their secondary work was recorded and were termed as '**Secondary workers**'.

⁴ Work participation rate: Percentage of the total population engaged in economic activities.

The 1981 census saw the streamlining and standardisation of not only the concept used to ascertain individual's activity status but also the reference periods. The population was now divided into the three categories of 'Main workers', 'Marginal workers' and 'Non- workers'. Those who pursued 'economic activities' of one nature or another, for more than 183 days in a year, were identified as 'main workers'. Those who worked for less than 183 days were designated as being 'marginal worker' and those who did not engage in any form of activities were considered as being non- workers.

The concept of main worker introduced in the 1981 census and used till date, is akin to the concept of primary work used in the 1971 census and that of the secondary worker to the marginal worker.

Census of India

Years	Employed	Unemployed	Out of labour face	Concept	Reference period
1951	Self-supporting person: One who earns income & it is enough to support to him or her	Earning dependent: One who earned income But not sufficient to support one self.#	Non-earning dependent: Ones who didn't earn and depended on other entirely	Income	
	Workers	Non-Workers		Work	1 hr a day for the Length of
1961	Seasonal work: > 1 hour a day,through the greater part of the working season regular employed: if employed on any one days	> A previously unemployed person but seeking employment for the first time > A person employed before but now out of	not engaged in any economic activities		the working Season 15 days
	fifteen days prior to survey day	employment and seeking employment			
1971	Seasonal work: If working through out the greater part of the working season			Work: Primary & secondary	1 year
	regular employed: if employed on any one days fifteen days prior to survey day				7 days
1981	Main Worker: Worked in economic activity for more than 183 days Marginal Worker: Worked in economic activity for less than 183 days Non worker: Did not work at all at any time				1 year * 1 year 1 year
1991	Same as 1981				
2001	Same as 1991				

Cases where occupations were seasonal, the broad time span of the agricultural season preceding the survey date was used for categorising a person as a main Worker.

Comparison of NSS data with the Census data

1951 census

Comparison of the 1951 census data and the NSS data from the early 1950's annual rounds on employment involves certain problems. The census that year used income as the criteria for classifying individuals into different work status, whereas for comparable years the NSS used the gainful/productive activity concept to achieve the same. The census categorized those individuals who earned enough to support themselves, as being 'self supporting' individuals. However the parallel concept of 'gainfully employed' used in NSS is not really comparable, as those who might be able to completely support themselves (self supporting in that sense) may not be gainfully employed by the major time criteria of NSS. Conversely those termed as not being gainfully employed by the major time criteria, (NSS) but still engaged in some kind of work for the minor part of the reference period, may still be able to support themselves if they manage to earn enough.

Thus strictly speaking the comparability of the 1951 census figures with the NSS rounds from 1951 to 1955 would be inaccurate.

1961 census

The 1961 census saw a change in the criteria used from that of income to one based on '**work**'. The entire population was divided into the two categories of '**workers**' and '**non-workers**'. The category of non-workers here is synonymous with the 'unemployed' and 'out of labour force' concepts clubbed together from the NSS categorization. The category 'workers' in the census can be said to be comparable with the 'employed' category in the NSS results, as the reference periods chosen are more or less similar in both the survey types. The census however uses two different survey reference periods, one for the 'seasonal workers' another for the 'regular employed'. For the former, any work of more than an hour through the greater part of the working season qualifies a person as a worker, whereas for the latter a person employed on any one day, fifteen days prior to the survey date is termed as a worker.

NSS on the other hand used a reference period of one week during its 1961-62, 17th round survey, where the likely criteria used would have been any individual working for more than an hour on any one day of the preceding week (like the current weekly criteria). Thus the similarity in the criteria for designating an individual as a 'worker' in the Census or as 'employed' in NSS, are quite alike and therefore allow comparison.

However it has to be kept in mind that the Census of India is a large scale survey, whereas the annual surveys since 1951 till late 1960's have been small sample surveys. Thus the census is more accurate in terms of its reach and coverage, however the NSS figures are more precise in defining and capturing the incidence of employment. Thus any comparison of the census figures with the annual rounds of NSS in the strictest sense is not feasible.

1971 census

The 1971 census saw the same definitional concepts being used as in the 1961 survey, except that now under the 'workers' category for the 'seasonal workers' a reference period of 1-year was used (in place of the length of the working season) while a reference period of 7-days was used for the 'regular workers' (in place of 15-days). Additionally the notion of 'primary' and 'secondary' workers was also introduced. Primary workers being those employed or working usually and secondary being those not employed usually but still engaged in some sort of work in a subsidiary manner.

The Census reference periods are quite similar to the reference period of a long period (say 1-year & likely to continue), 1-week and 1-day used in the NSS, 27th Quinquennial round (1972-73). However like the

1961 census survey the 'non-worker' category in the census is comparable only to the 'unemployed' and the 'out of labour force' categories clubbed together. So the Census data for 1961 and 1971 gives comparable figures for the level of employment but fails to distinguish between the unemployed and the out of labour force segments of the population and is therefore not strictly comparable with the NSS figures in that sense.

On the other hand, comparison of the 1971 census figures with the NSS figures for 1972-73, (27th quinquennial round) is some what more likely due to a) the large size sample of the NSS survey and b) because the NSS sample figures are inflated (using a multiplier calculated from the population figures taken from the census itself) to be representative of the entire state and the central population.

1981 census

It is only since the 1981 census that proper definitional distinction and conceptualisation got introduced in the census methodology, facilitating somewhat greater comparison with the NSS figures. The 1981 census saw for the first time the introduction of the concepts of 'Main worker', 'Marginal worker' and 'Non- worker'. Also a uniform reference period of 1-year was applied across all individual activity status categorizations. The NSS surveys too, from the 1977-78, (32nd round) survey onwards saw a change in its definition of activity status of the individuals. Those categorized as being employed by the earlier definition ⁵ were now deemed to be unemployed due to a shift to a reference period of 1-year in place of the 'long period in the past' used earlier (27th round). Those who were engaged in gainful activities for the major part the reference period were the ones categorised as 'employed' without their future prospects being taken into consideration. Therefore the 'usual status' of individuals ascertained now on a reference period of 1-year in the 1983 Quinquennial survey (32nd round) is therefore comparable with the 1981 census figures of 'main', 'marginal' and 'non workers' which are also calculated on the basic of a reference period of 1-year.

However this comparison is not entirely strict. The 'marginal workers', those who engage in some economic activity in a subsidiary capacity are closer to the concept of 'underemployed' rather than the 'unemployed' concept of NSS. The comparable concept in this case is that of 'usual subsidiary status' in the NSS. On the other hand the 'non- workers' are comparable to the 'unemployed' and 'out of labour force' taken together.

Since both the Census survey and the NSS surveys since 1972-73 are based on large samples, comparison between to two is more likely.

1991 census

Since its 45th round (1989-90) survey, NSS had also resumed its annual series, which was discontinued in the late 1960's. This new series determined both the usual and the weekly status of the individuals based on a reference period of 1-year and 1-week respectively. The 1-year reference based usual status from the 46th round (1991-92) would be ideal for comparison with the 1991 census figures; however the thin nature of the annual series makes its ability to capture the broader picture less credibly in comparison with the census data despite the similarity of concepts and reference periods used. Relatively closer comparison of the 1991 census data is possible with the 1993-94, 50th round NSS survey as the latter unlike the annual round surveys is based on a large sample.

2001 census

⁵ In the 27th round and the rounds prior to that (7th to 10th), the usual status concept was interpreted in a manner by which "a person who remained unemployed for a long period in the past but became employed later in the period and if this status of being employed was likely to continue in the future, then the individual was identified as being 'employed' even though during the major part of the year (reference period) the person remained unemployed.

Similarly the 2001 census is comparable with the 1999-2000 (55th round) NSS Employment survey in the same manner as the 50th round surveys.

The census thus on the whole is a much more reliable source of information with regards the 'work force participation rate' in the country than the NSS employment surveys since it has a much larger and comprehensive coverage of the population in relation to the NSS sample based estimates and therefore is closer to the actual picture.. The NSS data moreover depends on the census data to calculate appropriate multipliers to inflate its samples so as to be representative of the overall central and state populations. However the NSS figure score much higher on their conceptual precision and depth of information on various aspects of work status of individuals and related variables.