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Employment and Unemployment since the Early Seventies

by

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1. Introduction

An overwhelming majority of India's population depend on their own labour as the dominant source of livelihood, through its productive use, either in self-employment or in work for others. Labour and issues such as employment, productivity and wages have been at the centre of attention in pre- and post-independence plans for national development. Sadly, the available employment and unemployment data from various sources in India are inadequate to document the trends in employment since planning for national development began in 1950.

Two of the main sources of data on workers and their distribution across economic activities in the economy as a whole are the decennial population censuses (PC) and the Employment and Unemployment Surveys (EUS) of the National Sample Survey Organisation (NSSO). Other sources include the Directorate General of Employment and Training (DGET) which publishes data on the organized part of the economy under its Employment Market Information (EMI) Programme. The Annual Survey of Industries (ASI) conducted by the Central Statistical Organisation (CSO) is another source of employment data. With some exceptions and changes over time, its coverage is restricted to the establishments listed as factories under Section 2m (i) and 2m (ii) of the Factories Act of 1948.

Another important source is the Economic Census, initiated in 1977 as a

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countrywide census of all economic activities (except crop production and plantation) and followed by detailed sample surveys of unorganized segments of different sectors of the non-agricultural economy in phased manner during the intervening period of the two successive economic censuses. These "Economic Census Follow-up Surveys," also called Enterprise Surveys (ESs), produce estimates of production, inputs, employment, factor income, capital formation, etc.

The definitions used are not the same in all sources and have even varied over time within the same source, as in the population censuses. Also, some of the sources such as the Economic Census are of recent origin, while the population census goes back to 1881! The EUS was carried out by the NSSO in its 9th round (May-September 1955), also in the 17th-20th rounds for the urban sector, and again for rural and urban sectors in the 27th round (1972-73). Only from the 32nd round (1977-78) has the EUS become formally part of the national quinquennial household surveys of the NSSO using essentially identical concepts of employment and unemployment. Apart from the large quinquennial surveys, the NSSO also collects data annually from a smaller sample of households distributed over the same number of first stage units as its normal socio-economic survey.

The estimates of employment and unemployment from the rounds other than quinquennial rounds in which EUS is conducted, particularly those meant for Enterprise Surveys (ESs), besides being subject to larger sampling errors because of smaller sample size (particularly at the state and regional levels), are suspected to be biased as well. It is suggested that in such rounds:

> the selection procedure of first stage units is designed to produce efficient estimates of enterprise-related parameters or other households and individual characteristics. *As a result, the workforce estimates based on the data collected in these rounds are not only subject to higher sampling*

> *error but are also suspected to be biased owing to the lesser attention paid to the employment-unemployment component of the survey*. Nevertheless, from the data collected in these rounds, it is possible to generate distribution of workers over the activity-groups that deserve to be considered, albeit critically (NAD, 2004, p.10, emphasis added).

Since no concrete evidence has thus far been adduced in support of suspected biases in estimates from smaller-sample rounds, I will assume that there are no biases but only higher sampling errors in these estimates in the trend analysis of Section 2. The coverage of sources of data other than PC and EU is limited either in geographical area or sectors or in other ways. The Economic Censuses and ESs exclude crop production and plantation activities in which a large proportion of the rural work force is employed. Even in the PC and EUS, which are supposedly national in coverage, some states (Jammu and Kashmir and Northeastern states) have been excluded on occasion for various reasons, primarily civil disturbances and insurgencies.

The methods of coverage by PC and EUS differ as well. As noted earlier, the Annual Survey of Industries covers only establishments under the auspices of the Factories Act of 1948. DGET data

> covers all establishments in the public sector (except the defense establishments and armed forces) and those establishments in the private sector that employ 25 or more persons on the last day of the quarter under reference. Apart from this, since 1966, the establishments employing 10 to 24 persons are also covered on a voluntary basis. (NAS, 2004, pp.11-12,).

There are many other sources of partial data on employment, unemployment, wages and other aspects of labour, which are based on reports required to be submitted by employers under various acts. The report of the National Commission of Labour (NCL) (the second Labour Commission), has a comprehensive discussion of sources and limitations of labour statistics (NCL, 2002). The very first Royal Commission on Labour in 1931 had already identified the need for reliable and representative data on labour.

There has been significant progress in the seventy-five years since the Royal Commission first reported the need for better labour market data such as the start of regular EUSs by the NSSO. Yet as the NCL (2002) laments, "We regret to say that the Labour Statistics as it stands today is not dependable. The industries do not have an obligation to submit the returns prescribed under the law. The collectors of data do not have any obligation to publish the data on time. In some cases there is a gap of more than 32 months in the publication of the data. Some State Governments have a gap of 3 to 4 years before the data is released. As a result of this poor quality and unreliable frequency of data, policy makers do not find it easy to rely on them or make use of them," (NCL, 2002, Chapter XII, Part IV, p28). I do not wish to underplay the importance of accurate and timely reporting by public agencies and of the need for incentives and penalties for non-compliance for those who are to provide the agencies with the data for complying with the laws. However, many of the conceptual, measurement and data gathering problems relating to labour statistics arise largely from the complexity of the Indian labour market.

From the employee or worker side, complexities arise from the fact that individuals (particularly females) frequently move in and out of the work force within a year, and even those who participate in the work force and are employed throughout the year could move from self-employment in their own farms in one season to wage employment in another season within the same year. Self-employment continues to be the single largest source of employment in the economy. Although the proportion of population living in households whose major source of income is self employment declined from 55.6% in 1987-88 to 50.9% in 1999-2000 in rural areas, it increased slightly from 38.9% to 39.2% during the same period in urban areas (NSS, 2001, Table

4.2). Also, an individual could be engaged in more than one economic activity at the same time or at different times in a year.

From the employer side, the situation is just as complex. A farmer employs workers not only from his/her own household but also hires agricultural laborers during peak agricultural season. The same farmer would be employed as casual work (or looking for such work) outside the farm during slack agricultural season. Outside of crop production activities, as the data from the latest economic census show, 98.6% of the number of enterprises in existence in 2005 in the economy employed less than 10 workers.[1] In the earlier census of 1998, this proportion was similar at 98.1%, accounting for 76.5% of the number of usually working persons. A large majority (61.3%) of the enterprises operated in rural areas. Also, 20% of rural and 15.5% of urban enterprises operated with no premises (GOI, 2006). It is very unlikely that enterprises employing less than 10 workers would maintain written records of their activities. There is no way one could gather data on their employment, other than by canvassing such enterprises directly though a well designed survey or census. This is indeed what an Economic Census and its follow up survey attempt to do. However, as noted earlier, the census excludes a large share of the workforce employed in crop production activities.

Given the wide differences in their concepts and definitions and the extent of coverage among sources it should cause no surprise that it is virtually impossible to adjust for these differences and arrive at comparable estimates. The dissatisfaction with the then available PC and EUS statistics of unemployment led to the appointment by the Planning Commission of a committee of experts under the chairmanship of M.L.

[1] GOI (2006). Strictly speaking, the data from the economic censuses refer to the number of positions and not to workers. Thus the same position could be held by different persons during a year.

Dantwala (known as the Dantwala Committee) on Unemployment Estimates. The Committee submitted its report in 1970. The EUSs of NSSO have since adopted the committee's recommendations regarding concepts of employment and unemployment.

The focus of this paper is the EUS of the NSSO, since it is the only comprehensive source of data using the same concepts and methods of data collection over more than three decades. Importantly, compared to PC, NSSO data are available for many more years. My purpose is twofold. First, I fit a simple trend regression to the data, from 27th Round (1972-73) to 61st Round (July 2004-June 2005) on employment rate per 1000 persons(person-days), unemployment rate per 1000 persons (person-days) in the labour force, employment status and labour force participation rate per 1000 persons (person-days), taking into account that sample sizes in terms of the number of households of various rounds were different. Observations from each round are weighted by the square root of the sample size, thus placing more importance on observations from the large quinquennial surveys (Section 2). The time trend analysis is meant to extract the time patterns in the data efficiently. Also, the estimation allows for possible serial correlation in the disturbance term in the regression equation, taking into account that the observations are not evenly spaced over time. It is important to stress that it is not a structural economic analysis of the labour market based on a model of labour supply and demand that brings in endogenous and exogenous determinants of both, including importantly variables capturing labour market policies and regulations.[2] Thus the trends are best viewed as trends in labour market equilibria in a loose sense. As discussed in Section 2, among the 12 regressions (male-female, rural-urban, and usual,

[2] To the best of my knowledge, no such general equilibrium model is available in the empirical literature. I return to this issue in Section 3.

current weekly and current daily statuses) on employment rate (i.e. number of employed persons (person days) per 1000 persons (1000 person days)) only two, for rural and urban females using usual status, showed a significant downward trend. Six showed no significant trend and four showed significant upward trend. Unemployment rate regressions also are consistent with these findings, with five showing a significant downward trend and only one (for rural males using usual status) showing an upward trend. These time patterns do not support the widespread belief that the economy has been experiencing what is often called "jobless growth" since the reforms. Interestingly the labour force participation rates showed a significant upward trend for rural males only, with significant downward trend in four cases and no significant trends in the remaining six cases.

Second, besides fitting time trends in Section 2, I also analyze the time patterns of employment, unemployment and being out of the work force within the seven day reference period. The observed time pattern enables an assessment of the belief that there is considerable churning in the labour market because "the activity pattern of the population, particularly in the unorganized sector, is such that during a week, and sometimes, even during a day, a person, could pursue more than one activity. Moreover, many people could even undertake both economic and non-economic activities on the same day of a reference week" (NSS 2005a, Report 506). If this is the case, we should observe that the distribution of the number of days within a week of a given activity

status (employed, unemployed and not in work force) should be well dispersed. We will see that this is not what we observe in general[3], except for females. I offer some concluding remarks in Section 3.

2.1 Person and Person-Day Rates

Before describing the trends in employment and unemployment rates, I want to draw attention to the fact that the important distinction between the person rate of usual (US) and current weekly (CWS) statuses and the person-day rate of current daily status (CDS), seems to have been ignored in the discussion of the employment issue in some of the official publications (Planning Commission, 2005, 2002, 2001; MOF, 2004).

In the EUS, a person could be in one or combination of the following three broad activity statuses during the relevant reference period (year, week or day): (i) working (i.e. being engaged in economic activity), (ii) unemployed in the sense of not working, but either making tangible efforts to seek work or being available for work if work is available and (iii) not working and not available for work. Statuses (i) and (ii) correspond to being in work force and status (iii) to being out of work force. It is possible for a person to be in all three statuses concurrently depending on the reference period. Under such a circumstance, one of the three was uniquely identified in the EUS as that person's status by adopting either the major time or priority criterion. The former was used in identifying the "usual activity status" and the latter for "current activity status." (NSS, 2005). More precisely, the principal usual activity status of a person among the three was determined as follows: first it was determined whether the person

[3] In ongoing research in collaboration with Treb Allen, I fit a Markov transition model to the transition in status of employment (employed, unemployed and not in workforce) from one day to the next within the seven day reference period. We had transition data for the quinquennial 38th, 43rd and 50th rounds and not for other quinquennial rounds. Such data were not collected in the annual rounds yet preliminary findings from this research also broadly confirm this finding.

spent a major part of the year in or out of the work force. Next, those who were in the work force who spent a major part of their time during the 365 days preceding the date of survey in the work force working (not working) were deemed as employed (unemployed) (i.e. major time criterion). In addition to his or her principal activity in which a person spent a major part of his or her time, he/she could have pursued some economic activity for a relatively shorter time during the preceding year. This minor time activity was that person's subsidiary activity.

The current weekly status of a person during a period of 7 days preceding the date of survey is decided on the basis of a certain priority cum major time criterion. The status of "working" gets priority over the status of "not working but seeking or available for work," which in turn gets priority over the status of "not working and not available for work." A person is classified as working (employed) while pursuing an economic activity, if he or she had worked for at least one hour during the 7 day reference period. A person who either did not work or worked for less than one hour is classified as unemployed if he or she actively sought work or was available for work for any time during the reference week, even if not actively seeking work in the belief that no work was available. Finally, a person is classified as not in the work force if he or she neither worked nor was available for work any time during the reference period. The current daily status of a person was determined on the basis of his/her activity status in each day of the reference week using a priority-cum-major time criterion.[4]

Which of the three rates, namely "usual status (principal and secondary capacity work combined)", "weekly status" and "daily status" should be used estimating the levels and trends in workforce or the number of unemployed? The first two of the three are

[4] See section 2.3 below for details.

"person rates", that is, they refer to persons, for example the number of persons employed or unemployed per 1000 persons in the population. The third is a person-day rate i.e. it refers to the number of person days employed or unemployed per 1000 person-days. Thus, if a person in the sample was deemed to have worked (i.e. employed) for 3.5 days in the reference week, his employed person-days is 3.5 and total person-days is seven so that his employed person-day rate is 0.5, i.e. 500 person days of employment in the week per 1000 person days. Averaging this daily rate over all persons and multiplying it by the population figures will yield the total number of *person-days* of employment per day.

The total number of *person-days* of employment is not the same as the total number of *employed persons*. The reason is that a given total number of *person-days* of employment could be distributed among the same number of persons in many ways so as to lead to different numbers of *persons* employed. For example, consider a four person economy in which all four participate in the work force and together they were employed for ten person-days in the week. This yields a person-day rate of employment of 10 out of 28 or 36%. If the ten person-days are distributed in a way that one person is employed for seven days, another for three days and the remaining two are unemployed, then person-rate of employment is two out of four or 50%. On the other hand, if it is distributed in a way that three persons work for three days each and one person works for just a day, the person rate of employment is four out of four or 100%, given the priority given to the status of employment! Unfortunately, official publications ignore the distinction between persons and person-days, and possible heterogeneity among the population in number of days worked.

For example, MOF (2004, Table 10.7, p209) purports to present the number of persons in the work force, employed and unemployed, using daily status rates that refer to person-days. Interestingly, at the top of the table, the phrase "person-years" is used, suggesting that the numbers in the table refer not to persons but to person-years. Apparently, MOF wants to have it both ways!

2.2 Employment, Unemployment and Employment Status: Time Trend Regressions

The following weighted regression was estimated from the data, taking into account that our data are unequally spaced in time.

$$\sqrt{n_t}\, E_t = \alpha\sqrt{n_t} + \beta t\sqrt{n_t} + \sqrt{n_t}\, u_t \qquad (1)$$

$$\text{with } \frac{u_t}{\sqrt{n_t}} = \frac{\rho u_{t-1}}{\sqrt{n_{t-1}}} + \varepsilon_t \qquad (2)$$

Where n_t : Number of households canvassed in the round of period t

E_t : Employment Rate, Unemployment Rate or Employment Status

u_t : Random disturbance terms with expectation zero and variance

$$\frac{\delta^2}{n_t\left(1-\rho^2\right)}$$

ε_t : Independent and identically (over time) distributed random terms with mean zero and variance δ^2

Since the various rounds covered different time spans (year, six months, etc.) and also different year types (Calendar year, Agricultural years (July 1- June 30) etc), period t has been defined so that the interval between any two consecutive t is a year. Thus the slope coefficient β represents the annual rate of change in the expected value of E_t.

There are only seven observations on person-day rates based on current daily status. This fact has to be kept in mind in assessing the current daily status regressions.

2.2.1 Employment

Table 1 gives the slopes of the regression (1) fitted to data on employment rates in Table 6. Figures 1-4 depict the data and the regression lines. It is evident from the very high R^2 values that the linear time trend regressions fit the data very well, perhaps too well. The serial correlation coefficients are also generally high, suggesting significant persistence in the rates over time. Also, as expected, the trends for males and females are somewhat different. For males, regardless of the reference period (one year for US, a week for CWS and a day for CDS) and of the concept (person rate for US and CWS and person-day rate for CDS) used, there was no statistically significant trend in rural employment rate and a statistically significant (at 5% or better levels of significance) upward trend in urban employment rate. These finding are particularly noteworthy since the period of analysis covered the reforms of 1991 and thereafter. According to widely shared assessments, the reforms did not encompass rural areas to any extent and were largely urban oriented and as such, could not have had any impact on employment of rural males. The fact that there was a significant upward trend in the employment rate of urban males but not rural males is consistent with reforms having had a positive impact in urban males, though certainly does not establish a causal relationship between reforms and employment rates. From an overall employment perspective also there are important findings since, males after all, constituted 51% of the total population and accounted for 74% of total employed person-days in 1999-2000 according to NSS.

It is well known that the participation rates of females in the workforce and their employment rates are not only much lower than those of males, but also they are more

variable as well, particularly within short periods of time such as week. The trends for females in Table 1 give a mixed picture: in rural areas, there is a significant (at a 10% level) downward trend in the employment rate according to usual status and no significant trend in the other two measures. In urban areas there is a significant (at a 1% level) downward trend according to usual status and a significant (at a 5% level) upward trend according to current daily status.

2.2.2 Unemployment

Table 2 reports the slopes of the trends in unemployment rates documented in Table 7. Figures 5-8 depict the data and regression lines. In all regressions R^2 and serial correlations are again high. The slopes for males are basically consistent with the trends in employment rates: for rural males there is a significant (at a 10% level) upward trend according to usual status and a significant downward trend by all measures in urban areas. For females there was a significant downward trend according to CWS in rural areas as well as a significant downward trend according to usual status in urban areas.

2.2.3 Employment Status

For females, the unemployment picture is very different from that of employment. Both in rural and urban areas, female unemployment rates exhibit either no significant trend or a significant downward trend. It is likely that the divergent picture between trends in unemployment and employment rates arises from the fact that females move in and out of workforce often.

Table 3 details the slopes of the trends in the proportion of self-employed, employed in regular wage/salaried jobs and employed as casual labour, among those usually employed (principal and secondary status). The relevant data are in Tables 8 and 9. They show that self-employment is the dominant mode of employment accounting for

more than 50% of usually employed males and females in rural areas even in the 60th round (January-June 2004), and is important (though not dominant) mode in urban areas, accounting for 44% of usually employed males and 37% of usually employed females. Figures 9-12 depict the data and regression lines. The proportion of self-employment shows a statistically significant downward trend for rural males and and urban females. The proportion of those with regular wage/salary employed also significantly declined except for urban females, for whom the trend was significantly positive. To the extent that a high proportion of self-employment among those employed is viewed as an indicator of underdevelopment of the economy, its general downward trend is encouraging.

Since the shares of the three categories, self-employment, wage/salary employment and employment as casual labour by definition add to 1, the trend coefficients in the proportion of males reporting employment as casual labourers equals one minus the trend coefficients in the other two. Except for urban females where there is no trend, in all other cases there is a positive and significant trend. It is conceivable, though there is no way of judging this from the trends alone, that casual labour is a transitional status for those who move from self-employment in low productivity activities in rural areas to more productive wage employment in urban areas. For this reason, there is no additional information in them beyond the trends in the other two. For completeness I will record these anyway.

Taken together, Tables 1-3 paint a more optimistic picture of the Indian labour market than that suggested by official publications.

2.2.4 Labour Force Participation Rates

Table 4 depicts the time trends of labour force participation rates, which is depicted graphically in Figures 13-16. Because the NSSO did not regularly publish these statistics, the data are computed using employment rates (which are reported per 1000 people *in the general population*) and unemployment rates (which are reported per 1000 people *in the labour force*). The computed labour force participation rates are given in Table 9. As noted in Section 1, participation rates increased significantly only for rural males. For urban males two measures (US and CDS) showed significant declines while CWS rate showed no trend. For females either participation rate declined significantly (CWS in rural areas and US in urban areas or showed no trends at all. In order to interpret these trends, additional analysis of age specific participation rates is necessary, as one would expect that the participation of school-age children in the workforce to decline as the economy grows.

2.3 Within Reference Week Distribution of Employment Status

The NSS collects data on the time disposition of each member of the household on each day of the reference week.

> "This involved the recording of different activities pursued by the members along with the time intensity in quantitative terms for each day of the reference week…each day of the reference week was looked upon as comprising either two 'half days' or a 'full' day for assigning the activity status…
>
> A person was considered 'working' (employed) for the entire day if he/she had worked for 4 hours or more during the day.
>
> If a person was engaged in more than one of the economic activities for 4 hours or more on a day, he/she was assigned two out of the various economic activities on which he/she devoted relatively longer time on the reference day (for each of those two activities, the intensity was 0.5).
>
> If the person had worked for 1 hour or more but less than 4 hours he/she was considered 'working' (employed) for half-day and 'seeking or available for work' (unemployed) or 'neither seeking nor available for work' (not in labour force) for

> the other half of the day depending on whether he was seeking/available for work or not.
>
> If a person was not engaged in any 'work' even for 1 hour on a day but was seeking/available for work even for 4 hours or more, he was considered 'unemployed' for the entire day. But if he was 'seeking/available for work' for more than 1 hour and less than 4 hours only, he was considered 'unemployed' for half day and 'not in labour force' for the other half of the day.
>
> A person who neither had any 'work' to do nor was available for 'work' even for half a day was considered 'not in labour force' for the entire day and was assigned one or two of the detailed non-economic activity statuses depending upon the activities pursued during the reference day." (NSS 2001, Chapter 2)

Table 5 presents these data as a distribution of the days within the week (in half-days) of those employed, unemployed and in the workforce. Thus, the entry corresponding to, say, 7 days in Table 5 for the employed, is the proportion of those in the respective column who were classified as employed in the current weekly status who were employed in all seven days of the week. Analogously the entry corresponding to zero is the proportion of those who were classified as employed in the currently weekly status who were employed for no day of the week. Since by definition the distribution refers to only those are classified as employed in the current weekly status, the entry corresponding to zero is zero in the employed column as well as all other columns.

It is remarkable that the proportion who were employed on all seven days of the week among those classified as employed was very high, exceeding 80% for rural and urban males, and 70% for urban females. Only for rural females was this proportion lower at 58%, which is still fairly high. Thus, the perception that there is a lot of "churning" within the week in the employment of individuals is not borne out in the aggregate. The picture with respect to unemployment is different – only in urban areas the proportion who were unemployed all seven days of the week is high, 55% for males and 60% for females. The rural proportions for both sexes is about a third. My

interpretation of these results is that people move in and out of unemployment more frequently in rural areas, probably because it is easier to find employment in some activity there. On the other hand, both the unemployed and unemployed statuses are persistent in the sense then once one is employed (or unemployed), he or she is more likely to stay employed (or unemployed) for all seven days. In my on-going research with Treb Allen, I analyze the transition from one day to the next within the seven day reference week and hope to shed more light on the "churning" issue.

3. Conclusions

Before turning to policy questions, a few remarks are in order on the vast literature on employment in India.[5] First, the literature based on NSSO data almost always focuses on the quinquennial rounds, virtually ignoring the annual rounds. Second, the distinction between person-rates of employment and unemployment, usual and current weekly status and the person-day-rates of current weekly status is very often ignored and all three are treated as if they refer to persons. Third, the literature also usually discusses trends in absolute numbers of employed and less often the trends in employment rates. Fourth, in many of the scholarly articles and in some official publications the concept of employment elasticity and estimates of its trends play a crucial role. Related concepts of labour absorption per unit of output or per hectare of land used in the cultivation of various crops are also invoked.

Each of the four aspects of the analyses and findings in the literature can be questioned on analytical and empirical grounds. First, the sample sizes (in numbers of rural and urban households) for India as a whole are large in annual rounds although, in

[5] The paper of Srivastava (2006) to which S.R. Hashim drew my attention, cites many of the important contributions to the literature. I found Srivastava's paper extremely helpful both from the perspective of the comprehensiveness of its coverage and of its references to the literature.

the quinquennial rounds, they are much larger. This being the case, there is no reason to ignore the annual or 'thin' round estimates, at least at the all-India level (and possibly at the level of major states) on grounds of small sample size. The argument that because in these rounds the main subject of inquiry is not necessarily employment and unemployment and for this reason there may be biases (due to investigator neglect) in estimates is not persuasive since no concrete evidence has been offered documenting such bias. Further, given that a large majority of the Indian labour is employed in agriculture and activities that process agricultural products, employment in years of quinquennial round may be affected by shocks (particularly monsoon) to agriculture in those years, which could unduly influence the trends between such years. For all those reasons, in this paper I have used all the available data from 'thin' (annual) and 'thick' (quinquennial) rounds.

Second, as I argue in Section 2, since a given number of person-days of employment can be distributed differently among persons, it is inappropriate to ignore and treat as irrelevant the distinction between person-day rates and person rates.

Third, in official publications as well as in scholarly writings, a concern has been expressed about growth of employment having declined in 1990s. To cite only three among many: "Concern is often expressed that the process of growth in recent years has not generated employment at the pace required for absorbing the additional entrants to the labour force" (Planning Commission, 2006, p59); "rate of growth of employment, on Current Daily Status (CDS) basis, declined from 2.7 per cent per annum in 1983 to 1993-94 to 1.07 per cent per annum during 1994-2000" (MOF, 2004, p208); "The rate of growth of employment picked up from the 60s, but declined in the mid-1970s. There appears to have been a second period of higher growth during the 1980s and early 1990s.

But during the most recent period (1993/94 – 1999/00) there is evidence to suggest a significant deceleration… The growth rate of employment increased from 2.2 per cent in 1983-85 to 3.2 per cent in 1988-93 (2.8 per cent during the decade) and then plummeted to 1.5 per cent during 1993-00 …There has been a virtual collapse of rural employment as per the NSS estimates for the latest period" (Srivastava, 2006, pp 1 and 7).

All these statements are based on growth in estimates of absolute numbers of employed persons, derived by multiplying the relevant census-based population totals by the CDS employment rates from the EUS of the NSSO[6] for the relevant category. Thus, the differing growth rates of absolute numbers employed to which the statements quoted in the previous paragraph refer combine the effect of trends in CDS person-day employment and that of the census-based growth of persons in the relevant category. Unfortunately, the "plummeting growth rate of employment" and "the collapse of rural employment" cited by Srivastava (2006) and echoed by MOF (2004) and Planning Commission (2006) also only use data from quinquennial rounds and, in the case of MOF (2004), mistakenly use the CDS person-day rate as if it is a person rate.

The CDS rates are available only for quinquennial rounds. On the other hand, the US (PS + SS) and CWS rates are person rates and are available for thin as well as thick rounds. In Section 2 we noted that for males there was no significant trend in employment rates (either US or CWS) in rural areas and a significant upward trend in urban areas. Only in the cases of rural and urban females are there significant downward trends, and that too only if we use US data. This being the case, the use of longer term trends in person-rates of US or CWS, rather than the inappropriate person-day rates of

[6] The procedure of using census-based population figures as multiplicand for NSS employment rates is not innocuous. As I argue in Srinivasan (2006), NSS underestimates the total population relative to the

CDS based only on quinquennial rounds, would reverse the pessimistic conclusion about the collapse of employment for males.[7] As is to be expected, the employment picture is mixed for females.

Even if one ignored thin rounds and used only the quinquennial rounds, one would find that the changes in employment rates according to US, CWS and CDS are different (see Table 11). For example, if we focus on males who constitute the overwhelming majority (in excess of 75%) of those employed, we find, that although the signs of the changes of the three (US, CWS and CDS) employment rates are the same except in one instance, the magnitudes of the change are very different. If instead of using the inappropriate CDS rates, had one used CWS rates, aggregate employment growth between 1983 and 1999-00 would have been faster in rural areas, slower in urban areas and faster overall. But between 1983 and 1987-88 on the other hand, the use of CWS would lower the growth of employment both in rural and urban areas. The point is that it matters which of the three employment rates is used for projecting aggregate employment.

Not only have official publications and academic writers wrongly concluded that employment growth has slowed, but in attempting to explain the slow-down, they have also identified a fall in "employment elasticity" as the culprit. For example, MOF (2004, p.207) suggests that "In view of the declining employment elasticity of growth, observed during 1994-2000, the Special Group [constituted by the Planning Commission on targeting ten million employment opportunities per year over the Tenth Plan period] has

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censuses and the extent of underestimation is increasing over time. One cannot rule out the possibility that whatever is causing the increasing underestimation could affect NSS employment rates also.

[7] Sheila Bhalla comments that my findings are "unremarkable" and is surprised that I find that the trends that I document paint a more optimistic picture of employment. I am puzzled by her comments, since my quotes from official publications and from Srivastava (2006) amply show that my findings are not shared

recommended [Planning Commission, 2002] that over and above employment generated in process of present structure of growth, there is a need to promote certain identified labour intensive activities". The Planning Commission (2005, Table 8.1) generates its estimates of employment generated during the Tenth Plan using observed employment elasticities and actual GDP growth. Srivastava (2006, Table 18) also computes trends in employment elasticities and comments on its decline.

Unfortunately, such projections and policy pronouncements based on them have no analytical foundation. Elementary economics would suggest that the observed employment in any period represents equilibrium between labour supply and labour demand. In principle, both supply and demand functions could shift over time. For example, GDP growth, ceteris paribus, would shift the labour demand function outward. Similarly, growth of the number of individuals in the prime working ages due to population growth, ceteris paribus, shift the supply curve outward. Depending on the relative strengths of these shifts almost any trend (up, down or no change) in equilibrium employment is possible. In other words, the so-called "employment elasticity" is not a deep behavioral parameter and can take on any value.

I conclude that the pronouncements on slow down in employment growth since 1993-94 are based on inappropriate measurement and invalid employment elasticity analysis and that the long term trends in US and CWS employment rates do not support such pessimistic pronouncements. However, there is no denying the fact that during the six decades since independence, with the state playing a dominant role in the economy, and a conscious attempt at industrialization, the industrial structure of employment in the economy has changed extremely slowly (see Table 11), although the structure of value

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by them and that the long term trends in US and CWS employment rates do not support such pessimistic

added (GDP) has changed much more. The shares of agriculture and services in GDP, which respectively were 50% and 30% in 1960 (World Bank, 1978, Table 3) changed significantly to 21% and 52% in 2004 (World Bank, 2006, Table 4.2). The share of industry increased only modestly from 20% in 1960 to 27% in 2004. Primary activity (mostly agriculture) is still the dominant source of employment (around 66% in the first half of 2004 as compared to 78% in 1977-78) for rural males, the largest single group among usually employed persons. Additionally, the industrialization strategy that emphasized investment in capital intensive, heavy industry on the one hand and promoted small scale industry (SSI) through reservation of many products for production by SSI only on the other, has failed to substantially increase employment. This failure is seen from the stagnation since 1977-78 in the share of the secondary sector as a source of employment for rural males and an alarming fall in the share of manufacturing in both rural and urban areas. The only redeeming feature is a slow rising trend in the small share for both males and females in rural areas. As is well known, historically transformation of less developed economies into developed ones consisted in shifting workforce from employment in lower productivity primary activities to higher productivity secondary and tertiary sectors. Viewed from this perspective, Indian development strategy has thus far been disappointing. Despite the fact that recent rapid growth has been led by rapid growth of the service sector rather than manufacturing, any expectation that India can leap-frog the stage of manufacturing growth and shift less educated and unskilled workers employed in agriculture and other primary activities with lower productivity to employment in high productive service activities is extremely unrealistic.

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pronouncements.

One of the contributors to the dismal performance is the set of labour laws enacted after independence. These made it costly for large enterprises to hire workers for long term employment. Once hired, workers could not, in effect, be dismissed for economic reasons because of the costly and time consuming procedure for dismissal. The potential deleterious effects of these laws on economic growth and income inequalities was noted long ago by no less a person than Professor P.C. Mahalanobis (1969, p.442 and 1961, p.157):

> … certain welfare measures tend to be implemented in India ahead of economic growth, for example, in labour laws which are probably the most highly protective of labour interest in the narrowest sense, in the whole world. There is practically no link between output and remuneration; hiring and firing are highly restricted. It is extremely difficult to maintain an economic level of productivity or improve productivity … the present form of protection of organized labour, which constitutes, including their families, about five or six percent of the whole population, would operate as an obstacle to growth and would also increase inequalities … it would seem better to try to attain the highest possible efficiency of labour and increasing productivity, and use the additional value obtained in this way to create more employment rather than lower the industrial efficiency by slack or restrictive practices through overstaffing.

Mahalanobis not only made a prescient diagnosis of the detrimental effects of labour laws, but also prescribed an alternative way of assuring the legitimate interests of workers and their families while at the same time preserving the right incentives for efficient employment and increasing productivity. It consisted of creating a Labour Reserve (LR)

> "to absorb such industrial workers as may be considered surplus and be 'laid off' by existing industrial enterprises at their discretion, and also to serve as a pool for other enterprises to draw upon, again, at their own discretion. The Labour Reserve Service (LR) would then act as a buffer against unemployment and would serve as a (perhaps socially more useful and psychologically more preferable) form of or substitute for unemployment insurance….The LR would provide training of various kinds and would continually try to use the men for

> productive purposes. Workers in the LR would have an incentive to find better jobs at the earliest opportunity. [Mahalanobis, 1961, pp.157-8]

Considerations of efficiency, rightly emphasized by Professor Mahalanobis, appeared to have played no role in the small-scale sector reservation policy. This policy not only failed to deliver its employment objectives but also crippled India's competitiveness in world markets, since many of the reserved products were major export items. Nearly a decade ago, a committee headed by Mr. Abid Hussain concluded that "… the case for reservations is fundamentally flawed and self-contradictory … the policy crippled the growth of several industrial sectors, restricted exports and has done little for the promotion of small scale industries" (p.130, as quoted in World Bank (1998), p27). Although some products (including, most importantly garments, which are one of India's major exports) have been recently de-reserved, there are many that still remain reserved.

The fact that Indian labour laws are highly protective of labour, noted long ago by Professor Mahalanobis, has at last received official recognition by the Ministry of Finance (MOF). The latest economic survey (MOF, 2006, p.209) notes, "these laws apply only to the organized sector. Consequently, these laws have restricted labour mobility, have led to capital-intensive methods in the organized sector and adversely affected the sector's long run demand for labour." Interestingly, the survey notes that "perhaps there are lessons to be learnt from China in the area of labour reforms. China, with a history of extreme employment security, has drastically reformed its labour relations and created a new labour market, in which workers are highly mobile. Although there have been many layoffs and open unemployment, high rates of industrial growth especially in the coastal regions helped their redeployment." However, the survey fails to point out that in the Special Economic Zones (SEZs) in the coastal areas of China,

employers were free to hire and fire workers and 100 percent foreign ownership was allowed,[8] whereas in India's recently legislated SEZs, the power to exempt them from labour laws is in the hands of the governments of the states in which they happen to be located.[9]

Given the slow change in employment structure in the context of faster output growth, and its implications for the poor as noted earlier, it is understandable that an expanded Employment Guarantee program is being implemented. N.S.S. Narayana, Kirit Parikh and I (1988) long ago analyzed the growth-enhancing and poverty reducing potential of a well-designed (i.e. creating productive assets) and well-executed (i.e. involving no leakage to the non-poor) rural work program. I very much hope that the current program would indeed be well-designed and well-executed. But, it is important to note that even if it is, it can only be a palliative and not one that will eradicate poverty once and for all within a recognizable time horizon (Srinivasan, 2005). The latter goal has been the vision of our founding fathers and mothers. Realizing that vision requires, in my mind, not only a deepening, widening and acceleration of economic reforms, but also a rethinking of our agricultural policies ranging from price supports, input subsidies and credit to foreign trade.

[8] There are some studies (Roy (2004), Nagaraj (2004), Deshpande, Standing and Deshpande (1998)) claiming that India's labour laws have not adversely affected growth. These are not entirely persuasive for the reason that they either ignore completely or do not carefully account for the fact that the regulations critically affect the entry and exit dynamics of firms. As such any analysis based on establishments or firms in existence has to allow for selection effects to be valid. The firms in existence represent those who chose to enter at various points of time earlier and have not exited as yet. After all firms that anticipate their being able to either comply with or evade labour laws at a cost would enter if it is profitable for them to do so taking into the cost of compliance. Having entered they would stay unless unanticipated events, such as ,for example, an increase in costs of corruption for evading labour laws or changes in product prices and non-labour costs make staying unprofitable.

[9] The controversy over the use of farm lands for SEZs seems to confound the legitimate issue of ensuring that landowners get the fair market value of their land in selling to the operators of SEZs, with the issue of whether the use of farm land for SEZs is inappropriate. Demands for a ban on farm lands being used for SEZ make no economic sense. In a well-functioning land market, land will be put to its best economic use,

Developing a foundation for policy that is based upon sound analysis of variations across states and over time is obviously essential for effective policy formulation; crude aggregate projections void of any economic foundation are no substitutes. Projections based on "employment" elasticities are crude. I am not dismissing valuable and informative studies by scholars cited by Srivastava (2006). However, they do have some limitations. For the reason that a large majority of Indian workers are employed in agriculture and allied activities, a large number of studies are addressed to analyzing the determinants of employment in agriculture. Srivastava (2006) also presents a model of such determinants and estimates it econometrically carefully allowing for the endogeneity of some of the determinants. Yet it must be said that few, if any, of the studies look at the observed employment levels and returns to labour as being determined in an equilibrium between supply and demand, with both supply and demand being shifted by exogenous variables including policy and technology. The analysis of the informal and formal employment outside of agriculture is less extensive. I should say that the scholars in the past were limited by the data available to them that was largely of an aggregate nature. Now that NSSO has made available the rich household level data from the quinquennial and annual rounds of EUS, it should be possible to analyze the determinants of household labour supply, including occupational choice decisions and of labour demand decisions of producers such as farmers and owners of household enterprises. I very much hope many such studies will be undertaken.

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be it for farming or for use in a SEZ. If land markets are not functioning well, the failure should be addressed. The proposed ban is no solution to land market failure.

Figure 1: Employment Rate for Rural Males

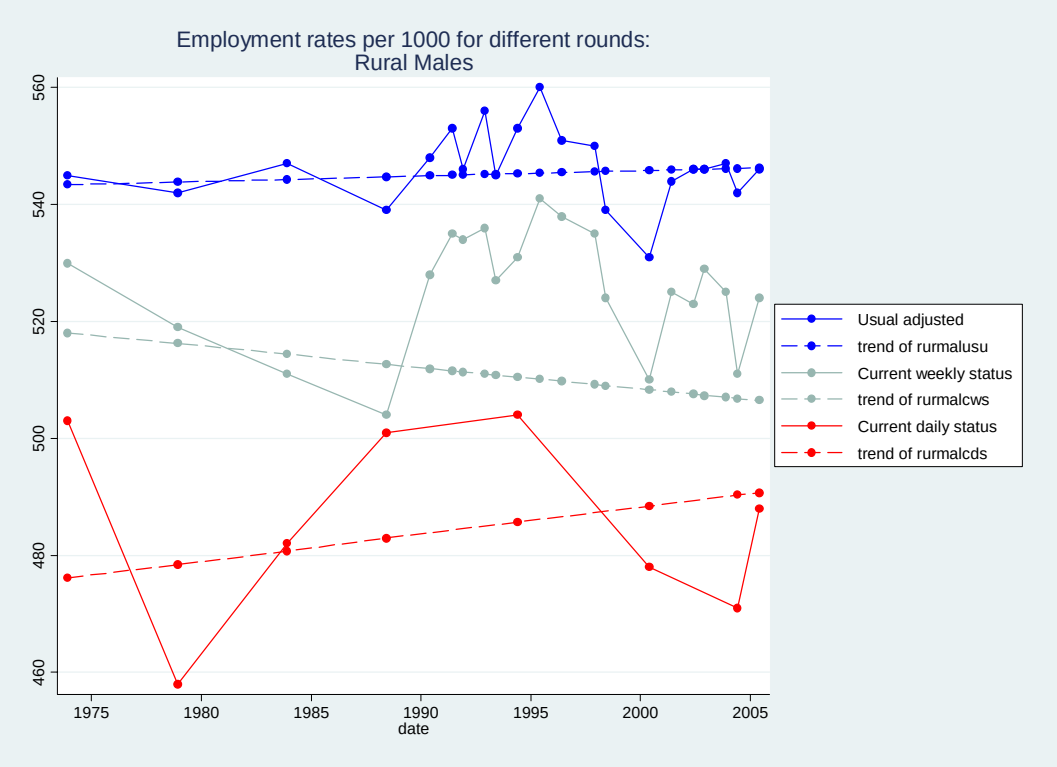

Figure 2: Employment Rate for Rural Females

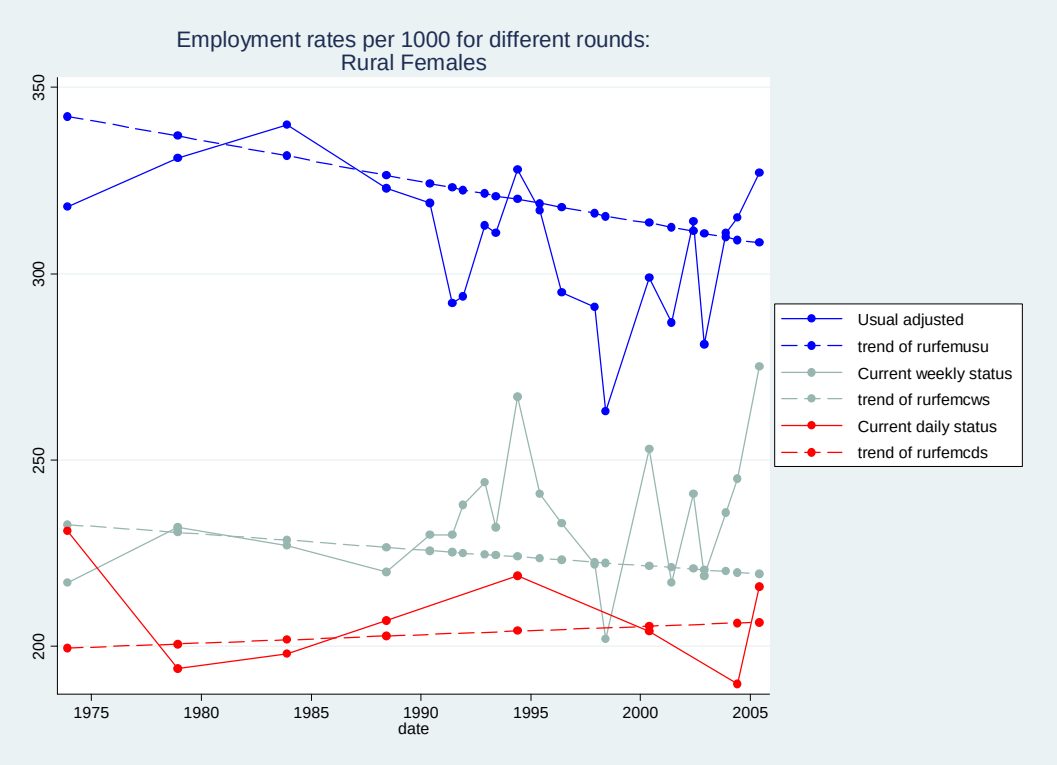

Figure 3: Employment Rate for Urban Males

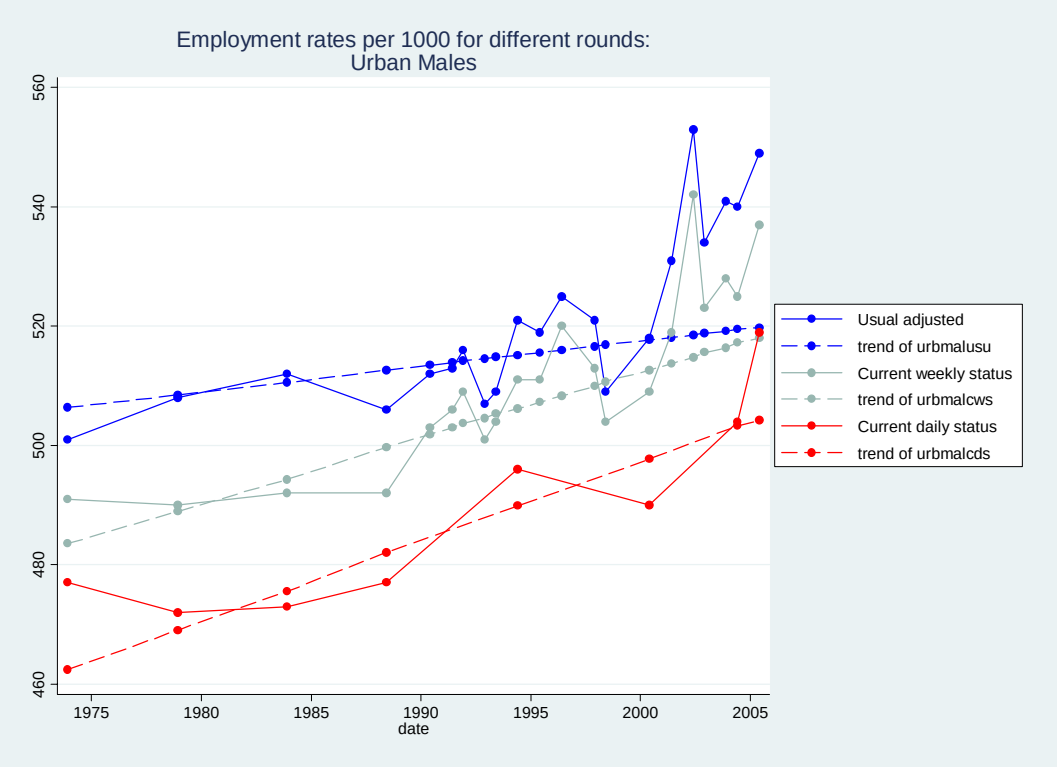

Figure 4: Employment Rate for Urban Females

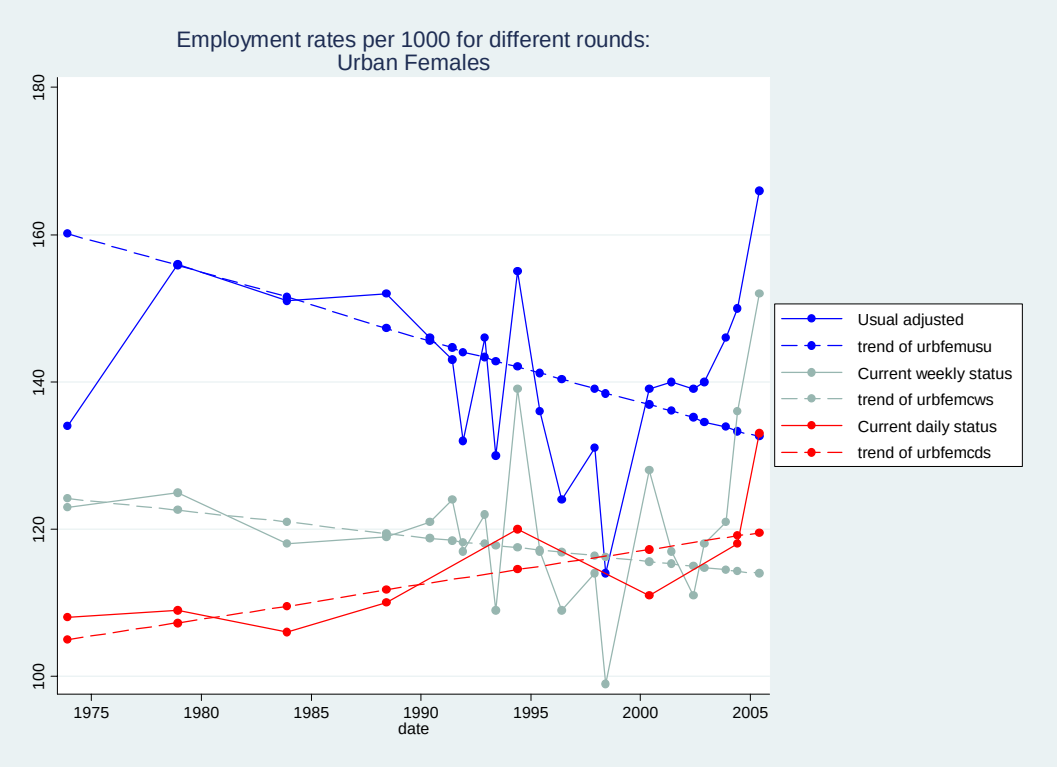

Figure 5: Unemployment Rate for Rural Males

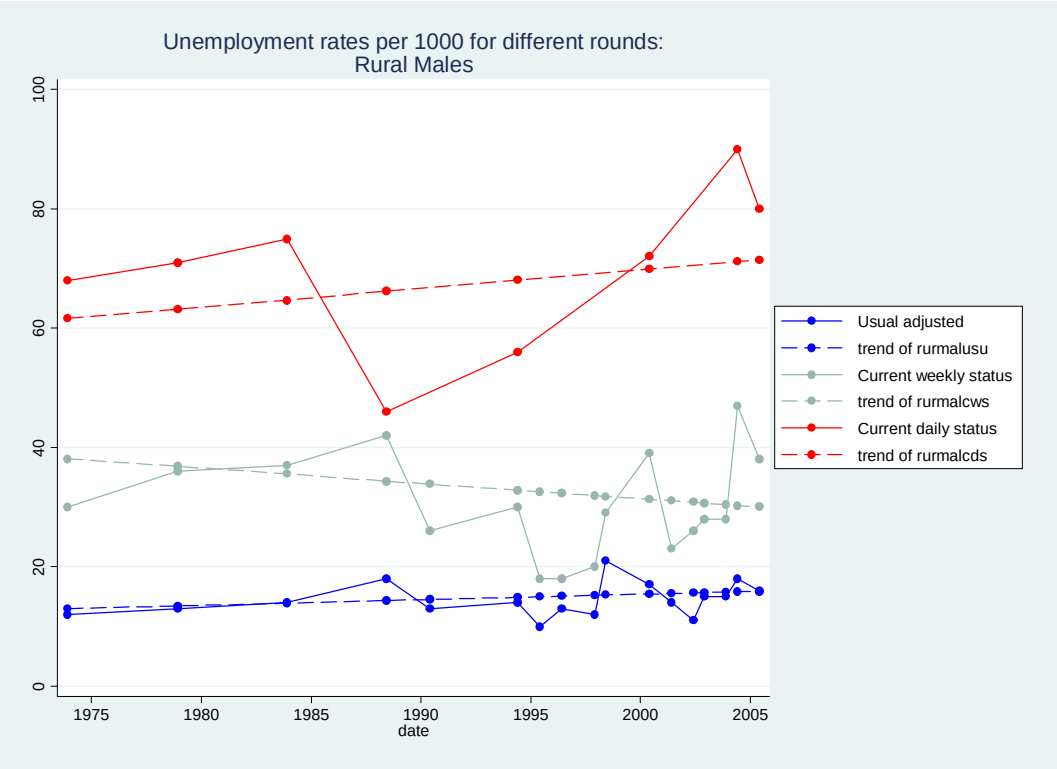

Figure 6: Unemployment Rate for Rural Females

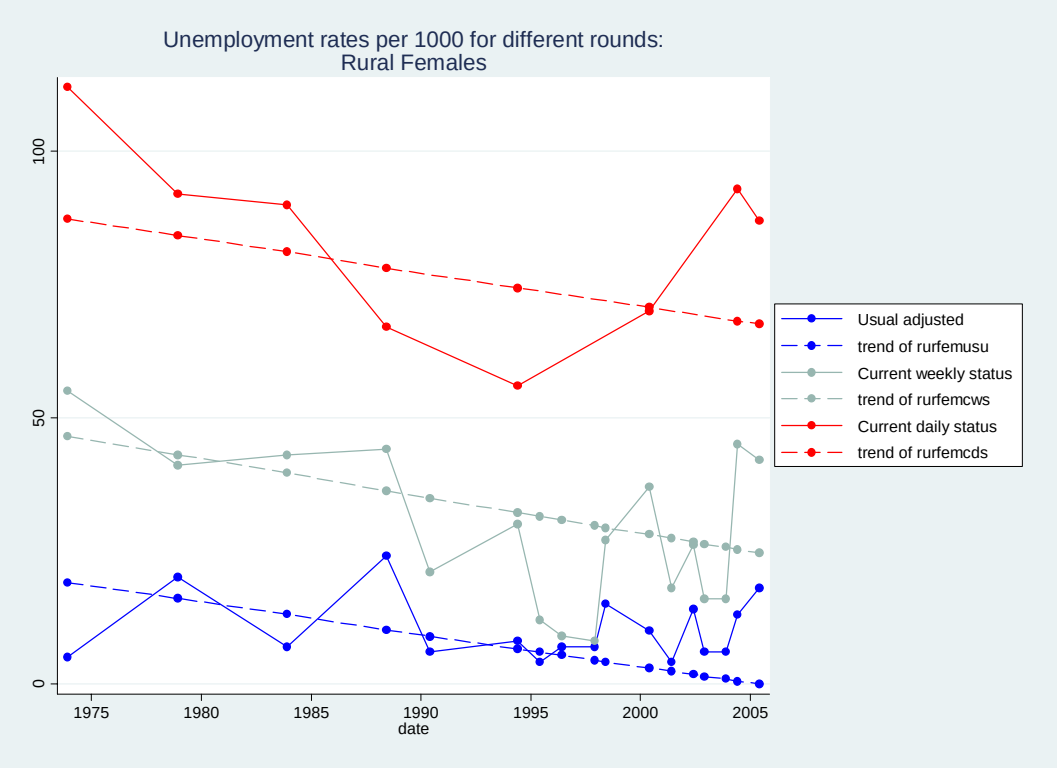

Figure 7: Unemployment Rate for Urban Males

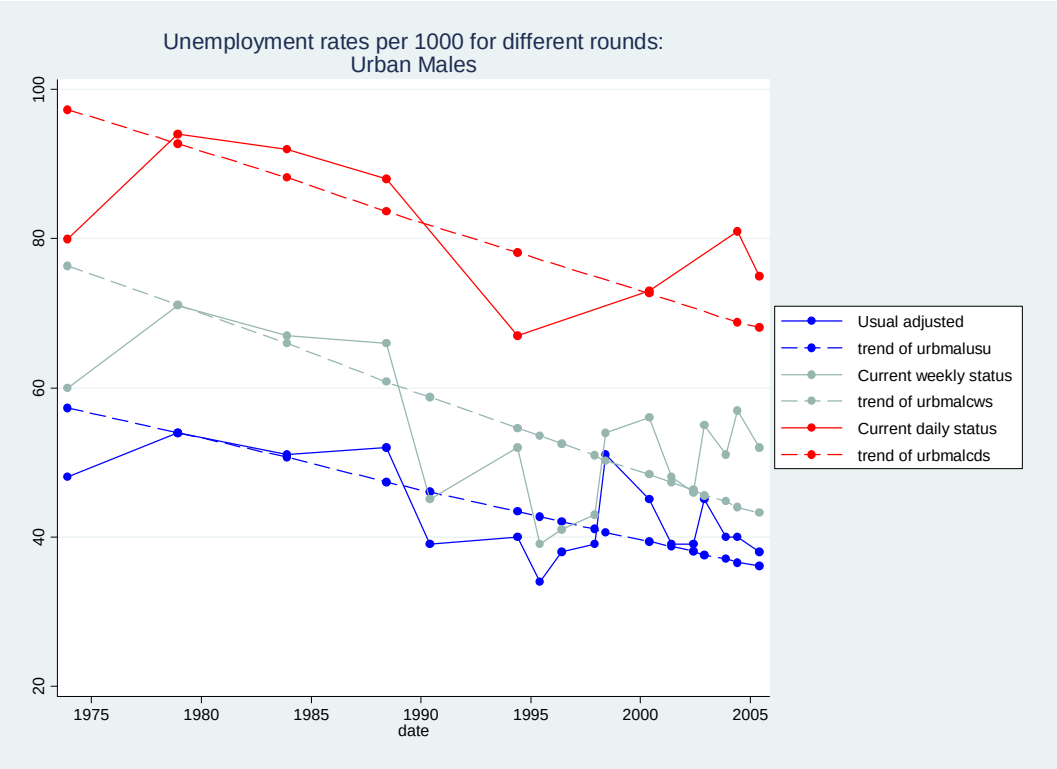

Figure 8: Unemployment Rate for Urban Females

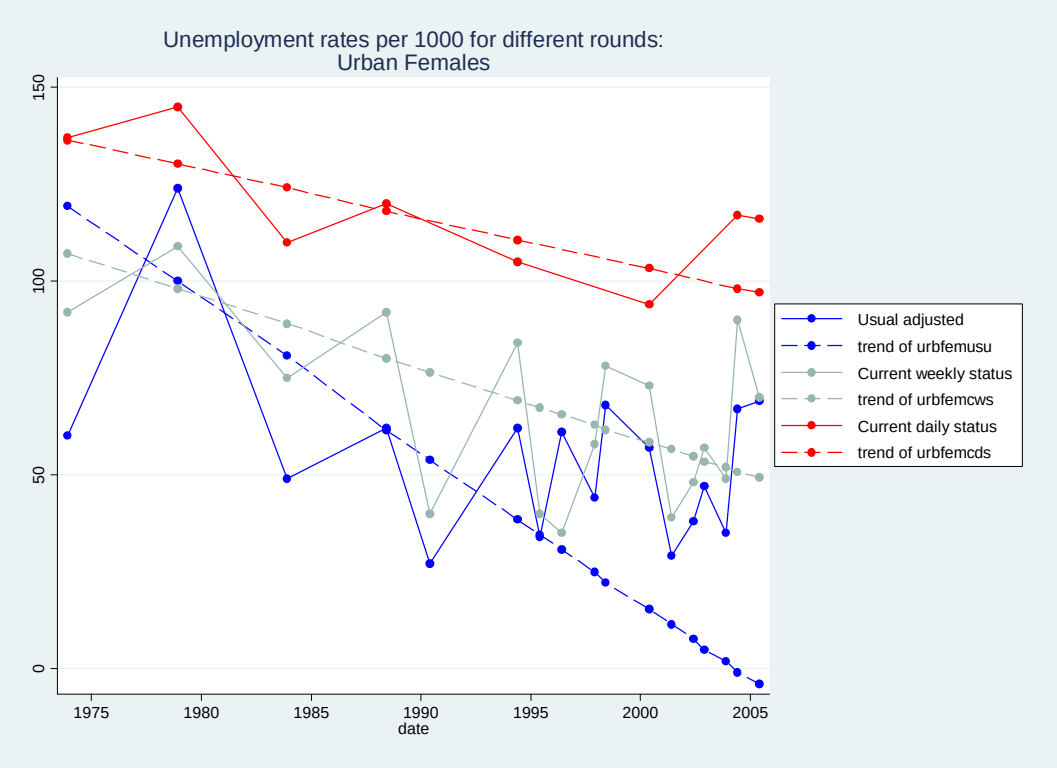

Figure 9: Employment Status for Rural Males

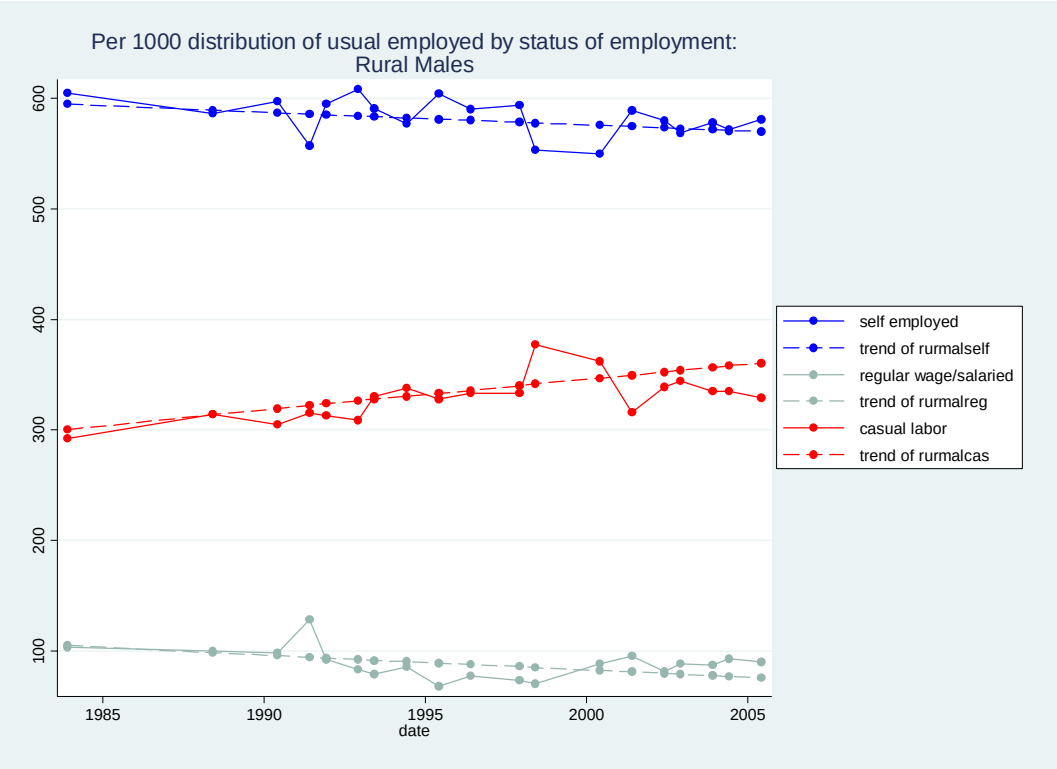

Figure 10: Employment Status for Rural Females

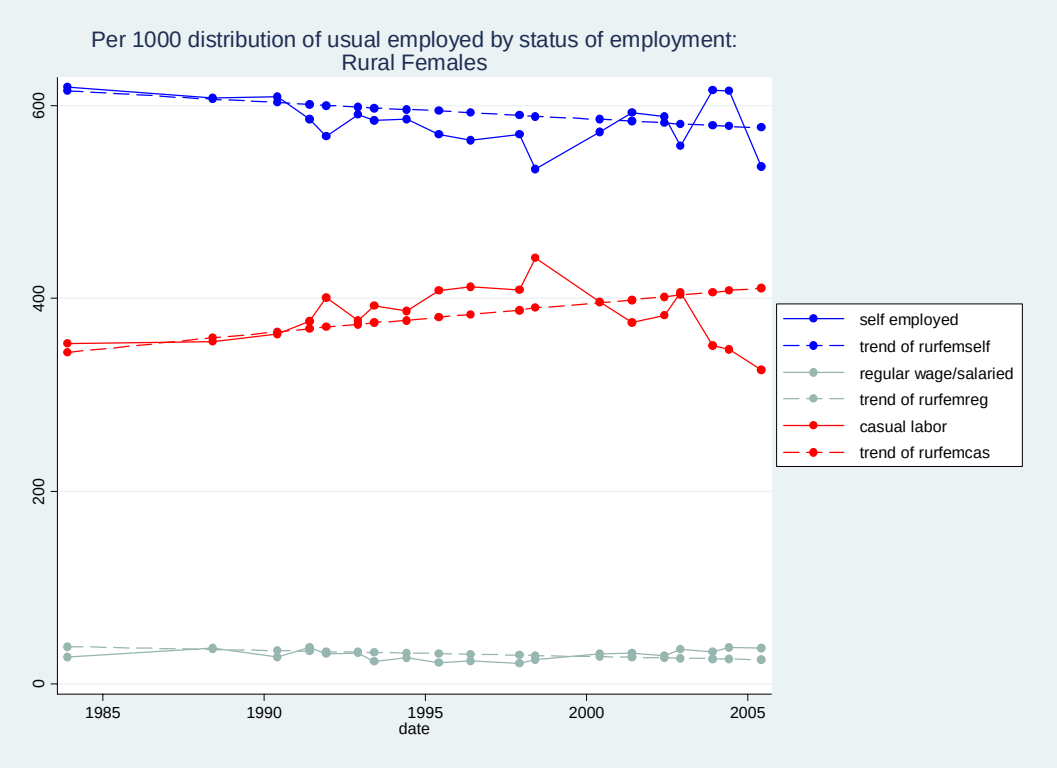

Figure 11: Employment Status for Urban Males

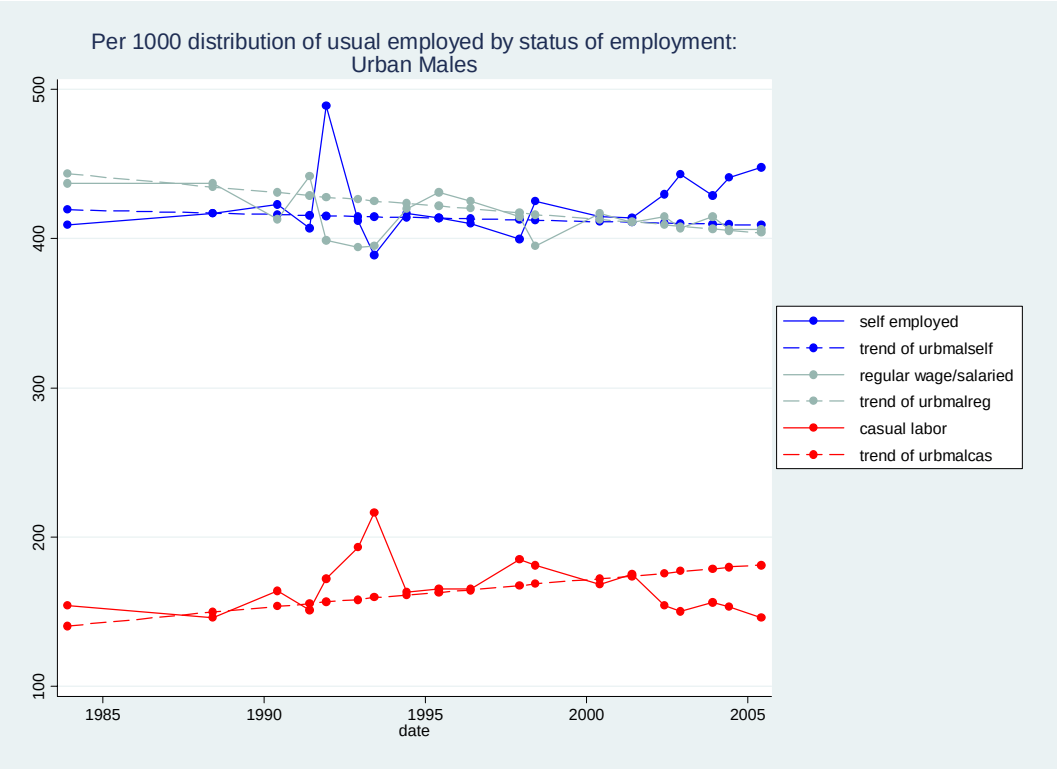

Figure 12: Employment Status for Urban Females

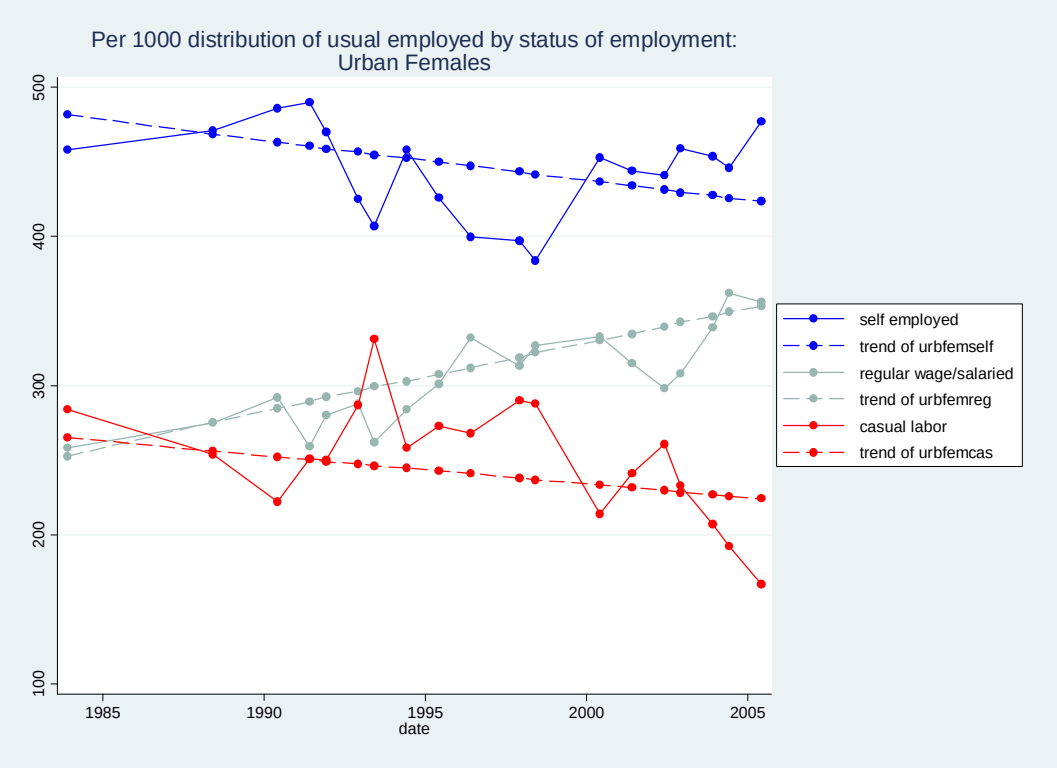

Figure 13: Labor Force Participation Rate for Rural Males

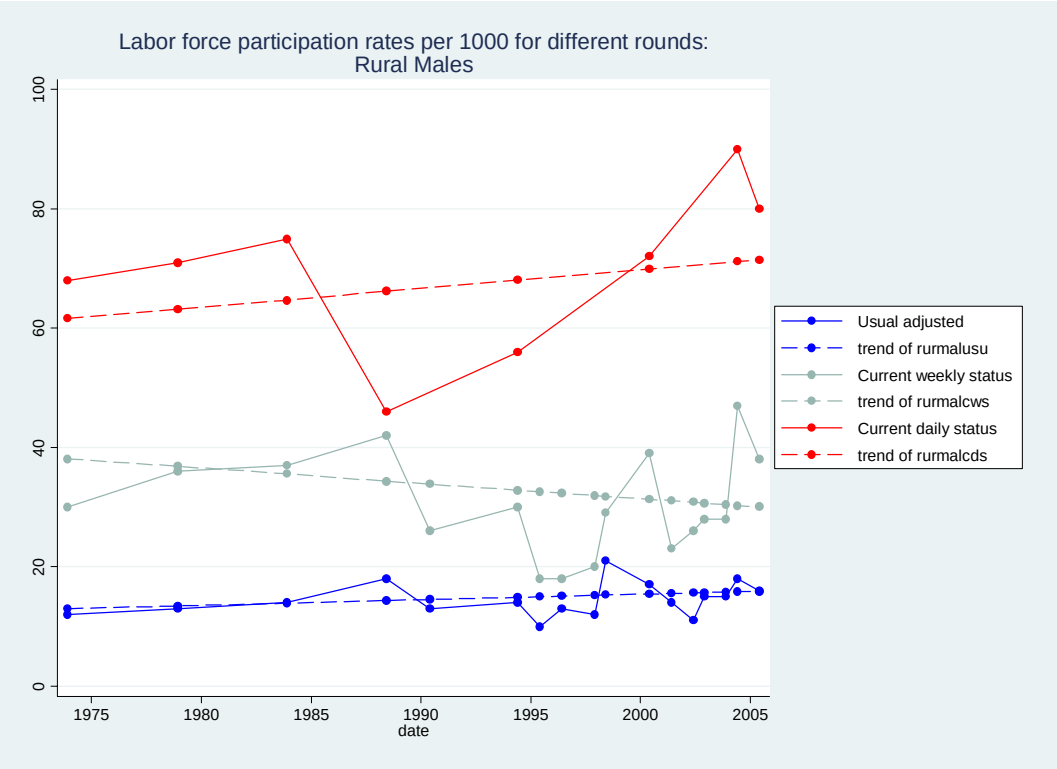

Figure 14: Labor Force Participation Rate for Rural Females

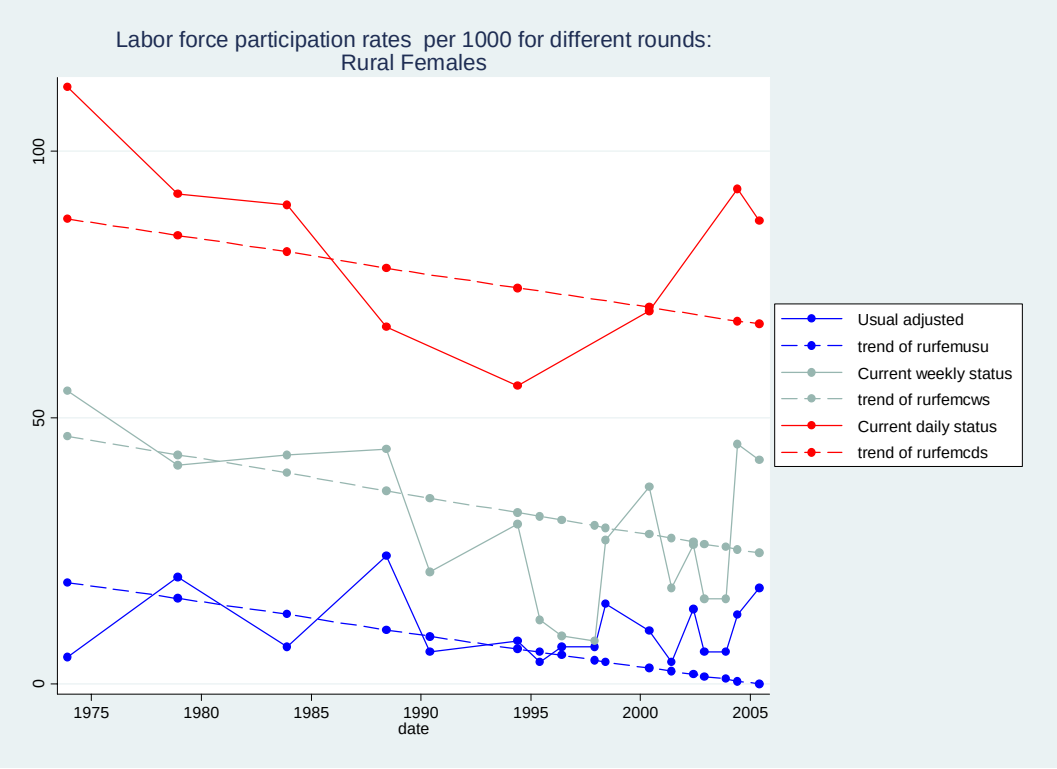

Figure 15: Labor Force Participation Rate for Urban Males

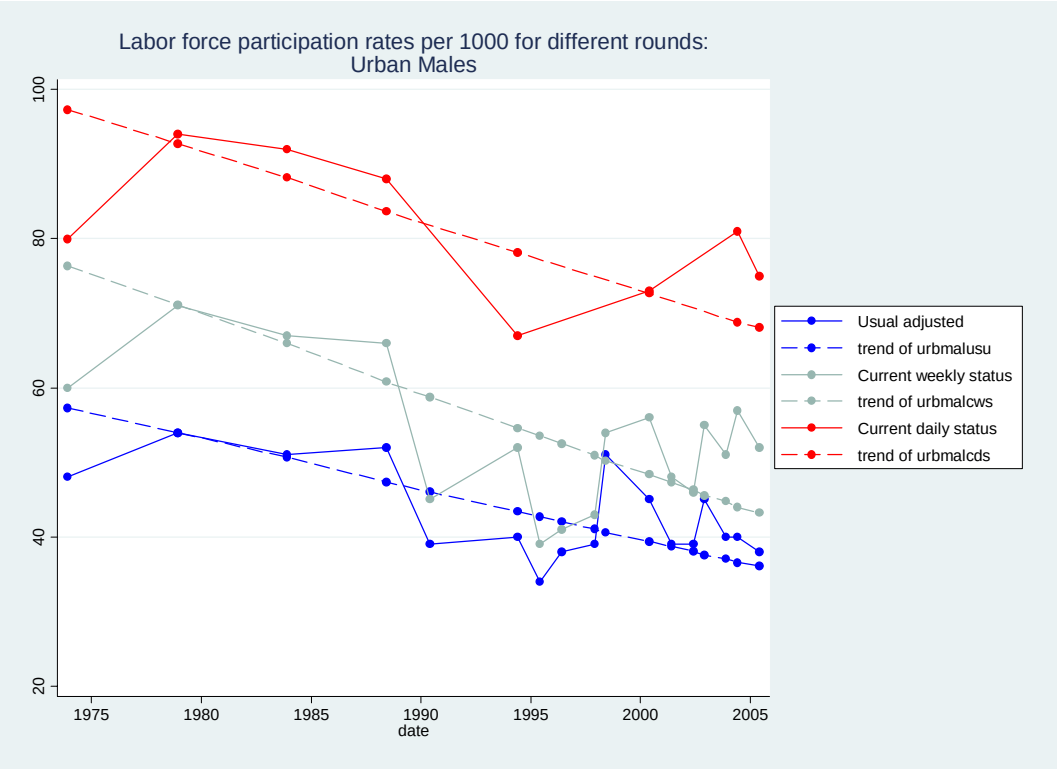

Figure 16: Labor Force Participation Rate for Urban Females

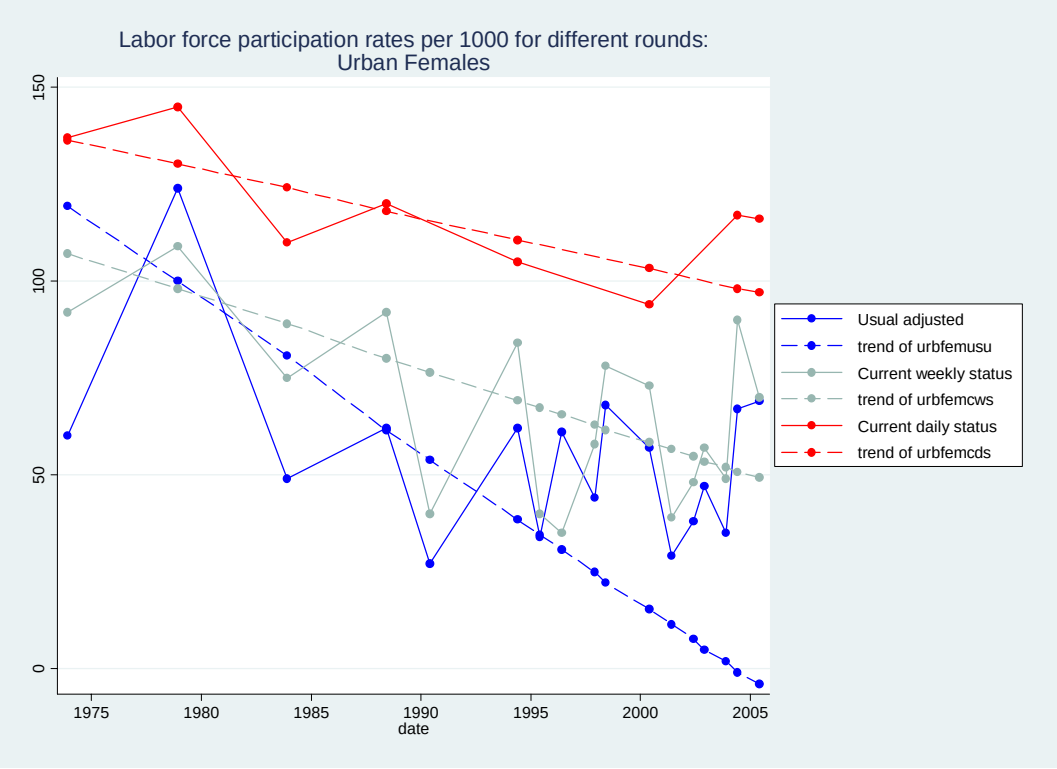

Table 1: Employment Rates

Type of Labor	Reference Period[10]	Time trend	ρ (autocorrelation coefficient)	R^2
Rural Male	US (PS + SS)	.0225305 (0.32)	.7789102*** (6.67)	0.9999
	CWS	-.0899111 (-0.94)	.8027889*** (8.46)	0.9999
	CDS	.1134735 (0.51)	-.6083863*** (-41.36)	0.9990
Rural Female	US (PS + SS)	-.265162* (-1.79)	.8854497*** (16.81)	0.9991
	CWS	-.1027198 (-0.84)	.6119123** (2.60)	0.9990
	CDS	.0537878 (0.41)	-.8159445)* (0.086)	0.9979
Urban Male	US (PS + SS)	.1046882** (2.39)	.730777*** (5.10)	0.9999
	CWS	.263721** (2.71)	.1979554 (0.28)	0.9998
	CDS	.3261643*** (6.51)	-.852007*** (-3.97)	0.9999
Urban Female	US (PS + SS)	-.2151739*** (-6.11)	.8715346*** (10.05)	0.9992
	CWS	-.0793651 (-0.97)	.7725452*** (4.15)	0.9981
	CDS	.1129917** (2.80)	-.8494254* (-2.27)	0.9990

Robust t-values reported in parentheses. *** significant at .01, ** significant at .05, * significant at .1

[10] US (PS + SS): Usual Status (Principal and Secondary)
CWS: Current Weekly Status
CDS: Current Daily Status

Table 2: Unemployment Rates

Type of Labor	Reference Period[11]	Time trend	ρ (autocorrelation coefficient)	R^2
Rural Male	US (PS + SS)	.0226547* (2.08)	-.7156501*** (-4.62)	0.9917
	CWS	-.0625306 (-1.48)	.8128619*** (8.11)	0.9876
	CDS	.0765274 (0.44)	.9335281*** (12.43)	0.9594
Rural Female	US (PS + SS)	-.1483735 (-1.65)	.6906727*** (3.70)	0.7858
	CWS	-.1702609** (-2.74)	.8737716*** (9.57)	0.9787
	CDS	-.1538805 (-0.74)	.9577055*** (26.38)	0.9652
Urban Male	US (PS + SS)	-.1658847*** (-4.83)	.7449245*** (4.41)	0.9964
	CWS	-.2587472*** (-6.01)	.8231158*** (6.91)	0.9950
	CDS	-.2282298* (-2.21)	.631999*** (42.51)	0.9903
Urban Female	US (PS + SS)	-.9626916* (-1.95)	.6161466 (1.69)	0.8758
	CWS	-.4512313 (-1.68)	.6377532** (2.33)	0.9553
	CDS	-.3066979 (-1.42)	.8171305 (1.90)	0.9891

Robust t-values reported in parentheses. *** significant at .01, ** significant at .05, * significant at .1

[11] US (PS + SS): Usual Status (Principal and Secondary)
CWS: Current Weekly Status
CDS: Current Daily Status

Table 3: Employment Status

Type of Labor	Reference Period	Time trend	ρ (autocorrelation coefficient)	R^2
Rural Male	Self-employed	-.282381*** (-3.39)	-.327275 (-0.34)	0.9997
	Regular wage / salaried	-.3310373*** (-3.24)	.8714549*** (10.67)	0.9893
	Casual labor	.6844142** (2.78)	.7039168** (2.14)	0.9978
Rural Female	Self-employed	-.4344064 (-0.95)	.437313 (0.42)	0.9974
	Regular wage / salaried	-.1535953* (-2.13)	.8594283*** (12.17)	0.9746
	Casual labor	.7587457** (2.90)	.9713211*** (39.08)	0.9969
Urban Male	Self-employed	-.1177342 (-1.21)	.4140239 (1.43)	0.9987
	Regular wage / salaried	-.4486997*** (-3.45)	.582273* (1.81)	0.9989
	Casual labor	.4640098*** (3.47)	.7732197*** (5.56)	0.9896
Urban Female	Self-employed	-.6613762** (-2.88)	.91269*** (12.24)	0.9971
	Regular wage / salaried	1.138519*** (8.76)	.7767714*** (9.02)	0.9978
	Casual labor	-.4666445 (-1.49)	.8533755*** (8.95)	0.9858

Robust t-values reported in parentheses. *** significant at .01, ** significant at .05, * significant at .1

Table 4: Labor Force Participation Rates

Type of Labor	Reference Period[12]	Time trend	ρ (autocorrelation coefficient)	R^2
Rural Male	US (PS + SS)	.0226547* (2.08)	-.7156501*** (-4.62)	0.9917
	CWS	-.0625306 (-1.48)	.8128619*** (8.11)	.09876
	CDS	0.765274 (0.44)	.9335281*** (12.43)	0.9594
Rural Female	US (PS + SS)	-.1483735 (-1.65)	.6906727*** (3.70)	0.7858
	CWS	-.1702609** (-2.74)	.8737716*** (9.57)	0.9787
	CDS	-.1538805 (-0.74)	.9577055*** (26.38)	0.9652
Urban Male	US (PS + SS)	-.1658847*** (-4.83)	.7449245*** (4.41)	0.9964
	CWS	-.2587472 (0.9950)	.8231158*** (6.91)	0.9950
	CDS	-.2282298* (-2.21)	.631999*** (42.51)	0.9903
Urban Female	US (PS + SS)	-.9626916* (0.074)	.6161466 (1.69)	0.8758
	CWS	-.4512313 (-1.68)	.6377532** (2.33)	0.9553
	CDS	-.3066979 (-1.42)	.8171305 (1.90)	0.9891

Robust t-values reported in parentheses. *** significant at .01, ** significant at .05, * significant at .1

[12] US (PS + SS): Usual Status (Principal and Secondary)
CWS: Current Weekly Status
CDS: Current Daily Status

Table 5: Within Reference Week Distribution (Percentage)

	Rural Males[13]			Rural Females[3]			Urban Males[3]			Urban Females[3]		
Number of Days / Week	E	UE	WF	E	UE	WF	E	UE	WF	E	UE	WF
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.5	0.00	0.19	0.00	0.00	0.09	0.00	0.00	0.27	0.00	0.00	0.00	0.00
1.0	0.98	11.13	0.51	1.07	9.82	1.08	0.62	12.51	0.00	1.13	9.28	1.15
1.5	0.00	0.73	0.00	1.07	1.19	0.68	0.00	0.27	0.00	0.55	0.38	0.49
2.0	1.40	17.83	0.51	3.43	16.67	2.87	0.62	12.51	0.00	2.30	9.28	1.81
2.5	0.00	1.00	0.00	1.07	0.58	1.08	0.00	0.27	0.00	1.13	0.00	0.49
3.0	1.40	18.33	0.51	4.02	18.57	3.07	0.62	9.89	0.85	2.59	7.12	1.81
3.5	0.98	1.40	0.51	12.69	2.64	12.39	0.62	0.93	0.00	8.72	3.51	8.45
4.0	3.89	9.01	1.75	6.77	9.21	4.86	1.55	4.75	0.85	3.17	4.95	2.48
4.5	0.00	0.46	0.00	0.68	0.09	0.68	0.00	0.27	0.00	0.55	0.38	0.49
5.0	4.72	5.14	2.06	6.18	4.83	4.46	2.80	2.60	1.15	3.17	4.47	2.48
5.5	0.00	0.19	0.00	0.68	1.19	0.68	0.00	0.00	0.00	0.55	0.00	0.00
6.0	3.89	1.67	2.69	4.02	1.31	3.07	5.60	0.93	4.49	4.34	0.38	3.81
6.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	82.74	32.93	91.49	58.29	33.77	65.09	87.58	54.81	92.64	71.76	60.24	76.52

[13] E: Employed
UE: Unemployed
WF: In Workforce

TABLE 6: Employment Rates: Number of persons (person-days) worked per 1000 persons (person-days) according to 'usual status', 'current weekly status' and 'current daily status' approaches for different rounds

	Rural						Urban					
	Male			Female			Male			Female		
Round (survey period)	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status
61 (7/04 to 6/05)	546	524	488	327	275	216	549	537	519	166	152	133
60 (1/04 to 6/04)	542	511	471	315	245	190	540	525	504	150	136	118
59 (1/03 to 12/03)	547	525		311	236		541	528		146	121	
58 (7/02 to 12/02)	546	529		281	219		534	523		140	118	
57 (7/01 to 6/02)	546	523		314	241		553	542		139	111	
56 (7/00 to 6/01)	544	525		287	217		531	519		140	117	
55 (7/99 to 6/00)	531	510	478	299	253	204	518	509	490	139	128	111
54 (1/98 to 6/98)	539	524		263	202		509	504		114	99	
53 (1/97 to 12/97)	550	535		291	222		521	513		131	114	
52 (7/95 to 6/96)	551	538		295	233		525	520		124	109	
51 (7/94 to 6/95)	560	541		317	241		519	511		136	117	
50 (7/93 to 6/94)	553	531	504	328	267	219	521	511	496	155	139	120
49 (1/93 to 6/93)	545	527		311	232		509	504		130	109	
48 (1/92 to 12/92)	556	536		313	244		507	501		146	122	
47 (7/91 to 12/91)	546	534		294	238		516	509		132	117	
46 (7/90 to 6/91)	553	535		292	230		513	506		143	124	
45 (7/89 to 6/90)	548	528		319	230		512	503		146	121	
43 (7/87 to 6/88)	539	504	501	323	220	207	506	492	477	152	119	110
38 (1/83 to 12/83)	547	511	482	340	227	198	512	492	473	151	118	106
32 (1977 to 1978)	542	519	458	331	232	194	508	490	472	156	125	109
27 (1972 to 1973)	545	530	503	318	217	231	501	491	477	134	123	108

TABLE 7: Unemployment rates: Number of persons (person-days) unemployed per 1000 persons (person-days) in the labor force for different rounds

	Rural						Urban					
	Male			Female			Male			Female		
Round (survey period)	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status
61 (7/04 to 6/05)	16	38	80	38	52	75	18	42	87	69	70	116
60 (1/04 to 6/04)	18	47	90	40	57	81	13	45	93	67	90	117
59 (1/03 to 12/03)	15	28		40	51		6	16		35	49	
58 (7/02 to 12/02)	15	28		45	55		6	16		47	57	
57 (7/01 to 6/02)	11	26		39	46		14	26		38	48	
56 (7/00 to 6/01)	14	23		39	48		4	18		29	39	
55 (7/99 to 6/00)	17	39	72	45	56	73	10	37	70	57	73	94
54 (1/98 to 6/98)	21	29		51	54		15	27		68	78	
53 (1/97 to 12/97)	12	20		39	43		7	8		44	58	
52 (7/95 to 6/96)	13	18		38	41		7	9		61	35	
51 (7/94 to 6/95)	10	18		34	39		4	12		34	40	
50 (7/93 to 6/94)	14	30	56	40	52	67	8	30	56	62	84	105
45 (7/89 to 6/90)	13	26		39	45		6	21		27	40	
43 (7/87 to 6/88)	18	42	46	52	66	88	24	44	67	62	92	120
38 (1/83 to 12/83)	14	37	75	51	67	92	7	43	90	49	75	110
32 (1977 to 1978)	13	36	71	54	71	94	20	41	92	124	109	145
27 (1972 to 1973)	12	30	68	48	60	80	5	55	112	60	92	137

TABLE 8: Employment Status: Per 1000 distribution of usually employed by status of employment for different rounds

	Rural						Urban					
	Male			Female			Male			Female		
Round (survey period)	self-employed	regular wage/salaried	casual labor	self-employed	regular wage/salaried	casual labor	self-employed	regular wage/salaried	casual labor	self-employed	regular wage/salaried	casual labor
61 (7/04 to 6/05)	581	90	329	537	37	326	448	406	146	477	356	167
60 (1/04 to 6/04)	572	93	335	615	38	347	441	406	153	446	362	192
59 (1/03 to 12/03)	578	87	335	616	33	351	429	415	156	454	339	207
58 (7/02 to 12/02)	569	88	344	558	36	406	443	407	150	459	308	233
57 (7/01 to 6/02)	580	81	339	589	29	382	430	415	154	441	298	261
56 (7/00 to 6/01)	589	95	316	593	32	375	414	411	175	444	315	241
55 (7/99 to 6/00)	550	88	362	573	31	396	415	417	168	453	333	214
54 (1/98 to 6/98)	553	70	377	534	25	442	425	395	181	384	327	288
53 (1/97 to 12/97)	594	73	333	570	21	409	400	415	185	397	313	290
52 (7/95 to 6/96)	590	77	333	564	24	412	410	425	165	400	332	268
51 (7/94 to 6/95)	604	68	328	570	22	408	414	431	165	426	301	273
50 (7/93 to 6/94)	577	85	338	586	27	387	417	420	163	458	284	258
49 (1/93 to 6/93)	591	79	330	585	23	392	389	395	216	407	262	331
48 (1/92 to 12/92)	608	83	309	591	32	377	412	394	193	425	288	287
47 (7/91 to 12/91)	595	92	313	568	31	401	489	399	172	470	280	250
46 (7/90 to 6/91)	557	128	315	586	38	376	407	442	151	490	259	251
45 (7/89 to 6/90)	597	98	305	609	28	363	423	413	164	486	292	222
43 (7/87 to 6/88)	586	100	314	608	37	355	417	437	146	471	275	254
38 (1/83 to 12/83)	605	103	292	619	28	353	409	437	154	458	258	284

TABLE 9: Labor force participation rates: number of persons (person-days) employed and unemployed per 1000 persons (person-days) for different rounds

	Rural						Urban					
	Male			Female			Male			Female		
Round (survey period)	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status	Usual adjusted	Current weekly status	Current daily status
61 (7/04 to 6/05)	555	545	530	571	566	561	333	287	237	178	163	150
60 (1/04 to 6/04)	552	536	518	563	557	548	319	257	209	161	149	134
59 (1/03 to 12/03)	555	540		564	556		313	240		151	127	
58 (7/02 to 12/02)	554	544		559	553		283	223		147	125	
57 (7/01 to 6/02)	552	537		575	568		318	247		144	117	
56 (7/00 to 6/01)	552	537		553	545		288	221		144	122	
55 (7/99 to 6/00)	540	531	515	542	539	529	302	263	219	147	138	123
54 (1/98 to 6/98)	551	540		536	533		267	208		122	107	
53 (1/97 to 12/97)	557	546		542	536		293	224		137	121	
52 (7/95 to 6/96)	558	548		546	542		297	235		132	113	
51 (7/94 to 6/95)	566	551		537	532		318	244		141	122	
50 (7/93 to 6/94)	561	547	534	543	539	532	331	275	232	165	152	134
45 (7/89 to 6/90)	555	542		533	527		321	235		150	126	
43 (7/87 to 6/88)	549	526	525	534	527	523	331	230	222	162	131	125
38 (1/83 to 12/83)	555	531	521	540	527	521	342	237	218	159	128	119
32 (1977 to 1978)	549	538	493	537	527	521	338	242	214	178	140	127
27 (1972 to 1973)	552	546	540	526	522	518	320	230	260	143	135	125

Table 11

Per 1000 distribution of usually employed by broad groups of industry for various rounds

all-India

round	male						female					
	primary		secondary		tertiary		primary		secondary		tertiary	
	ps	all	ps	all	ps	all	ps	all	ps	all	ps	all
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						rural						
60	**654**	**659**	**163**	**160**	**183**	**180**	**820**	**841**	**102**	**94**	**78**	**65**
59	704	708	143	141	153	151	841	852	99	95	60	53
58	685	688	140	138	175	174	834	849	91	87	75	65
57	672	678	148	145	180	177	819	840	124	109	57	51
56	688	690	137	136	175	174	812	818	139	133	49	49
55*	712	714	127	126	161	160	841	854	93	89	66	57
54	755	757	103	102	142	141	876	885	70	66	54	49
53	757	758	106	106	137	136	875	885	77	72	47	42
52	746	748	115	114	139	137	854	868	87	80	59	52
51	752	756	104	103	144	141	862	871	88	83	50	46
50*	739	741	113	112	148	147	847	862	91	83	62	55
49	749	750	110	109	141	141	862	872	77	74	61	54
48	753	757	106	104	141	139	858	862	78	78	64	60
47	748	749	112	112	140	139	859	863	79	79	62	58
46	705	710	123	121	172	169	842	849	83	81	75	70
45	716	717	120	121	164	162	800	814	130	124	70	61
43*	739	745	123	121	138	134	825	847	112	100	63	53
38*	772	775	102	100	123	122	862	875	78	74	57	48
						urban						
60	**61**	**63**	**348**	**347**	**591**	**590**	**126**	**161**	**289**	**309**	**584**	**530**
59	60	63	338	336	602	601	145	190	299	312	556	497
58	69	70	338	337	594	593	156	171	298	315	546	513
57	78	78	322	321	601	600	173	211	309	332	519	457
56	63	66	359	356	579	578	136	183	342	342	522	475
55*	65	66	329	328	606	606	146	177	293	293	561	529
54	90	92	324	322	586	586	187	221	292	280	520	499
53	76	78	343	340	582	581	165	200	328	324	507	476
52	81	82	335	335	584	583	179	209	310	309	512	482
51	86	88	330	329	584	583	154	205	354	343	492	452
50*	87	90	331	329	582	581	193	247	299	291	508	462
49	101	102	345	344	554	554	232	258	306	306	462	436
48	104	107	345	343	551	550	195	224	304	308	501	468
47	95	95	306	307	599	598	217	237	278	282	505	481
46	91	92	336	336	573	572	223	249	318	316	459	435
45	95	100	323	319	582	582	214	241	297	303	489	456
43*	85	91	343	340	572	569	218	294	324	317	458	389
38*	97	103	344	342	551	550	255	310	307	306	430	376

Note1: The broad group of industries viz., primary, secondary and tertiary refers to the group of NIC-98 industry divisions 01-05, 10-45 and 50-99, respectively. Industry group 01-05 actually refers to the agricultural sector.
*Note 2: * indicate quinquennial rounds.*

Source: NSS (2005A), Report No. 506: Employment and Unemployment Situation in India: January-June, 2004 Statement 11

Table 12: Change in Employment Rate (%)

	Rural Areas			Urban Areas		
	US(PS+SS)	CWS	CDS	US(PS+SS)	CWS	CDS
1983 to 1987-88	- 0.46	- 0.37	3.9	-1.17	0.00	0.35
1983 to 1993-94	1.10	3.91	4.6	1.76	3.80	4.86
1983 to 1999-00	-3.10	-0.19	-0.82	1.18	3.45	3.59
1987-88 to 1993-94	2.60	5.35	0.60	2.16	3.36	3.78
1987-88 to 1999-00	- 1.48	1.19	- 4.59	2.37	3.45	2.72

SOURCE: Table 6

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