# Unemployment, The Measurement of

Bharat Ramaswami
&
Wilima Wadhwa

The unemployed are those who are looking to work or are willing to work but cannot find it at the going wage. This notion of unemployment is motivated by the neo-classical conception of the labour market where wages clear the market and the failure to get work is voluntary. Deviations from this ideal are measured by the above definition of involuntary unemployment. Other definitions have also been used. The influential two-sector development models (Lewis,1954, Rannis and Fei, 1964) theorised non-neoclassical labour markets in the sectors dominated by subsistence family enterprise (such as agriculture). As output was shared among the family members, the family enterprise aimed to produce as much as possible without regard to the marginal productivity of labour. This led to the concepts of `labour surplus' and `disguised unemployment' both of which referred to people who were employed with low productivity in the subsistence sector and could therefore be transferred to the modern high productivity sector without output loss in the subsistence sector. The early literature on unemployment in India attempted to measure such unemployment through measures that were defined with respect to low productivity or low incomes. However, they suffered from inconsistencies and were hard to implement operationally as well (Krishna, 1976).

Unemployment is measured through labour force surveys which elicit the `activity' status of the respondent for a given reference period. First, the respondent is identified as not working. Second, for those not working, the typical question is of the form: are you available for work, and have you made some effort to find work during the last $x$ days. Those who answer in the affirmative are the unemployed while those who answer in the negative are the people who have opted out of the labour force. The labour force is the sum of the employed and the unemployed and the rate of unemployment is the proportion of labour force that is unemployed. The reference period could vary from a week, to four weeks to a year. Such an approach works well when the activity status is invariant within the reference period, i.e., either the person is employed, unemployed or out of the labour force. But what if an individual is unemployed for part of the reference period and is either employed or out of the labour force for the remainder? Should this person be counted as unemployed?

In India, employment-unemployment surveys are conducted by the National Sample Survey (NSS) Organization. Beginning with the 27th round in 1972/73, labour force surveys have been conducted every five years using standardised concepts and procedures based on the recommendations of the Committee of Experts (Planning Commission, 1970). The `usual' status unemployment measure is defined with respect to a reference period of a year. The multiple activity status issue, which is more acute longer the reference period, is resolved on the basis of majority time. This criterion is used first to classify a person as either belonging to the labour force (i.e., employed or unemployed) or not belonging to the labour force. If the person belongs to the labour force, then whether the person is to be classified as employed or unemployed is decided

once again on majority time. The survey also uses a reference period of a week to compute a `weekly' status unemployment measure. Here a person is regarded as employed if she or he worked for at least one hour during the reference week. It follows that a person is unemployed if she or he did not work for even one hour during the reference week and sought work or was available for work during the reference week.

Clearly, the usual status measure reflects only long unemployment spells. For instance, a male in the working age group (who is never out of the labour force) would be unemployed on the usual status measure only if the unemployed spell during the year is longer than the employed period. While, the weekly status measure captures short unemployment periods, it ignores unemployment for less than a week.

A third approach is to abandon the effort to assign every individual a unique activity status over the reference period. The NSS employment survey elicits an individual's time disposition during each day of the reference week. A day is split into two half-units and an individual is assigned a unique activity status for that period (rather than the reference week). This information can be used to compute person days of unemployment in the economy. As households are surveyed uniformly throughout the year, the aggregates derived from weekly data are representative of annual aggregates. The `daily' status rate of unemployment is the proportion of labour force (measured in person days) that is unemployed (also in person days).

Individuals with regular wage employment constitute only 14% of the work force. More than half of the work force are self-employed (53%), the great majority of them in agriculture and about one-third are casual wage workers (Pappola, 2006). Furthermore, over 80% of female workers in unorganized manufacturing work out of their homes mostly in sub-contracting relationships where the intermediary supplies raw material and buys back their output (Unni and Rani, 2005). For most of the labour force, therefore, work is seasonal, short-term and without tenure. Consequently, an individual's activity status can vary even within as short of a reference period as a week. The daily status unemployement rate would therefore seem the appropriate one for capturing their unemployment.

The data show a clear and stable ordering among these unemployment rates (Pappola, 2006). Between 1972/73 and 1999/00, daily status unemployment rates are the highest (between 6-8%), usual status rates are lowest (3-4%) and weekly rates are in between (4-5%). The data imply that while few are unemployed all through the year, unemployment spells are not uncommon. As the daily status measure is the only one that is immune to multiple activity status, it is widely agreed to be the most accurate measure of unemployment (Planning Commission, 2001; 2002).

For instance in the rural sector, among those who reported some unemployment during the reference week, 67% reported a spell of less than a whole week and 50% a spell of less than ½ a week (Table 1). Among rural labor households, 73% of those who experience some unemployment report spells of less than a whole week and 55% report spells of less than ½ a week. None of these would be counted as unemployed even under the weekly status. Therefore, from the point of view of designing poverty alleviation programs that target the unemployed, the daily status measure would seem to provide the best estimate of unemployment, since it is the poor who are likely to experience short spells of unemployment rather than the nonpoor who can afford to stay unemployed longer. The rest of this article will restrict its attention to daily status rates.

Table 2 presents the all India unemployment rates for 1983, 1993-94 and 1999-00.[1]  The data is also broken down by gender and by location (rural/urban).  Two robust facts emerge from the tabulation.  Unemployment rates in the urban sector are higher than in the rural sector.  While urban rates are in the range 8-9.5%, rural rates are about one percentage point lower fluctuating in the range 7-8%.  The second feature is that female unemployment rates are markedly higher than that for males in urban areas while they match that for males in the rural sector.  Urban female unemployment rates have ranged between 9.5-11% as compared to the 7-9% range for males.  In the rural sector, while the unemployment rate for women in 1983 was higher than that of males by more than one percentage point, the rates became similar in later years.

While there is not much variation in the unemployment rate across sectors in 1999-00, there is considerable variation across states.  Gujarat, Haryana, Karnataka, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh have unemployment rates much lower than the national average, ranging between 4% to 6%.  Andhra Pradesh, Assam, Bihar, Maharashtra and Orissa have unemployment that is close to the national average. Finally, Kerala, Tamilnadu and West Bengal have rates far in excess of the national average with unemployment in Kerala being greater than 20%.  These high unemployment rates pose a challenge to the understanding of labour markets.  Why do wages not fall in the face of such unemployment?  A generic explanation is the efficiency wage theory according to which wages higher than market clearing levels can be sustained if they elicit more effort from the employed.  Other explanations have been offered in terms of societal norms and the workings of particular institutions such as trade unions and government laws on minimum wages.  The latter set of factors would seem to be relevant for employment in the organised sector.  But what of the labour force that does not have these protections?  Would they have low unemployment rates?

It is often asserted that the poor cannot afford to remain unemployed. This is not borne out by the data, however.  Table 3 presents the daily status unemployment rates in 1999/00 for poor households and for labour households.  Poor households are those with monthly per capita expenditures less than the official poverty line.  Labour households are those that obtain their major source of income from agricultural labour and other manual work in rural areas and from casual labour activities in urban areas.  There is a large overlap between the poor and labour households.  While 55% of poor households are rural labour households, only about 39% of rural labor households are poor. However, if we look at the average consumption expenditure of rural labour households, 75% have expenditures which are less than 1.5 times the rural poverty line and 90% have per capita expenditures less than twice the poverty line.  The figures are similar for casual labour households in the urban sector.

Table 3 shows significant unemployment among poor and labour households with rates approaching 12% for labour households in both urban and rural areas.   These rates are higher than for the overall population (in Table 2).   As the NSS surveys households throughout the year, we can also compute the distribution of the unemployment rate across different quarters for rural and casual labour households (Table 4).  As one might expect, there is no particular seasonal pattern in the urban sector, while rural unemployment displays clear seasonality.  The unemployment rate at 15% is highest in

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[1] The NSS survey in 1999-00 and 1993-94 were conducted during the agricultural year -- July through June.  In 1983, the survey was conducted during the calendar year --- January through December.

the monsoon months from July to September when not much work can be done in the fields.  Thus while agriculture driven seasonality is part of the explanation for high unemployment rates among rural labour households, it cannot be the complete story as the unemployment in the busy *kharif* period (October to December) is as high as 10%.

The overall all India picture masks significant inter-state variation in the incidence of unemployment among labour households (Table 5).  Kerala, Tamil Nadu and West Bengal are striking for unemployment rates of 20% and more.  Bivariate associations (not reported here) do not suggest any systematic relationship between real wages and the level of unemployment.  A satisfactory theory of labour markets in India will have to reckon with persistent short-term unemployment among the poor.

**Table 1:  Multiple Activities in the Rural Sector, 1999/00**

% of individuals who had some unemployment

| Unemployment spell of | All Rural | Rural Labor Households |
|---|---|---|
| <= ½ week | 50 | 55 |
| < full week | 67 | 73 |
| = full week | 33 | 27 |


**Table 2:  All India Unemployment Rate (%)**

|  | 1999-00 | | 1993-94 | | 1983 | |
|---|---|---|---|---|---|---|
| All | 7.24 | | 6.03 | | 8.28 | |
|  | Rural | Urban | Rural | Urban | Rural | Urban |
| All | 7.08 | 7.79 | 5.61 | 7.43 | 7.93 | 9.53 |
| Males | 7.09 | 7.45 | 5.64 | 6.72 | 7.51 | 9.22 |
| Females | 7.03 | 9.42 | 5.55 | 10.52 | 8.98 | 11.01 |


**Table 3:  Unemployment among the Poor, 1999/00**

|  | Rural | Urban |
|---|---|---|
| Poor households | 9.19 | 9.38 |
| Labour households | 11.74 | 11.61 |


**Table 4:  Seasonality in Unemployment, 1999/00**

| Quarter | Rural[*] | Urban[**] |
|---|---|---|
| July-September | 14.95 | 12.10 |
| October-December | 10.10 | 10.70 |
| January-March | 10.64 | 10.79 |
| April-June | 11.20 | 13.02 |

* Rural labour households; ** Urban casual labour households

**Table 5:  Unemployment across 15 major States, 1999/00**

|  | % | |
|---|---|---|
|  | Rural[*] | Urban[**] |
| Andhra Pradesh | 12.81 | 11.88 |
| Assam | 5.20 | 6.25 |
| Bihar | 9.09 | 8.58 |
| Gujarat | 8.76 | 7.05 |
| Haryana | 11.79 | 5.99 |
| Karnataka | 7.63 | 8.12 |
| Kerala | 26.30 | 25.74 |
| Madhya Pradesh | 6.39 | 8.52 |
| Maharashtra | 10.27 | 11.46 |
| Orissa | 8.34 | 5.18 |
| Punjab | 5.66 | 5.38 |
| Rajasthan | 4.33 | 5.63 |
| Tamilnadu | 18.90 | 20.28 |
| Uttar Pradesh | 8.58 | 7.91 |
| West Bengal | 24.94 | 12.02 |

* Rural labour households; ** Urban casual labour households

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