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THE WORKING POOR IN INDIA:
Employment-Poverty Linkages and Employment Policy Options

by

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Preface

The experience of countries that succeeded in reducing poverty significantly indicates the importance of high rates of economic growth in achieving this. High growth, however, is not a sufficient condition for poverty reduction; the pattern and sources of growth as well as the manner in which its benefits are distributed are equally important from the point of view of achieving the goal of poverty reduction. And employment plays a key role in that context. Indeed, countries which attained high rates of employment growth alongside high rates of economic growth are also the ones who succeeded in reducing poverty significantly.

In view of the importance of employment as a route out of poverty, the ILO has initiated a series of studies to analyse the linkage between economic growth, employment and poverty reduction. The present study forms part of that series; and its main purpose is to contribute to an understanding of the linkage mentioned above and to the identification of policies that could be used to engender higher rates of economic growth and employment generation, and thus achieve a faster reduction in poverty.

This paper explores the macro and micro-level linkages between employment and poverty and attempts to assess how economic growth impacts poverty and employment. The paper begins by noting that a low level of per capita income is a reflection of low average productivity of the work force that is traceable to a backward technology and deficiency of reproducible tangible capital relative to labour. A sustained expansion of productive capacity that constitutes economic growth will generate gainful employment opportunities with continuously rising productivity. This will make possible a progressive absorption and integration of the working poor into expanding economic activities involving rising productivity in their existing occupation with better technology or shift to new occupations with upgraded skills. The result is higher earnings and improved standards of living.

In exploring the growth, employment and poverty linkages, the paper juxtaposes three significantly different phases of economic growth in India (the period up to 1980, the 1980s and the 1990s), with changes in the employment structure by industry of attachment. Using various national data sources, the overall finding is an improvement in the employment situation in India over the 1990s, the same decade in which economic growth increased substantially compared to the previous decades. Furthermore, the paper finds that income poverty based on the headcount ratio measure had declined in the 1990s at a faster rate than in the earlier periods. Thus the macro-level link between economic growth, employment and poverty appears to be supported by empirical evidence.

In examining the growth, employment and poverty linkages at the micro-level, the paper undertakes a household-level analysis of poverty in the Indian state of Madhya-Pradesh based on a PROBIT model framework. In this framework, a number of variables are used to link employment to poverty, including asset variables and labour market variables. For instance, in terms of asset variables, the shift from the status of having milk cattle to one of not having raises the probability of the household being poor by close to five percent. With regard to labour market variables, the paper finds that the absence of

one regular wage/salaried worker in non-agriculture raises the probability of the household being poor by a little over twenty percent.

The paper concludes with a section on employment policy stating that the rapid reduction of poverty and rapid expansion of employment opportunities for productive absorption of the growing labour force remains the core objective of economic policy in India. Although the natural corollary of this would be for policy-makers to focus on the *quantity* of employment, the paper suggests the need for a shift of focus towards the *quality* of employment in general and towards labour absorption with rising real returns to labour in particular. The paper points out that this has significant implications for the design of labour and employment policies for poverty eradication and implies a move beyond the conventional 'labour and employment' polices to cover growth-promoting policies in general.

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I. Employment, Poverty and Growth: The Indian Development Experience

I.1 Introduction

At the macro-level, the linkage between the prevalence of poverty in its income dimension and the average productivity of employed work force that underlies it is mediated through and explained by the past growth performance. At the micro-level of a household, the same linkage between poverty and employment operates through the low productivity of economic activities undertaken by the earning members of a household and the dependency burden that limits work force participation. In this section, we provide macro-economic perspective on growth, employment and poverty reduction. Sections II and III focus on the aggregate and household level linkages that emerge from the National Sample Surveys on consumer expenditure and employment-unemployment. Based on this analysis the final section outlines some of key elements of employment policy.

We begin with some prefatory observations on the macro-level linkages.

In low-income, densely populated and predominantly agricultural economies like India, widespread prevalence of poverty in its income dimension can be directly traced to the inadequacy of earnings accruing to the working poor defined as members of the labour force located in households below poverty line (BPL). The inadequacy of their earnings originates in their gainful engagement in low productivity farm and non-farm activities with virtual absence or inadequate support of physical or human capital or skills.

How does economic growth impact poverty and employment? We begin by noting that low level of per capita income itself is a reflection of low average productivity of work force[1] that is traceable to a backward technology and deficiency of reproducible tangible capital relative to labour. Sustained expansion of productive capacity that constitutes economic growth generates gainful employment opportunities with continuously rising productivity. This makes possible a progressive absorption and integration of the working poor into expanding economic activities often involving rising productivity in their existing occupation with better technology or shift to new occupations with upgraded skills. The resulting higher earnings not only improve living standard but also provide them with the means for the education and skill formation among their children and pave the way for an intergenerational upward mobility. Empirical studies by Fields (1991, 1995) provide ample evidence that episodes of rapid growth in different countries during the post-Second World War period have been associated with reduction in income poverty. In the Indian context also, a study by Tendulkar and Jain (1995) showed that in comparison with the decade of the 1970s marked by slow growth, the doubling of the growth rate of real per capita GDP in the

[1] Notice that per capita income is a product of average productivity of work force multiplied by work force to population ratio (WPR). WPR varies within narrow bounds between zero and unity during the growth process.

decade of the 1980s was associated with better poverty outcomes, with reduction in both rural and urban poverty.

In the remaining part of this section we juxtapose the three phases of economic growth in India over the past fifty years (Section I.2) with changes in the employment structure by industry of attachment over the past forty years (Section I.3). After a low growth rate of 3.4 percent per annum for three decades 1950-80, the pace of economic growth has picked up in the last two decades. We document and analyse in Section I.4 the employment and poverty outcomes of these two decades of rapid growth.

I.2 Long Term Economic Growth 1950-51 to 1999-2000

The long-term average of the annual growth rates of real GDP at factor cost of the Indian economy got stuck around 3.4 percent per annum[2] for three decades from 1950-51 to 1980-81. Over this period, gross domestic savings and investment rates (at current prices) more than doubled from around 9 percent of GDP at current market prices during the first quinquennium of the 1950s to over 18 percent during 1974-80 (Table I.1, columns (3) and (4)). It was an impressive performance in mobilisation of resources not equaled by other countries at similar levels of per capita GDP. However, instead of getting translated into rapid growth and improved living standards, these high rates of resource mobilisation resulted in a high level of (implicit) incremental capital output ratio[3] of around 5.8. Consequently, India remained in the category of "low-income-slow growing" economies in an international comparison of aggregate rates of economic growth between 1950 and 1980 among about 40 relatively large (population exceeding 10 million) less developed countries undertaken by Reynolds (1985).

Reasons for this low-growth rate have been traced to public sector dominated autarkic industrialisation strategy and the discretionary policy regime (Dhar (1990)). The trade policies consisted of keeping the exchange rate deliberately overvalued and resorting to a complex set of import regulations (with often both high levels of differentiated tariff rates and quota restrictions) to contain the excess demand for foreign exchange in a regime of overvalued exchange rate. The plethora of import regulations resulted in scarcity-induced (and hence unplanned) import-substitution driven industrialisation that discriminated against agriculture and exportable industries. Domestically too, a variety of direct restrictions were placed on private investment at the upper end of the investment scale. Public sector expansion was undertaken with private savings mopped up through indirect taxes, nationalisation of commercial banks (in 1969) and a raising of the statutory liquidity and currency reserve ratios. However, contrary to the original expectation of public sector enterprises (PSEs) generating increasing investible surpluses, PSEs failed to evolve viable organisational structures and systems of incentives and punishment for efficient functioning and resulted in continuing losses and a consequent draft on the exchequer. With the insulation from external competition

[2] Calculated from column (7) of Table I.1.

[3] This can be derived by using the ex-post Harrod-Domar identity of growth rate equalling the ratio of rate of investment (at constant prices) to the incremental capital output ratio.

resulting from complex import controls, even the private sector units had been marked by inefficiencies. (Minhas (1991)).

Although functioning markets and associated institutions existed in India, the discretionary policies resulted in constricting their operation. At the same time, administered interest rates on institutional credit were kept deliberately low (with a view to inducing investment) and overprotective labour legislation was put in place to protect the existing employment in the organised higher productivity segment of the economy. The inevitable result was a wasteful utilisation of successfully mobilised scarce capital in a labour-abundant and capital-scarce economy.

The decade of the 1980s saw the emergence of the Indian economy out of the low-growth syndrome of the previous three decades. The average of the annual growth rates for the decade was 5.75 percent in comparison with 3.4 percent for the previous three decades. There are no in-depth analyses of factors underlying this change. Possible factors include

a. A measure of deregulation of import restrictions - largely, in terms of a replacement of quantitative restrictions with high tariffs;
b. An extension of export-incentives with a move from sector-specific to across - the - board incentives;
c. Selective delicensing of private investment in certain industries, and grant of permission to expand capacities to pre-announced minimum efficient scale;
d. A depreciation of real effective exchange rate against the backdrop of a recovery in world trade in the second half of the decade and finally,
e. The ability of the agriculture and allied sectors to maintain a high average growth of 4.4 percent per annum in real GDP.

These factors (except the last one) may have relaxed constraints on private sector supply response while the last factor may have provided a stimulus from the demand side. However, a strong undercurrent of fiscal profligacy had been brewing during this decade. The consolidated fiscal deficits of the central and state governments (as percent of GDP at current market prices) rose from 7.2 percent on the average in the first quinquennium of the 1980s to 8.9 percent in the second and ending at a high level of 9.4 percent in 1990-91 (Table I.2, column (2)). A similar trend also existed in the case of revenue deficit. It is possible that these rising fiscal deficits might also have contributed to rising aggregate effective demand that was needed to induce the improved supply response from selective deregulation.

The rising fiscal deficits of the 1980s had two fold consequences. One, the resort to monetisation for their financing resulted in inflationary pressures with the rate of inflation in 1990-91 reaching 10.3 percent on the basis of wholesale price index (averaged over 52 weeks) and 11.6 percent on the basis of consumer price index for industrial workers. This put pressure on the exchange rate by making Indian products uncompetitive in the international markets. Two, the fiscal deficits spilled over into the rising current account deficits despite spectacular export performance in the second half

which was a combined result of real exchange rate depreciation and recovery in world trade. The current account deficit in 1990-91 stood at 3.2 percent of GDP at current market prices. This was only the third time since 1948-49 that it exceeded the 3 percent level. In the face of declining foreign assistance, government resorted to external commercial borrowing and high interest-bearing repartiable deposits of non-resident Indians. Both these factors happened to coincide with political instability (causing policy uncertainty) and the Gulf war causing a rise in oil prices. This constellation put pressure on exchange rate, resulted in capital outflow, a depletion of foreign exchange reserves ending with an external payments crisis with default on external loans looming large on the horizon. It was this external payments crisis that triggered the process of economic policy reforms of July 1991.

Thus, the basic undercurrent of growing fiscal imbalances of the 1980s not only contributed to worsening current account deficits and led to the external payments crisis but also resulted in a double-digit rate of inflation and consequently made the stepped-up rate of economic growth of the 1980s unsustainable. The sustainability of growth required not only a strong dose of fiscal stabilisation and exchange rate adjustment but also microeconomic structural adjustment.

A sharp fiscal correction was undertaken in 1991-92 in the Central Government budget wherein the gross fiscal deficit was reduced by more than two percentage points of GDP and maintained at 4.8 percent in 1992-93 (Table I.2). Simultaneously, the nominal exchange rate of the rupee was devalued against a basket of currencies by 22.8 percent in 1991-92 and further by 17.3 percent in 1992-93. The fiscal discipline was, however, diluted in the second half of the 1990s, when the states also followed the Centre in running fiscal deficits (Table I.2). The consolidated fiscal deficit, after reaching the minimum over the decade of 6.4 percent of GDP at market prices in 1996-97, climbed back to its 1990-91 level of 9.4 percent in 1999-2000 and 9.1 percent (revised estimate) in 2000-01. Even more serious has been the rising level of revenue deficit which had been hovering around 6 percent (consolidated) compared to an average of well below 4 percent during 1990-91 to 1992-93. In other words, a large part of the domestic borrowing undertaken to finance a rising fiscal deficits was going toward meeting the current expenditures of the government. This reflected an inability to restrain current revenue expenditure, and signals an incipient danger of government borrowing crowding out private investment.

The broad contours of the microeconomic structural adjustment policy reforms since July 1991 consisted of the following elements:

1. Total abolition of government permissions required for private industrial investment except for a clearly defined negative list of 18 industries in July 1991 and reduced currently to 6 industries;
2. A drastic reduction in the number of industries exclusively reserved for public sector since 1991 and this list is currently confined to just 4 industries;
3. The abolition of quantitative restrictions (QRs). The QRs on imports of most capital and intermediate goods during the immediate post-reform years while

those on consumer goods have been phased out mostly in the last 2 years. Consequently, all QRs on imports stand phased out with effect from April, 2001;

4. A gradual reduction in the average levels and rationalisation of direct and indirect (customs and excise) tax rates by reducing the number of differential rates along with the abolition of a plethora of exemptions;
5. A hesitant and highly qualified liberalisation of private foreign direct and portfolio investment;
6. Initiation of hesitant and as yet not very successful moves toward allowing entry of private (domestic and foreign) investment into infrastructure, particularly power, roads and telecommunications;
7. A gradual transition to current account convertibility and limited moves toward capital account convertibility.

The policy reforms outlined above were aimed at removing entry restrictions and thereby facilitating competition, and, correcting chaotic distortions in relative price structure introduced by differential rates of excise and customs duties as well as other quantitative restrictions on imports and regulation of domestic investment.

The growth performance of the Indian economy in the 1990s reflects the response of private economic agents to the changes in the incentive structure brought about by the macro and microeconomic policies outlined above.

A sharp dose of fiscal contraction in 1991-92 predictably resulted in a dip in the growth rate of real GDP to 1.3 percent (Table I.1), a reduction in both the rate of investment and savings and a sharp decline in the rate of foreign capital inflow. The economy recovered in 1992-93 and the average of the annual growth rates for the period from 1992-93 to 1999-2000 was 6.4 percent in comparison with 5.75 percent during the decade of the 1980s. The current account deficit remained within 2 percent of GDP despite liberalisation of trade and exchange rate policies. The rate of inflation too was brought down to single digit level in the second half of the decade. The growth performance of the liberalising and globalising Indian economy in the 1990s turned out to be better than the earlier decade of 1980s which itself marked a better growth performance than the previous three decades.

The average performance of the 1990s, however, conceals the gradual pick-up in the pace of growth reaching a record 7.9 percent in 1996-97 over the previous year followed by a slow down in the following four years (Table I.1). It is interesting to note that the highest growth rate of the decade coincides with the lowest recorded fiscal and revenue deficit (Table I.2). The four years of dilution of fiscal discipline since then has been associated with not only a slow-down in growth rate but also in the rates of gross domestic investment and savings (Table I.1). While admitting the fact that there is a complex interaction between fiscal discipline and growth, the increased borrowing requirements of the government to finance the rising fiscal and particularly revenue-deficits would appear to be impacting the private investment climate and hence long term growth.

I.3 Sectoral Employment Structure: 1961 to 1999-2000

The rate and the sectoral pattern of economic growth along with factor price ratio and sector-specific technologies determine the employment structure by sector or industry of attachment. In this sub-section, we examine the changes in the employment structure mostly at one-digit industry level with some break-up of major industry groups.

Three preliminary observations about data.

It may be mentioned at the outset that the data on employment map those reporting at work uniquely into sectors by major time criterion. When self-employment and casual labour dominate in work force especially in low-productivity occupations, a sector or industry of attachment may keep shifting even across one-digit groups for the same person over time. Moreover, the same person at work may not get full time gainful employment from the sector of attachment by major time criterion and may be attached to more than one sector on a part-time basis but would not get classified against these other part-time activities. Thus, those engaged in agriculture and allied activities on a major time basis may well be engaged in certain non-farm activities during the year.

Secondly, the earliest available comparable time-point in terms of concepts relates to the 1961 population census which provides the sectoral distribution of those reporting at work as on (or around) March 1, 1961. The subsequent decennial censuses as well as the one to preceding 1961 (1951) do not use comparable concepts and definitions over time. We have used the quinquennial National Sample Surveys of employment and unemployment six of which have been conducted since 1972-73. In these surveys, information relates to a moving sample of households spread over the survey period of one year. The concepts and definitions used in these surveys are broadly comparable to those in 1961 population census. These surveys are preferred especially because they have been found to capture female employment better than the censuses. It is well established that the attachment of self-employed to the labour force is loose and shifting in general but that of females is known to be even more so. It is, therefore, not clear how successful the 1961 census enumerators have been in capturing female work force participation. An informed guess is that the female work force especially in livestock activities especially those resulting in non-marketed output has been most probably understated for 1961 though the extent is not known. Consequently, even the total work force in 1961 as also the share of agriculture and allied activities is likely to have been understated.

Finally, the choice amongst the six quinquennial surveys. There are two surveys in each of the last three decades since 1972-73. We have chosen three of these, namely, for the (calendar) year 1983 and two agricultural (July-June) years 1993-94 and 1999-2000. The choice is broadly governed by our discussion of the Indian growth process. A comparison between (population census-based) 1961 and 1983 reflects changes during the three decades of low-growth of 3.4 percent per annum. That between 1983 and 1993-94 would represent the pre-reform decade of rapid but fiscally unsustainable growth. A comparison between 1993-94 and 1999-2000 represents a post-reform period although it

is not as long as the previous two time-intervals and may not fully reflect the full impact of economic reforms since 1991.

Tables I.3 to I.5 present industrial distribution for total, rural and female workers respectively each for 1961, 1983, 1993-94 and 1999-2000. The major focus of discussion would be on the last two decades where we also bring to bear the results of our other studies.

To help interpret the empirical evidence we may start with a few general observations on our a priori expectations about the changing structure of work force during the growth process. To start with, a generally observed decline in share of work force engaged in agriculture and allied sectors is expected to increase average productivity per worker in the economy. This is because this sector is a residual absorber of labour and is typically a reservoir of unlimited labour supplies in densely populated economies. It is characterised by lower than average productivity because of traditional technology, family-owned self-employed enterprises and limited spectrum of opportunities for technological upgrading. Secondly, for broadly similar reasons, rural non-farm activities typically have lower productivity per worker than their urban counterpart in the same broad category of industry. Thirdly, because of concentration in low-productivity activities and also because of prevalence of gender discrimination, productivity per female worker is lower than that for total (male plus female) workers in the same industrial category. Fourthly, dividing the economy into agricultural and industrial commodity production and the omnibus category of residual services, we may note that services constitute a heterogeneous basket ranging from, human skill and education intensive high-tech services with very high earnings, to unskilled, low productivity personal services. International comparisons of long-term changes in employment structure indicated that in the initial stages of economic growth, a decline in share of work force in agriculture and allied activities is usually matched by a higher share in services although the share of industrial sector also registers some increase. Economic growth process is characterised by continuing changes in the employment structure involving movements of workers from activities and sectors with lower to higher productivity combined with uneven pace of sectoral technological changes. The faster the pace of economic growth, the more rapid are the changes in the employment structure.

Finally, an India-specific observation. Labour market segmentation across the rural-urban divide has been observed to exist in India due to a variety of factors including absence of rural-urban continuum in population densities (Sundaram (1989a)). However, labour legislation seeking to protect existing employment, by increasing the cost of labour absorption in the organised factory segment to which it is confined, may also result in segmentation in employment between an organised segment with relatively much higher productivity per worker and an unorganised segment or informal sector with very low productivity per worker within the same industrial category.

Tables I.3 to I.5 provide total (formal plus informal) employment in each of the industry categories indicated there.

Usually, the 40-year period covered in this study is not long enough for major changes in the average structure of employment by sector of attachment especially because of the slow growth of much lower than 5 percent per year in the last five decades. We, therefore, focus on the changes in the structure of incremental employment during two consecutive time-periods in the subsequent discussion. The tables provide the absolute magnitudes for each year from which the statements in the text can be verified.

At the aggregate level, the average annual additions to work force work out to be 5.1 million between 1961 to 1983 (or period I or 1961-83 henceforth), 6.8 million between 1983 and 1993-94 (period II or 1983-94) and nearly 4 million between 1993-94 and 1999-2000 (period III or 1994-00). With urbanisation, the rural share in the additions predictably declined from 71 percent to 68 percent and further to 49.5 percent over periods I to III. The share of female workers in incremental workforce, too, declined from 37 percent to 27 percent to as low as 9 percent over the same periods.

At the broad sectoral level, the share of agriculture and allied sectors in total work force declined marginally (in relation to the length of the period) by a total of 7.4 percentage points over 22 years of slow growth period I. The decline in relative terms was faster by a total of 4.5 percentage points over 10 1/2 years period II and the pace became even quicker by 4.4 percentage points over a shorter period of 6 years in period III. **An interesting point to note is a virtually stagnant absolute size of work force in the agriculture and allied activities sector over the last 6 years of the twentieth century.** Starting from a very large base of 75.9 percent in 1961, it took nearly 40 years to reach the constancy in absolute number of work force in agriculture and allied sectors. Henceforth, the numbers may be expected to decline gradually. An absolute increase of 2.7 million additions to rural work force in this sector was largely offset by a 1.9 million decline in the urban agricultural work force. **A marginal decline was also registered in absolute terms in the female work force engaged in this sector in the last six-year period**. This is a positive development in view of the lower than average productivity in primary production.

Secondary commodity producing sector (consisting of manufacturing, mining and quarrying, electricity, gas and water and construction) absorbed 22.4 million (slightly over 1 million per annum) or only about one-fifth of the total additions to workforce of 114.3 million during the slow-growth period 1961-83. The incremental absorption picked up to 15.3 million (1.45 million per year) but still barely 21 percent of additions to total work force during the second period. **In the last six years, the incremental absorption of the secondary sector rose to 9.5 million (1.58 million per annum) and 39.9 percent of the total addition of 23.8 million over the same period**. Interestingly, the manufacturing sector accounted for a lion's share (75%) during the first period of slow growth. During the last two decades of 1980s and 1990s characterised by rapid economic growth, manufacturing employment gradually lost out relatively to construction as an absorber of incremental labour, its share coming down to 57 percent and 54 percent respectively in the increments in the secondary sector. In the last six years, incremental absorption of 5.4 million in construction exceeded the 4.8 million

absorbed in manufacturing. These additions to work force in the manufacturing sectors, it may be emphasized, include employment in both the formal factory segment with high productivity and the informal non-factory segment with low productivity. (We will have more comments on this in the subsequent discussion). Even more interesting is the fact that the rural share in secondary sector expansion of incremental manufacturing employment rose from only 28.9 percent during the first period to a little over 52 percent in the next two periods. This is indicative of increasing non-farm rural commodity production with a declining importance of agriculture and allied sectors. At the same time, it is more likely to be in the non-formal non-factory segment with lower productivity per worker. Employment in manufacturing and construction accounted for a dominant share in secondary commodity production.

The average annual additions to work force in the residual services have been higher than those in the secondary sector, namely, 1.25 million during the first period, and over 2 million per annum in the subsequent two periods. Their share in total incremental work force rose from 24 percent in the first period, a little over one-third in the second period and further to a dominant 57 percent in the final six years: Interestingly, **the rural share in the incremental services sector employment declined** from nearly 44 percent to 41 percent and further to 28 percent in the 1990s. In other words, **the tertiary sector expansion has been mostly an urban phenomenon**. The major components of the omnibus services sector are (a) trade, hotels and restaurants (trade for short), (b) transport, storage and communications (or transport for short), (c) community, social and personal services (or CSP services) and (d) finance, insurance and business services (financial services). The composition has changed significantly in the 1990s. Trade and CSP services accounted for 11 million each out of total service sector expansion of 27.85 million between 1961-83 and again between 9 to 10 million each out of 24.06 million during 1983-94 or nearly 80 percent combined share. In the 1990s, trade came to occupy a dominant position with over 8 million out of the total increment of 13.52 million for all services between 1994-00 or 61.5 percent up from 38 percent in the previous period. **Expansion of community, social and personal services is practically halted during the period. This is a healthy development as CSP services consist of over staffed public administration and defense and low productivity personal services, both these components having undergone an absolute decline**. This decline has been partly made up by a rise in education and medical and health services. A significant expansion is also seen in transport services adding nearly 4 million workers over the six-year period and accounting for nearly 29 percent of incremental employment in services. Thus, **trade** and **transport services together accounted for a little over 90 percent of incremental tertiary employment in the 1990s in comparison with 50 to 55 percent in the earlier two periods.**

Several interesting features emerge from the foregoing discussion of changes in employment structure. One, the rate of decline in the share of the primary agriculture and allied sectors with lower than average productivity per worker has been faster in the last two decades with absolute number of workers starting to decline. As noted earlier, this is a positive feature. Secondly, **while incremental employment generation in the manufacturing sector in secondary sector employment has come down from 78**

percent to around 58 percent more than half of this increase has taken place in the rural areas. Combined with a significant growth in real wage rates of rural manual and non-manual labour in non-agriculture in the 1990s (Table I.8) this is to be regarded as a positive development. The dominant role of trade and transport services in incremental tertiary sector expansion noted above is consistent with the expansion in rural manufacturing employment and the widely reported efforts of large corporates to reach out to rural areas. It is indicative of competitive pressures released by the reduction in entry barriers (as well as in distortions) introduced by the earlier set of autarkic policies. Finally, the **changes in the employment structure have predictably become faster with the rapid growth experienced in the last two decades**.

I.4 Employment and Poverty in the 1980s and 1990s

We have noted in the last section a faster pace of changes in the incremental employment structure by sector of attachment that have resulted from the higher rate of aggregate economic growth in the last two decades in comparison with the preceding three decades.

The policy-reforms since 1991 aimed at microeconomic structural adjustment in the industrial sector have (a) reduced barriers to entry, (b) relaxed stifling constraints on private sector initiative imposed earlier by the need to obtain a number of time consuming government clearances and sanctions and (c) reduced the degree of distortions caused by a multiplicity of differential customs and excise duty rates and a plethora of exemptions through their rationalisation and a lowering of their average levels. They have led to the emergence of a measure of competition both domestic and external. A fair amount of corporate restructuring took place in the first half of the 1990s (and is still continuing on a smaller scale) through mergers, acquisitions, hiving off non-core activities, and formation of strategic alliances and joint ventures in order to complement and focus on core competencies.

There had been serious apprehensions about the cost of structural adjustment in terms of displacement of labour in this process. In this section, we draw on our earlier studies to examine three issues.

One, what has been the impact of adjustment policies on the factory sector employment and output? This is important because the focal point of policy reforms was precisely to correct the restrictive trade policy-induced product-market distortions in the organised industrial sector of which manufacturing is the dominant component. In view of the stagnation in the factory manufacturing employment in the decade of the 1980s despite a rise in growth of output resulting possibly from selective deregulation, the apprehensions about possible displacement appeared imminent. We, therefore, compare the decade of the 1980s with the 1990s on the basis of the Annual Survey of Industries from 1980-81 to 1997-98. We draw on Tendulkar (2000a) for this purpose.

Two, how did the general employment situation look like during the period of reforms? For this purpose, we draw on the quinquennial National Sample Surveys of

employment and unemployment for the year 1993-94 and 1999-00 analysed by Sundaram (2001a and 2001b).

Three, how did the structural adjustment policies and macroeconomic management impact the prevalence of poverty? We again draw on the National Sample Surveys on Consumer Expenditure for the years 1993-94 and 1990-00.

We have already commented on a rise in the aggregate GDP growth rate in the 1980s in comparison with the previous three decades. On the basis of the national accounts, the manufacturing sector (comprising both the factory and the non-factory informal segments) experienced an average growth rate of 7.0 percent per annum during the decade of the 1980s, compared to 4.3 percent for the decade of the 1970s. The organised factory segment registered a higher annual average growth rate of 7.9 percent in the 1980s compared to 4.6 percent during the previous decade. However, the faster growth rate of the 1980s was associated with a virtual stagnation in the factory sector employment and the decade was widely described as one of "jobless growth" in the factory manufacturing segment. The apprehensions about labour displacement as a result of structural adjustment programme had this background. The experience up to 1997-98 (the latest year for which the data were available in December 2000) turned out to be very different (Tendulkar (2000a)). Table I.6 in this paper provides the employment situation at the two-digit industry level averages for the beginning and the ending triennia of 1980s and the (then) latest available triennium of the 1990s ending in 1997-98. The change in factory sector employment between the first and the last triennium (decade of the 1980s) is presented in column (5) and between the last triennium of 1980s and the latest available triennium (1990s for short) is given in column (6). It may be easily seen that there was a net decline in manufacturing employment in the 1980s to the extent of nearly 52 thousand. Six industry groups experienced job losses of 518 thousand which could not be offset by job gains in the remaining 12 industry groups of 468 thousand. It is interesting that these major changes in the factory segment had taken place despite the prevalent overprotective labour legislation that aimed at protecting the existing employment at any cost. Clearly, private sector factories had found legal and extra-legal ways of getting around the legislation. In contrast, the 1990s are marked by an increase in employment in all the industry groups amounting to 1.11 million in the aggregate. This is not to suggest that labour displacement was totally absent in the 1990s. The industry-level aggregates conceal the displacement which must have taken place at the plant level. What the table brings out is that <u>in the net,</u> job gains due to liberalisation outweighed the job losses.

Further analysis of the data (presented in Table I.7) brings out the following results:

- Not only was the trend growth in manufacturing output faster in the 1990s at 9.1 percent per annum (p.a.) than 7.1 p.a. in the 1980s, the post-Reform period was marked by 2.9 p.a. trend growth in the factory manufacturing sector in comparison with the virtual stagnation in the 1980s.

- The mystery of "jobless growth" in the 1980s lay in very high growth in the labour cost (product wage) at nearly 4.5 p.a. compared to a slower growth at 2.6 p.a. in the 1990s.
- Cross-section regressions involving trend growth rates of the 1980s and the 1990s at 2-digit industry group level brought out that a ceteris paribus positive impact of a one percent rise in manufacturing output is neutralised by a negative ceteris paribus impact of one percent rise in product wage.
- The same regression exercise also showed that, ceteris paribus, a rise of one percent growth in manufacturing output led to a 0.8 percent rise in manufacturing employment in the decade of the "jobless growth" as well as during the post-Reform period. This is a correctly specified partial elasticity of employment with respect to manufacturing output.
- In contrast, the generally computed "gross" elasticity of employment with respect to manufacturing output can be seen from Table 7 to be negative for the 1980s and 0.3 for the 1990s. This does not net out the impact of other relevant variables and, hence is inappropriate in our view.

The factory segment of the manufacturing sector accounts for around 17 to 18 percent of the total manufacturing employment reported by NSS. The remaining more than 80 percent of the manufacturing work force is located in the unorganised non-factory non-formal segment. We do not have annual data on these units to monitor their movement. But can we make any statement about the changes in real wage rates between the quinquennial rounds? Sundaram (2001a) finds that adult (15-59) casual male wage labourers in urban manufacturing enterprises experienced 3.2 percent growth per annum in daily real wage rate between 1993-94 and 1999-00 (Table I.9). This was above the average growth rate of 2.9 percent for all the urban sectors put together. For the rural areas (Table I.8) we do not have data on real wage rates by industry of attachment. However, there are two categories of workers which would provide a plausibly close approximation. Thus, for the non-manual labour in non-agriculture, the growth rate per annum of daily real wage rate was 3.0 percent for males and even higher at 4.6 percent for rural females. For the casual labour in rural non-agriculture, the corresponding growth rates are 3.7 percent (males) and 4.1 percent (females) (Sundaram (2001b)) (See Table I.8). It is plausible to take these survey-based growth rates of real daily wages rates to be representative of the urban and rural informal manufacturing enterprises. The growth rates for the rural workers being higher than their urban counterparts and the urban growth rate itself being higher than the growth of 1.3 percent growth in real consumption wage rate for the factory segment (Table I.7) are indicative of tightening of the labour market as well as rising productivity per worker in the 1990s. What is even more remarkable is that 52 percent of the incremental employment in manufacturing in the 1990s is reported to be rural (based on Tables I.3 and I.4). A comparison of growth rates for the rural areas only has also been provided by Sundaram (2001b) (same table) between 1983 and 1993-94 and between 1993-94 and 1999-00. It shows the growth rates are higher in the 1990s than in the earlier period for male workers and no lower for the female workers. **The direction of the growth rate differentials in real wage rates indicate the narrowing of rural-urban and factory-non-factory differentials in real**

wage levels in the 1990s and a welcome alleviation of long-persistent dualities in these facets.

Finally, we turn to the commonly expressed concerns regarding the overall employment situation in the 1990s as the structural adjustment policies since 1991 had been anticipated to impact adversely on employment. For this purpose, we draw on Sundaram (2001a) and (2001b) who based his analysis on the quinquennial National Sample Surveys on employment and unemployment. Three results in particular have been interpreted by some observers to reflect negative outcomes on the employment front.

- A reduction in worker-population ratio (WPR) on the principal plus subsidiary usual status[4] not only in the aggregate but also for all the age-groups between 1993-94 and 1999-00 for rural males and females as well as urban males and females (Table I.10). This has been taken to reflect a reduction in employment 'potential' in the economy;
- A reduction in the average number of days worked per person per year for the usually employed persons on principal plus subsidiary status for rural and urban male workers (Table I.12);
- A rise in daily status rates of unemployment for rural males and females and urban males in 1999-2000 especially after a decline in 1993-94 in comparison with 1983 (Table I.11, Panel A). This is taken to reinforce the concern in the first bullet point.

A closer examination shows these negative outcomes to be either more than offset by other positive outcomes or arising out of incorrect characterisation of the Indian employment situation.

Let us analyse the first bullet point.

As far as younger age-groups are concerned, a reduction in WPR is associated with a beneficial rise in the student-population ratio not only for the primary (5-9) and middle school (10-14 years) age groups but also for 15-19 and 20-24 age groups indicating a rising participation in the secondary and higher levels of education (Table I.13). This is to be regarded as a positive development.

We turn now to the prime working age groups. A reduction in WPR implies a slower growth of workers than total population and hence interpreted to reflect a slower growth in market demand and hence a reduction in employment 'potential'. Is this essentially demand-constrained characterisation valid in the Indian context? A little reflection shows this to be incorrect. In the absence of government-funded social security, workers in poor households cannot afford to remain unemployed on usual status and are forced to work in low productivity (mostly self-employment) activities with

[4] We focus on principal plus subsidiary usual status in preference to principal usual status because cross-tabulations of employment characteristics by monthly per capita total expenditure (MPCTE) are available only with respect to principal plus subsidiary usual status. We rely on these cross-tabulations to link poverty and employment in the subsequent discussion.

associated meagre earnings. In fact, agriculture and other informal self-employment activities with possibilities of work sharing and work spreading are known to act as residual absorbers of labour without much regard for productivity. WPR, therefore, needs to be correctly interpreted to reflect labour supply rather than demand. Given this characterisation, an increase in real wage rates in the market is not viable without a rise in the productivity of work being offered or a rise in demand for labour or both. In the light of this argument, if real wage rates rise overtime, a reduction or an increase in WPR are indicative of a possible tightening of labour market situation. An identical argument would also apply in interpreting the movement in the number of days worked per person per year noted in the second bullet point above.

To verify the possible tightening of the labour market situation, we turn to an examination of movements in real wages for the rural (Table I.8) and the urban (Table I.9) population. For the rural population, the average daily real wage rate of agricultural labourers (arguably the most vulnerable segment of work force with usually uncertain, fluctuating and irregular wage employment) has grown at an average annual compound rate of 2.8 percent (rural males) and 2.9 percent (rural females) between 1993-94 and 1999-00. For the casual rural labour in non-agriculture, the corresponding compound growth rates were even higher at 3.6 percent (rural males) and 4.1 percent (rural females)[5]. An examination of average daily wage earnings for different categories of rural casual work (Table I.8) shows that the rates of increase in the 1990s were often higher than or no lower than those observed between 1983 and 1993-94. For all types of urban casual labourers also, the average daily real wage rates increased at the rate of 2.9 percent (males) and 3.9 percent (females) (Table I.9).

The available evidence of a rise in average daily real wage earnings thus strengthens the possibility of the tightening of the labour market situation. This should be regarded as a positive development.

Finally we consider the third negative bullet point regarding a rise in person day unemployment rates (PDUR).

To start with, it has been noted that PDUR among the self employed workers is lower than that among the casual workers because of the loose attachment of the self employed to the labour force arising from the possibilities of work-sharing and work-spreading in a self employed enterprise (Sundaram and Tendulkar (1988). Consequently, a change in the composition of work force towards a higher share of casual workers would, ceteris paribus, tend to raise the **reported** average PDUR for the entire labour force. The progressive casualisation of the Indian labour force (to be noted in section II) would partly explain a rise in the reported average PDUR. However, some rise in PDUR may indeed have taken place. How do we capture the composite impact of a rise in PDUR, a rise in the average daily wage rate of the casual labourers (noted above) and a decline (for rural and urban males) and a rise (for rural and urban females) in the average

[5] This may be placed in the context of our earlier observation in section I.3 regarding the virtual stagnation of work force in agriculture and allied activities and major part of incremental rural work force being absorbed in non-agricultural rural activities.

number of days worked per person per year? Sundaram (2001a) provides two interesting composite indicators.

Since casual workers in different types of economic activities are widely recognised to be the most vulnerable segment in both the rural and urban labour force, he imputes their average daily wage (at constant 1993-94 prices) per worker to the average number days worked per worker per year in the entire work force (including the self-employed) to derive the average *annual* (imputed) real wage earnings per worker, aggregates them across (rural/urban) male and female workers and divides by rural/urban total (earners plus dependents) population to derive average annual imputed real income per capita (Table I.14). The average compound growth in annual real imputed wage earnings per worker was 3.4 percent (rural males), 3.5 percent (rural females and persons) and 2.9 percent (urban males), 4.6 percent (urban females) and 3.2 percent (urban persons). Growth rates in annual imputed earnings per capita are naturally lower (Table I.14). But these composite indicators clearly showed a distinct improvement in the overall employment situation after taking due accounts of the productivity of generated employment through imputed daily wage rates.

It can be argued, however, that since the average number days worked per person per year being lower than average for the casual workers, the above composite indicators may not necessarily reflect an improvement in the average annual real earnings of casual labourers. The average number of days worked per worker per year was 327 days for all rural males workers in comparison with 299 days for rural male agricultural labourers. For rural female agricultural labourers, they were 239 days in comparison with 246 days for all rural female workers (including the self-employed). Recalculation of the composite annual real wage earnings per worker for agricultural labourers showed these earnings to have increased at a rate shade lower than average for the entire rural population - namely, 3.1 percent (males) and 3.4 percent (females). Per capita annual earnings for all agricultural labour households rose at compound annual rate of 2.35 percent between 1993-94 and 1999-00. In other words, the most vulnerable segment in rural as well as urban labour force shared the general improvement in the overall employment situation. This group is known to be characterised by the highest prevalence of poverty as well as its numerical dominance among the rural poor population.

To summarise, in arriving at an overall assessment of the employment situation in the 1990s one needs to look beyond the apparent "facts". Thus in a context marked by substantial residual absorption of labour, changes in overall WPRs reflect primarily changes in labour supply rather in labour demand. In this specific case, the reduction in WPRs between 1993-94 and 1999-2000 is associated with beneficial improvements in schooling rates in age groups previously recording higher work participation rates. In part it is a reduction in work participation on the subsidiary status not offset by a rise in the work participation on the principal status. The rise in the unemployment rates on the daily status is also more apparent than real reflecting the increasing share of casual labour and a reduction in "disguised" unemployment of the erstwhile self-employed. The clearest indicator of a tightening of the labour market is provided by the strong growth in real wages of casual wage labourers in agriculture and in informal sector activities in both

rural and urban areas. What is more, this growth in real wages has been strong enough to offset both a (small) reduction in number of days worked per year (for males) and the reduction in overall WPRs to yield a strong growth in annual wages per head of population. **Our overall assessment is one of improvement in the employment situation in India over the 1990s.**

An improvement in the overall employment situation and especially a rise in per capita (imputed) annual earnings noted above between 1993-94 and 1999-00 provide a possible pointer to an improvement also in poverty situation in the income dimension. However, there have been problems of comparability over the last two rounds of National Sample Surveys on Consumer Expenditure (which provides the size distributions of per capita total consumer expenditure for poverty calculations) for 1993-94 and 1999-00. These problems are discussed in the Appendix. For the present purpose of comparing headcount ratios over the three time points selected in Table I.15, we present two sets of comparisons:

a. Between 1983 and 1993-94 from the published results of the 38th and the 50th rounds, both being based on comparable uniform (30-days) recall period (URP for short) for all items of consumer expenditure;
b. Between 1993-94 (based on the re-calculated results from the unit-level records for the mixed reference period (MRP) explained in the Appendix) and the comparable estimates of headcount ratio based on the 55th Round Consumer Expenditure Survey for 1999-00.

Headcount ratios are presented for the rural, the urban and the total (rural plus urban) population in panels A, B and C.

Two sets of estimates are presented for each of the three population segments. The first of these is based on the all-India size distribution and all-India (uniform) poverty line. The alternative estimate represents weighted average aggregate headcount ratios for fifteen major states (that account for over 95 percent of all India population) based on state-specific size distributions and state-specific price-adjusted (all-India) poverty lines. In all cases weighted average headcount ratio for 15 major states exceeds the corresponding direct all-India estimate.

A comparison between columns (3) and (4) shows that between 1983 and 1993-94, there was a decline in headcount ratio to the extent of 8 to 9 percent points (rural), around 8 percentage points (urban) and between 8 and 9 percentage points (combined) over the ten-and-a-half year period[6].

Our recalculations for 1993-94 show that an adjustment for 365-day recall period for durables, clothing, footwear, education and institutional health expenditure shifts the entire size distribution under MRP (in comparison with URP) uniformly to the right.

[6] The changes lie in a range as the extent of decline (or rise, as the case may be) depends on whether we compare the poverty estimates based on all-India size distribution (and all-India poverty line) or the 15-State weighted-average poverty ratios.

This is reflected in a comparison between columns (4) and (5) for 1993-94 where headcount ratio under MRP is 2 or 3 percentage points lower than that under URP. **Consequently, the magnitude of decline between 1993-94 and 1999-00 (based on 30-day recall) of nearly ten percentage points in the officially released estimates (Economic Survey, 2000-01, Table 10.5, p.194) would have to be scaled down by 2 to 3 percentage points.**

A comparison for the 1990s between MRP-based HCR for 1993-94 (col (5)) and CES (30-day) based estimates for 1999-2000 (col (6)) suggests a decline in headcount ratio of between 7.5 to 8.5 percentage points over 6 years between 1993-94 and 1999-00.

It is our judgement (Sundaram and Tendulkar (2001)) that the simultaneous canvassing of consumer expenditure for food, paan, tobacco and intoxicants with a 30-day and a 7-day reference periods in blocks placed side by side in the schedule has primarily affected the estimates based on the 7-day recall period rather than the other way round. If this is accepted, then, even though the levels of headcount ratios are not comparable in the two periods 1983 to 1993-94 and 1993-94 to 1999-2000, the magnitude of change between comparable estimates in headcount ratio can be compared. In both the periods the annual average magnitude of decline in headcount ratio is higher for the rural than for the urban population. Numerically, the average annual decline of over 1 percentage point in the CES-based headcount ratio in the 1990s is higher than that in the earlier period.

Our conclusion, therefore, is that income poverty based on headcount ratio measure has definitely declined in the 1990s at a faster rate than in the earlier period and that this is consistent with a distinct improvement in the overall employment situation for the 1990s discussed earlier in this section.

Table I.1: Indicators of Aggregate Economic Performance for India: 1950-51 to 1999-2000

S.No.	Year	Ratios to GDPMP at Current Price			GDCF as % of GDP as 1993-94 Prices	Rate of Growth of GDPfc @ 1993-94 Prices	Implicit ICORs
		GDCF	GDS	Net Capital inflow			
1	1951-56	8.96	8.74	0.22	14.72	3.85	3.83
2	1956-60	13.22	11.10	2.12	19.02	3.38	5.63
3	1961-65	14.22	11.96	2.26	19.28	5.00	3.86
4	1966-70	15.00	13.18	1.82	22.04	2.90	7.60
5	1971-73	15.50	14.67	0.83	21.00	1.90	11.05
6	1974-80	18.46	18.60	-0.14	22.73	3.40	6.69
7	1981-85	19.70	18.36	1.34	20.72	5.66	3.61
8	1986-90	22.60	20.26	2.34	21.96	5.84	3.75
9	1990-91	26.30	23.10	3.20	25.4	5.30	
10	1991-92	22.50	22.0	0.50	22.0	1.3	
11	1992-93	23.60	21.80	1.80	22.9	5.1	
12	1993-94	23.10	22.50	0.60	23.10	5.9	
13	1994-95	26.0	24.8	1.2	26.4	7.3	
14	1995-96	26.8	25.1	1.70	27.2	7.30	
15	1996097	24.5	23.2	1.30	25.1	7.9	
16	1997-98	25.0	23.5	1.5	26.4	4.8	
17	1998-99	23.0	23.0	1.0	25.4	6.6	
18	1999-00	24.3	23.2	1.1	26.7	6.0(P)	
19	2000-01	24.0	23.4	0.6	26.3	4.4(Q)	
20	2001-02	-	-	-	-	5.4(A)	

Source: (1) National Accounts Statistics 2001
(2) Press Note on Quick Estimates, 2000-01 (Jan 31, 2002) for Provisional (P) and Quick Estimates (Q)
(3) Press Note on Advanced Estimates (A), 2001-02 (Feb 5, 2002)

Table I.2: Definitionally Comparable Deficits of Central and State Governments

	Centre & States Consolidated			Central Government			State Governments		
Year	**Fiscal Deficit**	**Revenue Deficit**	**Rev. Deficit as % of Fiscal Deficit**	**Fiscal Deficit**	**Revenue Deficit**	**Rev. Deficit as % of Fiscal Deficit**	**Fiscal Deficit**	**Revenue Deficit**	**Rev. Deficit as % of Fiscal Deficit**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1980-81	7.5	0.4	5.3	5.4	1.4	25.9	2.6	-1.0	-38.5
1981-82	6.3	-0.6	-9.5	5.2	0.2	3.8	2.4	-0.8	-33.3
1982-83	5.9	0.2	3.4	5.6	0.7	12.5	2.6	-0.5	-19.2
1983-84	7.3	1.1	15.1	6.3	1.2	19.0	2.9	-0.1	-3.4
1984-85	9.0	2.1	23.3	7.1	1.7	23.9	3.3	0.4	12.1
Average	**7.2**	**0.6**	**8.3**	**5.9**	**1.0**	**16.9**	**2.8**	**-0.6**	**-21.4**
1985-86	8.0	1.9	23.8	7.9	2.1	26.6	2.7	-0.2	-7.4
1986-87	9.9	2.4	24.2	8.5	2.5	29.4	3.0	-0.1	-3.3
1987-88	9.2	2.9	31.5	7.6	2.6	34.2	3.2	0.3	9.4
1988-89	8.5	2.9	34.1	7.3	2.5	34.2	2.8	0.4	14.3
1989-90	8.9	3.2	36.0	7.3	2.4	32.9	3.2	0.8	25.0
Average	**8.9**	**2.7**	**30.3**	**7.7**	**2.4**	**31.1**	**3.0**	**0.2**	**6.7**
1990-91	9.4	4.2	44.7	6.6	3.3	50.0	3.3	0.9	27.3
1991-92	7.0	3.4	48.6	4.7	2.5	53.2	2.9	0.9	31.0
1992-93	7.0	3.2	45.7	4.8	2.5	52.1	2.8	0.7	25.0
1993-94	8.3	4.3	51.8	6.4	3.8	59.4	2.4	0.4	16.7
1994-95	7.1	3.7	52.1	4.7	3.1	66.0	2.7	0.6	22.2
Average	7.8	3.8	48.7	5.4	3.0	55.6	2.8	0.4	14.3
1995-96	6.5	3.2	49.2	4.2	2.5	59.5	2.6	0.7	26.9
1996-97	6.4	3.6	56.3	4.1	2.4	58.5	2.7	1.2	44.4
1997-98	7.3	4.1	56.2	4.8	3.1	64.6	2.9	1.1	37.9
1998-99	8.9	6.3	70.8	5.1	3.9	76.5	4.2	2.5	59.5
1999-2000	9.4	6.2	66.0	5.4	3.8	70.5	4.6	2.7	58.7
Average	7.7	4.7	61.0	4.7	3.1	66.0	3.4	1.6	47.1
2000-01 RE	9.1	5.9	64.8	5.3	3.8	71.7	4.3	2.4	55.8

Source: Acharya, S: "Macroeconomic Management in the Nineties", ICRIER, New Delhi, August 2001.

Table I.3: Industrial Distribution of Total Work Force: All India: 1961to 1999-2000

Industry Division /Group	1961		1983		1993-94		1999-2000	
	Work Force (000)	Share (Per 1000)	Work Force (000)	Share (Per 1000)	Work Force ('000)	Share (Per 1000)	Work Force ('000)	Share (Per 1000)
0. Agriculture, Forestry & Fishing	**143.282**	**759**	**207,308**	**685**	**239,408**	**640**	**240,185**	**604**
00-01. Crop Production & Plantations	138,637	735	182,864	604	217891	582	217950	548
02. Livestock	3,684	20	23,379	77	16982	45	16300	41
03. Agricultural Services	NIL	NIL	121	0.40	1836	5	3802	10
04-06. Hunting, Forestry & Fishing	952	5	1,944	6	2700	7	2133	5
1. Mining & Quarrying	**959**	**5**	**1,787**	**6**	**2675**	**7**	**2260**	**6**
2+3+97. Mfrg+Repair Services	**17,906**	**95**	**1,787**	**6**	**43101**	**115**	**47945**	**120**
20-21. Food Products	2,126	11	3,645	12	4837	13	5385	14
22. Beverages & Tobacco	1,124	6	3,038	10	4,408	12	4,923	12
23-26. Textiles & Products	6,553	35	10,724	35	10301	28	10393	26
27. Wood, Products & Furniture	2,175	12	3,558	12	4294	11	5366	13
29. Leather, Fur & Products	704	4	653	2	726	2	1061	3
32. Non-metallic Mineral Products	1,504	8	2,842	9	3135	8	3493	9
34. Metal Products & Parts	944	5	1,234	4	1632	4	2253	6
97. Repair Services	366	2	2,000	7	3350	9	4163	10
4. Electricity, Gas & Water	**257**	**1**	**875**	**3**	**1389**	**4**	**1036**	**3**
5. Construction	**2,768**	**15**	**6,979**	**23**	**12104**	**32**	**17530**	**44**
6. Trade, Hotels & Restaurants	**8,171**	**43**	**19,245**	**64**	**28364**	**76**	**36684**	**92**
65-68.Retail Trade	6,871	36	14,772	49	21317	57	28549	72
69. Hotels & Restaurants	805	4	2,618	9	3424	9	4548	11
7. Trspt, Storage +Communication	**3,262**	**17**	**7,489**	**25**	**10718**	**29**	**14623**	**37**
8. Finance, Insurance, Real Estate & Business Services	**542**	**3**	**1,965**	**6**	**3632**	**10**	**4836**	**12**
9. Community, Social & Personal Services	**11,571**	**61**	**22,695**	**75**	**32737**	**88**	**32829**	**82**
90. Public Admn + Defense	3,394	18	7,851	26	10301	28	10460	26
92. Education	1,811	10	4,756	16	6489	17	8462	21
93. Medical & Health	645	3	1,626	5	1957	5	2480	6
94. Community Services	593	3	1,321	4	1124	3	1047	3
96. Personal Services	4,490	24	6,199	20	10616	28	9347	23
Total	**188,676**	**1000**	**302,703**	**1000**	**37,4124**	**1000**	**397,928**	**1000**

Sources: Tables I.3 to I.5 are based on the following Reports: (1) Government of India, Registrar General: CENSUS OF INDIA 1961.

(2) SARVEKSHANA, Journal of the National Sample Survey Organisation, Vol 20, No. 1 (July September 1996) for the 50th Round.

(3) Government of India, National Sample Survey Organisation: Employment and Unemployment Situation in India, 1999-2000, NSS 55th Round (July 1999 to June 2000), Report No. 458 (May 2001).

Table I.4: Industrial Distribution of Rural Work Force: All India: 1961 to 1999-2000

Industry Division /Group	1961		1983		1993-94		1999-2000	
	Work Force (000)	Share (Per 1000)	Work Force (000)	Share (Per 1000)	Work Force ('000)	Share (Per 1000)	Work Force ('000)	Share (Per 1000)
0. Agriculture, Forestry & Fishing	**139,622**	**861**	**198,692**	**815**	**229382**	**784**	**232084**	**763**
00-01. Crop Production & Plantations	135,360	834	176,303	723	210021	718	211759	696
02. Livestock	3,452	21	20,655	85	15393	53	15044	49
03. Agricultural Services	NIL	NIL	86	0.35	1672	6	3560	12
04-06. Hunting, Forestry & Fishing	805	5	1,648	7	2296	8	1721	6
1. Mining & Quarrying	**708**	**4**	**1,168**	**5**	**1733**	**6**	**1510**	**3**
2+3+97. Mfrg+Repair Services	**10,379**	**64**	**17,231**	**71**	**21787**	**74**	**24330**	**80**
20-21. Food Products	1,466	9	2,127	9	3009	10	3138	10
22. Beverages & Tobacco	677	4	1,870	8				
23-26. Textiles & Products	3,659	23	5,105	21	4910	17	5189	17
27. Wood, Products & Furniture	1,649	10	2,473	10	3009	10	3734	12
29. Leather, Fur & Products	493	3	331	1	189	0.6	199	0.7
32. Non-metallic Mineral Products	1,120	7	2,034	8	2318	8	2727	9
34. Metal Products & Parts	475	3	458	2	564	2	900	3
97. Repair Services	111	1	727	3	1315	4.5	1788	6
4. Electricity, Gas & Water	**79**	**0.5**	**348**	**1**	**564**	**2**	**398**	**1**
5. Construction	**1,309**	**8**	**4,192**	**17**	**6952**	**24**	**10103**	**33**
6. Trade, Hotels & Restaurants	**3,572**	**22**	**8,544**	**35**	**14526**	**43**	**13836**	**45**
65-68.Retail Trade	3,217	20	6,867	28	9855	34	11029	36
69. Hotels & Restaurants	266	2	1,108	5	1442	5	1813	6
7. Trspt, Storage +Communication	**914**	**6**	**2,649**	**11**	**4237**	**14**	**6463**	**21**
8. Finance, Insurance, Real Estate & Business Services	**96**	**0.6**	**388**	**2**	**856**	**3**	**993**	**3**
9. Community, Social & Personal Services	**5,567**	**34**	**10,723**	**44**	**14536**	**50**	**14629**	**48**
90. Public Admn + Defence	1,272	8	2,819	12	3507	12	3800	12
92. Education	1,026	6	2,570	11	3279	11	4144	14
93. Medical & Health	286	2	611	3	774	3	807	3
94. Community Services	324	2	618	3	669	2	504	21
96. Personal Services	2,378	15	3,581	15	5266	18	5070	17
Total	**162,246**	**1000**	**243,935**	**1000**	**292,670**	**1000**	**304,344**	**1000**

Source: Same as for Table I.3

Table I.5: Industrial Distribution of Female Work Force: All India: 1961 to 1999-2000

Industry Division /Group	1961		1983		1993-94		1999-2000	
	Work Force (000)	Share (Per 1000)	Work Force (000)	Share (Per 1000)	Work Force ('000)	Share (Per 1000)	Work Force ('000)	Share (Per 1000)
0. Agriculture, Forestry & Fishing	**51,022**	**857**	**83,090**	**811**	**94441**	**775**	**93461**	**754**
00-01. Crop Production & Plantations	50,030	841	68,154	665	81346	667	80226	647
02. Livestock	822	14	14,424	141	11893	98	11204	90
03. Agricultural Services	NIL	NIL	11	0.11	768	6	1466	12
04-06. Hunting, Forestry & Fishing	170	3	504	5	435	4	565	5
1. Mining & Quarrying	**172**	**3**	**368**	**4**	**521**	**4**	**391**	**3**
2+3+97. Mfrg+Repair Services	**4,857**	**82**	**9,065**	**88**	**11471**	**94**	**12450**	**100**
20-21. Food Products	785	13	1,010	10	1352	11	1317	11
22. Beverages & Tobacco	380	6	1,745	17				
23-26. Textiles & Products	2,404	40	3,452	34	3613	30	3450	28
27. Wood, Products & Furniture	582	10	782	8	1131	9	1154	9
29. Leather, Fur & Products	67	1	94	1	86	0.7	109	1
32. Non-metallic Mineral Products	416	7	813	8	799	7	904	7
34. Metal Products & Parts	53	1	59	1	35	0.3	179	1
97. Repair Services	8	0.1	34	0.33	35	0.3	36	0.3
4. Electricity, Gas & Water	**9**	**0.1**	**32**	**0.31**	**51**	**0.4**	**36**	**0.3**
5. Construction	**308**	**5**	**1,067**	**10**	**1643**	**13**	**2039**	**16**
6. Trade, Hotels & Restaurants	**865**	**15**	**2,907**	**28**	**3906**	**32**	**5159**	**42**
65-68.Retail Trade	799	13	2,382	23	3112	26	4152	34
69. Hotels & Restaurants	53	0.9	418	4	555	5	823	7
7. Trspt, Storage +Communication	**74**	**1**	**226**	**2**	**327**	**3**	**434**	**4**
8. Finance, Insurance, Real Estate & Business Services	**11**	**0.2**	**117**	**1**	**429**	**4**	**455**	**4**
9. Community, Social & Personal Services	**2,188**	**37**	**5,655**	**55**	**9074**	**74**	**9479**	**77**
90. Public Admn + Defence	103	2	602	6	1237	10	1134	9
92. Education	341	6	1,330	13	2305	19	3223	26
93. Medical & Health	153	3	441	4	619	5	830	7
94. Community Services	45	0.8	140	1	173	1	197	2
96. Personal Services	1,373	23	2,851	28	4396	36	3861	31
Total	**59,505**	**100**	**102,527**	**1000**	**121,868**	**1000**	**123,905**	**1000**

Source: Same as for Table I.3

Table I.6: Number of Workers in the Factory Sector of Manufacturing Industry at 2-Digit level

2-digit code	Average Number of Workers			Change between periods I And II	Change between periods II and III	Percentage Composition of Col (6)
	1980-81 to 1982-83	1988-89 to 1990-91	1995-96 to 1997-98			
	Period I	Period II	Period III			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
20-21	1003917	841512	1019154	-162404	177642	15.96
22	389893	440774	532601	50882	91827	8.25
23	920280	729380	736656	-190900	7276	0.65
24	196030	231167	285914	35137	54747	4.92
25	234239	189043	212790	-45195	23747	2.13
26	81383	129342	295523	47959	166182	14.93
27	64027	56768	61643	-7259	4876	0.44
28	221490	207520	251038	-13970	43518	3.91
29	50639	83969	106574	33330	22605	2.03
30	137485	312553	525008	175068	212455	19.09
31	337526	251871	253583	-85655	1711	0.15
32	313039	353578	366623	40539	13046	1.17
33	446511	464682	518163	18171	53481	4.81
34	151701	168529	214906	16828	46377	4.17
35	293754	294784	328251	1030	33467	3.01
36	218543	251101	296148	32558	45048	4.05
37	377624	364991	438183	-12633	73192	6.58
38	51470	66188	107801	14719	41613	3.74
20-38	5489550	5437754	6550562	-51796	1112808	100.00

Source: Annual Survey of Industries, various years. Table taken from Tendulkar (2000a).

Description of the 2-Digit Industry code

20-21 Food Products
22 Beverages, Tobacco, etc.
23 Cotton Textiles
24 wool, silk, etc
25 jute textiles
26 textile products
27 wood, furniture, etc.
28 paper & printing etc.
29 leather and fur products
30 chemicals, etc.
31 rubber, petroleum, etc.
32 non-metallic products
33 basic metal industries
34 metal products
35 non-electrical
36 electrical machinery
37 transport equipment
38 other manufacturing

Table I.7: Exponential Trend Growth rates and Partial Elasticities for Variables Associated with Factory Manufacturing

(Growth Rate % per annum)

Ser No.	Description	1980-81 to 1990-91	1990-91 to 1997-98
(1)	(2)	(3)	(4)
1	Number of workers	-0.12 (0.016)	2.92 (0.89)
2	Gross Value Added at 1993-94 prices	7.13 (0.97)	9.09 (0.94)
3	Wholesale Price Index for all Commodities	6.56 (0.99)	8.43 (0.98)
4	Implicit deflator for Aggregate Gross Value Added in Manufacturing	7.13 (0.97)	7.73 (0.98)
5	Consumer Price Index for Industrial Workers	8.29 (0.99)	9.05 (0.99)
6	Real Consumption wage per worker	3.02 (0.92)	1.29 (0.56)
7	Real Product wage per worker	4.48 (0.93)	2.62 (0.80)
8	Partial elasticity of Employment with respect to real output	0.85 (27.96)	0.90 (25.92)
9	Partial elasticity of Employment with respect to product wage	-0.83 (-15.43)	-0.97 (-21.30)

Notes: 1. Growth rates in lines 1 to 7 are slope coefficients of semi-log trend equations with squared product-moment correlation coefficients (r^2) in brackets.

2. Partial elasticities in lines 8 and 9 (with t values in bracket) are from cross-section regressions across eighteen 2-digit industry groups given below for 1981-91 (equation (1)) and 1991-98 (equation (2))

(1) $g_e = -8.98 + 0.8516g_{va} - 0.8307g_{pw} + 8.4257\alpha$ adjusted $R^2 = 0.9830$
(-9.19) (27.96) (-15.43) (8.07)

(2) $g_e = -15.53 + 0.8959g_{va} - 0.9705g_{pw} + 16.2980\alpha$ adjusted $R^2 = 0.9825$
(16.80) (25.92) (-21.30) (16.48)

where g_e=growth rate of number of employed workers.

g_{va}=growth rate of real value added defined by gross value added at current prices deflated by wholesale price index for output (1993-94=100) for each industry group.

g_{pw}=growth rate of product wage defined by average wage per worker at current prices deflated by wholesale price index of output for each industry group.

α=elasticity of nominal wage bill (NWB) with respect to nominal gross value added (NGVA) derived by growth rate of NWB divided by growth rate of NGVA.

1. Other variables whose growth rates are given in lines 3 to 6 are defined as follows:

(i) Wholesale price index for all commodities: average of months for a fiscal year (April-March)

(ii) Implicit deflator for Aggregate Gross Value Added (AGVA) in Manufacturing is derived as a ratio of AGVA at current prices divided by real AGVA at constant prices derived as a sum of 2-digit industry specific real gross value added defined in g_{va} above.

(iii) Consumer Price Index for Industrial Workers (CPIIW): average of the months in a fiscal year (April-March).

(iv) Real Consumption wage: average wage per worker deflated by CPIIW defined in (iii).

Source: Tendulkar (2000a).

Table I.8: Average Daily Wage Earnings Received by Adult (15-59) Casual Wage Labourers in Rural India by Gender and Activity at Constant 1993-94 Prices: All-India, 1983, 1993-94 and 1999-2000.

Activity	Rural Males			Rural Females			Rate of Growth of Real Wages (Percent Per Annum)			
(Operation codes)	1983	1993-94	1999-2000	1983	1993-94	1999-2000	Rural Males		Rural Females	
							1993-94/1983	1999-2000/93-94	1993-94/1983	1999-2000/93-94
1. Manual Work in Cultivation (1-6)	15.89	20.85	24.80	11.00	14.88	17.75	2.62	2.93	2.92	2.98
2. Manual Work in Other Agricultural Work (7-11)	18.59	24.37	29.06	10.86	16.39	19.68	2.61	2.98	4.00	3.10
3. Manual Work in Agriculture (1-11)	16.26	21.59	25.44	10.98	15.12	17.98	2.74	2.77	3.09	2.93
4. Non-Manual Work in Agriculture (13-14)	14.23	22.61	27.75	11.81	15.61	18.83	4.51	3.47	2.69	3.18
5. Casual Labour in Agriculture (1-11, 13-14)	16.24	21.60	25.48	10.99	15.12	17.99	2.75	2.79	3.09	2.94
6. Manual Work in Non-Agriculture (12)	23.64	NA	38.03	11.47	NA	23.75	NA	NA	NA	NA
7. Non-Manual Work in Non-Agriculture (14)	22.51	30.15	36.14	11.43	17.46	22.83	2.82	3.07	4.12	4.57
8. Casual Labour in Non-Agriculture (12-14)	23.52	30.15	37.49	11.47	17.46	23.49	2.39	3.70	4.08	4.07
9. Casual Labour in All Activities	17.87	23.18	28.65	11.07	15.33	18.51	2.51	3.59	3.15	3.19
10. Public Works	19.44	24.65	30.89	12.14	18.52	24.87	2.29	3.83	4.10	5.04

Notes: Adjustment for inflation has been made by reference to Consumer Price Index for Agricultural Labourers
CPIAL: 1960-61=100 1983: 511; 1993-94: 1147
CPIAL: 1986-87=100 1993-94: 194.74; 1999-2000: 309.

Source: Sundaram (2001b)

Table I.9: Average Wage Earnings per day received by Adult (15-59) Casual Wage Labourers in Urban Areas by Industry and Gender: All-India 1993-94 - 1999-2000

Average Daily Earnings
(Rs.0.00)

Industry Group	Urban Males			Urban Females		
	1993-94	1999-2000 (at 1993-94 prices)	Rate of Growth percent per annum	1993-94	1999-2000 (at 1993-94 prices)	Rate of Growth percent per annum
0	25.50	30.29	2.91	16.49	19.64	2.96
1	29.60	47.81	8.32	22.59	34.80	7.47
2-3	33.27	40.19	3.20	16.09	26.07	8.38
4	39.09	45.23	2.46	23.17	NA	NA
5	37.62	42.34	1.99	24.84	30.61	3.54
6	28.67	34.28	3.02	21.31	28.84	5.17
7	34.65	39.06	2.02	19.93	30.69	7.46
8	28.57	40.35	5.92	31.43	30.00	(-) 0.77
9	28.16	34.06	3.22	19.31	17.75	(-) 1.39
1-9	33.79	39.75	2.74	19.51	24.94	4.18
0-9	32.38	38.53	2.94	18.49	23.28	3.91

Notes: Adjustment for inflation between 1993-94 and 1999-2000 has been made by reference to Consumer Price Index for Industrial Workers (CPIIW with base 1982=100). The value of CPIIW (monthly figures averaged over the 12-months, July thru June of the Survey Year) for 1993-94 and 1999-2000, were, respectively, 264 and 433.33.

Sources: 1993-94: Sarvekshana, Vol. 20, No. 1, July-Sept. 1996.
1999-2000: NSSO (2000)
(Table taken from Sundaram (2001a))

Table I.10: India: Age Specific Usual Status (PS+SS) Worker Population Ratios By Rural Urban Residence and Gender 1983 to 1999-2000

Age-Group	Rural Males				Rural Females			
	1983	1987-88	1993-94	1999-2000	1983	1987-88	1993-94	1999-2000
5-9	25	23	11	6	23	24	14	7
10-14	238	190	138	91	224	182	141	96
15-19	644	600	577	503	433	399	364	304
20-24	884	872	859	844	483	465	456	409
25-29	963	959	957	950	540	523	525	491
30-34	985	982	983	979	577	577	585	555
35-39	987	986	989	984	606	596	608	579
40-44	982	979	987	983	611	610	606	586
45-49	980	978	983	980	589	580	594	566
50-54	957	959	970	953	526	523	542	515
55-59	921	928	942	929	476	459	467	450
60+	662	668	699	639	227	218	241	218
All	543 (564)	539 (546)	553		330 (346)	323 (333)	328	
Age-Group	Urban Males				Urban Females			
	1983	1987-88	1993-94	1999-2000	1983	1987-88	1993-94	1999-2000
5-9	7	5	5	3	7	3	5	2
10-14	106	85	66	49	64	65	45	36
15-19	398	355	356	314	144	146	123	105
20-24	710	674	674	658	182	185	180	155
25-29	913	914	904	883	222	223	224	194
30-34	964	969	964	960	290	272	301	235
35-39	981	981	983	975	290	309	301	285
40-44	978	983	981	974	305	308	320	283
45-49	972	973	973	969	283	306	317	267
50-54	939	938	942	935	269	268	286	262
55-59	837	845	856	809	230	234	226	207
60+	508	480	442	402	124	123	113	94
All	510 (538)	506 (526)	521		146 (155)	152 (159)	155	

Note: Figures in parentheses show the crude WPRs that would have been observed if the age distribution of the surveyed population in 1983 and 1987-88 had been the same as was reported by the 1993-94 survey.

Sources: For 1983, and for age-standardised WPR for all ages for 1983 and 1987-88: P. Visaria, "Employment and Work force in India: Implications for National Income Estimates", mimeo, July 1998.For 1987-88, Sarvekshana, Spl. No. September 1990.1993-94: Sarvekshana Vol. 20, no. 1, 68th Issue, July-September 1996.For 1999-2000: NSSO: Employment and Unemployment in India 1999-2000 Key Results NSS 55 Round July 1999-June 2000, December 2000. (Table taken from Sundaram (2001b)

Table I.11: Dimensions of Unemployment by Gender and Rural-Urban Location: India: 1993-94 - 1999-2000

Panel A: Current Daily Status Unemployment Rates

	Rural Males	Rural Females	Urban Males	Urban Females
1983	75	70	72	110
1993-94	56	56	67	105
1999-2000	72	68	72	98

Panel B: Usual Status Unemployment Rates for the Educated

(Per 1000)

Segment	Secondary and Above		Graduate and Above	
	1993-94	1999-2000	1993-94	1999-2000
Rural Males	89	69	134	107
Rural Females	243	204	323	351
Urban Males	69	66	64	66
Urban Females	207	163	203	163

Source: Table 16, NSS Employment Report, December 2000.
(Table taken from Sundaram (2001a))

Table I.12: Activity-Status Distribution of person-days per year of Usually Employed (Principal plus Subsidiary Status) Workers by Gender and Rural-Urban Location: All-India, 1993-94 - 1999-2000.

Person-days Per year

Activity Status	Rural Males		Rural Females		Urban Males		Urban Females	
	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000
At Work	331	327	241	246	345	343	279	288
Unemployed	15	19	11	15	10	10	9	8
Outside Labour Force	19	19	112	103	9	11	76	68

Notes and Sources: The above numbers are based on Table 22 of the NSS Employment Report (Dec. 2000) on: Per 1000 distribution of person-days of Usually employed (principal and subsidiary status) by their broad current daily status for various survey periods.

Table I.13: Age-specific Student-Population Ratios by Gender and Rural-Urban Location in India: 1993-94 - 1999-2000

Student-Population Ratios

(Per 1000)

	Rural Males		Rural Females	
	SPRs		SPRs	
Age-group	1993-94	1999-2000	1993-94	1999-2000
5-9	670	707	561	631
10-14	743	777	546	635
15-19	368	413	190	258
20-24	80	86	19	29

	Urban Males		Urban Females	
	SPRs		SPRs	
Age-group	1993-94	1999-2000	1993-94	1999-2000
5-9	841	838	801	810
10-14	866	873	812	821
15-19	559	585	490	517
20-24	205	218	122	158

Source: 1993-94: Sarvekshana Vol.20, No.1, July-Sept. 1996.
1999-2000: Employment and Unemployment in India 1999-2001 Key Results, NSS 55th Round (July 1999-June 2000), NSSO, GOI, December 2000.

Table I.14: Estimated Average yearly "Wage Earnings" Per Worker and Per Capita (at Constant 1993-94 Prices) in Rural and Urban India: 1993-94 - 1999-2000

		Rural Males	Rural Females	Rural Persons	Urban Males	Urban Females	Urban Persons
Population ('000)	1993-94	339,360	317,950	657,310	125,200	112,590	237,790
	1999-2000	367,240	344,640	711,880	147,440	135,010	282,440
Work Force ('000)	1993-94	187,660	104,290	291,950	65,100	17,340	82,440
	1999-2000	195,000	103,050	298,050	76,370	18,770	95,140
Average No. of Days worked	1993-94	331	241	NA	345	279	NA
	1999-2000	327	246	NA	343	288	NA
Average Daily Wage Earnings of Casual Labour (all ages)	1993-94	23.18	15.33		31.81	18.07	28.15
	1999-2000	23.65			37.93	22.97	34.70
Yearly "Wage Earnings" (Rs. Crores)	1993-94	143984	38530	182514	71444	8742	80185
	1999-2000	182687	46923	229610	99357	12417	111774
Earnings Per Worker (Rs.)	1993-94	7673	3695	6252	10975	5042	9726
	1999-2000	9369	4553	7704	13010	6615	11748
Earnings Per Capita (Rs.)	1993-94	4243	1212	2777	5706	776	3372
	1999-2000	4975	1362	3225	6739	920	3958
Rate of Growth (Percent Per annum) Earnings Per Worker		3.38 (3.14)	3.54 3.41)	3.54	2.88	4.63	3.20
Rate of Growth (Percent Per annum) of Earnings Per Capita		2.69 (2.54)	1.96 (2.01)	2.52 (2.35)	2.81	2.86	2.70

Notes: Inflation-Adjustment for Rural India has been made by reference to Consumer Price Index for Agricultural Labourers (CPIAL with base 1986-87 = 100). For Urban India, this adjustment has been made by reference to Consumer Price Index for Industrial Workers (CPIIW with base, 1982=100)
Source: Sundaram (2001a)

Table I.15: Estimates of Headcount Ratios for 1983, 1993-94 and 1999-2000

S.No.	Description	1983	1993-94		1999-2000	
		URP	URP	MRP	CES	EUS
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A.	Rural Population					
A.1	All India	49.02	39.61	37.87	29.10	36.35
A.2	Average for 15 major states	51.24	42.97	39.62	31.96	39.40
B.	Urban Population					
B.1	All India	38.33 (0.8)	30.87	28.84	23.52	28.76
B.2	Average for 15 major states	40.99 (-7.67)	33.32	31.20	24.96	30.39
C.	Total (Rural plus Urban) Population					
C.1	All India	46.47 (-9.16)	37.31	35.50	27.57	34.26
C.2	Average for 15 major states	48.77 (-8.27)	40.50	37.47	30.07	36.99

Notes:

1. URP: Uniform Reference period of 30-days for all-items of consumer expenditure
   MRP: Mixed Reference period: 30-days for all items except clothing, footwear, durables and institutional health facilities for which 365 day reference period was used
   CES-30 days: Consumer Expenditure Survey based estimate based on MRP as explained above
   EUS: Estimate based on employment-unemployment schedule (see text for discussion on comparability of alternative estimates).
2. Line 1 in each panel is based on all India poverty line and all India size distribution for all the states and the union territories in India covered in National Sample Surveys.
3. Line 2 in each panel is aggregated estimates for fifteen major states. For each state the estimated headcount ratio is based on state specific size distribution and all India poverty line corrected for state specific price changes so that price adjusted poverty lines differ for different states.
4. Fifteen Major States are Andhra Pradesh (AP), Assam (ASM), Bihar (BHR), Gujarat (GJT), Haryana (HRY), Karnataka (KTK), Kerala (KRL), Madhya Pradesh (MP), Maharashtra (MH), Orissa (ORS), Punjab (PNB), Rajasthan (RJN), Tamil Nadu (TN), Uttar Pradesh (UP) and West Bengal (WB).

Sources: 1.Columns (3), (5) and (6) based on published NSS Reports.
2.Column (4) is based on authors' calculations from the unit level records.
(Table taken from Sundaram (2001b))

II. Poverty in Labour Households and the Labouring Poor

II.1 Two Perspectives on the Working Poor

We examine the contours of the working poor in India from two perspectives.

In the first perspective, we examine the extent of poverty in households differentiated by their principal means of livelihood. This would highlight the significantly higher headcount ratios in households that are overwhelmingly dependent on the earnings from manual labour and the fact that even now they account for over fifty five percent of poor households in rural India. Even in urban India, where the proportion of households depending on casual labour as their principal means of livelihood form only 14 percent of all households, such households account for a little over 30 percent of the households below the poverty line in urban India.

In the rural context, the National Sample Surveys distinguish five household types by reference to their principal means of livelihood:

Self-employed in Agriculture;
Self-employed in Non-Agriculture;
Agricultural Labour;
Other Rural (Manual) Labour; and,
Others, a residual non-manual category requiring skill or education.

In urban areas, the livelihood categories distinguished are: (i) Self-employed; (ii) Regular wage/salaried workers; (iii) Casual Labour; and, a residual category of, (iv) Others.

In Tables II.1, and II.2, we present comparable estimates of headcount ratios i.e. proportion of *households* below the poverty line by type of households on the major means of livelihood criterion and the share of each type of households in total households and in households below the poverty line for, respectively, the rural and the urban areas of the country. For rural India, these estimates are presented for three time points: 1983, 1993-94 and 1999-2000, while for urban, estimates for comparable categories are only available for 1993-94 and 1999-2000.

In order to handle the problems of comparability of poverty-estimates over time, discussed in the Appendix, we present for 1993-94 two sets of estimates based, respectively, on a uniform reference period of 30 days for all items of expenditure (URP for short) from published sources that are directly comparable with the estimates for earlier survey for 1983, and, a specially computed comparable estimate computed (from Unit Record Data) with a mixed reference period (MRP for short) that will be comparable, at least in respect of the reference period used, with the estimates for 1999-2000.

Looking at changes over time, we find a welcome reduction in the head count ratios in all household types in rural India. Starting from a very high level (63 percent) in 1983, the head count ratio in Agricultural Labour households declined sharply to a little under 52 percent (on URP) in 1993-94. On a comparable (MRP) basis, there has been a further decline, by a little over 3 percentage points, in the poverty prevalence rates in these households between 1993-94 and 1999-2000[7].

In Urban India too, the casual labour households experience a two-percentage point decline in head count ratio between 1993-94 and 1999-2000.

It is important to note that, despite the decline in poverty ratios noted above, aided by a 2 percentage point rise in their share of all rural households, the share of agricultural labour households in poor households in rural India has increased by close to three percentage points between 1993-94 and 1999-2000 and a full six percentage points since 1983. As on 1st January 2000, they accounted for nearly half of the poor households in rural India. In Urban India, the decline in poverty ratios for the casual labour households has been inadequate to offset the small rise in the share of such households in all households and their share in poor households in urban India also increases slightly (by 6 points per 1000).

As will be evident from the Tables, with a share of nearly forty percent in poor households in urban India and a 37 percent share in rural households below the poverty line, households dependent on the returns from self-employment - in agriculture and outside agriculture - are a significant part of the poverty situation in India. So that, poverty among (wage-) labour dependent households can only provide a partial picture about the labouring poor[8]. The rest of this section is therefore focused directly on all the workers (and the unemployed) located in households that fall below the poverty line.

II.2 The Labouring Poor

We begin this discussion with a consideration of the demographic factors that shape the overall worker - (or labour force) population ratios in the poor and the non-poor households and, therefore, also determine the size of the population of the labouring poor. We focus on two elements: the child-dependency ratio and the child-woman ratio.

[7] Given that our 1999-2000 estimates are based on the 55th Round Employment-Unemployment Survey with an abridged schedule for recording household consumption which tends to understate the actual consumption, these estimates should be viewed as upper bound estimates of poverty. So that, it is likely that the decline in the head count ratios for the agricultural labour households would be more than the 3 percentage point decline indicated in the text.

[8] The labouring poor would cover those classified as workers as well as those classified as unemployed (i.e. those seeking or available for work) on the usual (principal plus subsidiary) status categorisation by reference to a long reference period (365 days preceding the survey) and are located in households below the poverty line. Though the usual status unemployment rates are not high, especially in the poor households, currently, the unemployed add about one million each in rural and urban India to the size of the labouring poor.

Given the fact that the worker-population ratios (WPRs for short) for children (i.e. those in the age-group 0-14) ought to be, and in fact are, much lower than those for the adults in the 15-64 age-group, the larger the ratio of children to adults (in the 15-64 age-group) i.e. the larger the child-dependency ratio, the lower, *ceteris paribus*, will be the overall (or crude-) work force (and labour force) participation rate.

The second facet of the demographic composition of households that is relevant in the present context is the child-woman ratio (CWR) or the ratio of the number of children in the 0-4 age group to the number of women in the reproductive age group of 15-49. Generally used as a measure of fertility, CWR can also be viewed as a factor that constrains the participation in the labour force of women who, typically, have to carry the primary burden of child rearing and for whom, therefore, the demands on their time for child care are often met by reduced participation in labour force.

Table II.3 provides the details of the demographic composition of the poor and the non-poor households in rural and in urban India for 1993-94. We have at once a striking result.

In both rural and urban India the child-dependency ratios are significantly higher - by close to or above thirty percentage points - in the poor relative to the non-poor households. The child-woman ratios in the poor households too are higher (relative to those in the non-poor households) by about 28 percentage points. As we shall see presently, the much higher child-dependency ratio in the poor households has kept the cruder worker-population rates for males (as also that for persons) in poor households well below that for the households above the poverty line. Does this also happen for the females in poor households?

Table II.4 provides the estimates of WPRs by gender and rural-urban location separately for the poor and the non-poor households for 1993-94 and 1999-2000.

As noted above, for males and for persons, the WPRs in poor households are lower - by between 5 and 6 percentage points for males - relative to the WPRs in the non-poor households.

In the case of women, however, both in rural and in urban India, on the average, WPRs of women in the poor households are higher than that in the households above the poverty line. That this should occur despite the considerably higher child-dependency ratio and the higher child-woman ratio in the poor households would suggest the presence of a measure of what may be called compelling need-based participation in work force where it is their poverty status that, *ceteris paribus*, drives them to greater work participation[9].

[9] For an early exploration of the relationship between female labour force participation rates, fertility-burden, average level of living and asset-base, see, Sundaram (1989b).

Caution needs to be exercised in directly comparing the changes in WPRs in the two sets of households between 1993-94 and 1999-2000[10]. Nevertheless, it is significant that, at least in rural India, the WPRs of women in poor households are now (in 1999-2000) at least on par with that of women in the non-poor households. In urban areas, the differentials have narrowed down somewhat but, even now, the WPRs of women in the non-poor households are lower than that of women in the poor households by a little over three percentage points.

Related to this issue of the WPR-differentials across the poor-non-poor divide by gender is the question of the sex composition of the work force in the two types of households. In economic environments characterised by lower returns to labour for women relative to that for men - due to structure of industry/occupations in which they are engaged and/or differential returns for the same activity - a larger proportion of women workers to total workers could itself become a factor raising the probability of a household falling below the poverty line[11]. Seen in this perspective it is significant that the share of women workers to total workers in the poor households is noticeably higher than the corresponding proportion in the non-poor households. This holds true for both the rural and the urban populations and is so in both years: in rural India this differential is of the order of 5 percentage points, while in urban India the share of women workers in the work force in poor households is higher by between 8 and 9 percentage points.

We turn now to a presentation and discussion of our estimates of the labouring poor in India.

At the outset, it is important to stress that all our estimates of the size of the work force, in poor households as well as all households, fully reflect the results of the 2001 Population Census in respect of the underlying estimates of population in the four segments - rural males, rural females, urban males and urban females - for the mid-points of the survey years (July-June) 1993-94 and 1999-2000[12].

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[10] It needs to be noted that, in addition to the problems of comparability arising from the use of the "abridged schedule" in the Employment-Unemployment Survey for 1999-2000 we had noted previously, the estimates of WPRs for 1993-94 presented in Table II.4 relate to households classified as poor (and non-poor) by reference their consumption on a uniform reference period rather than the mixed reference period based estimates for 1999-2000. However, directional comparisons would still appear to be in order: for, if the use of the "abridged schedule" may be expected to classify more households as poor than would have been the case if the detailed consumer expenditure schedule had been canvassed in 1999-2000, the use of the URP-based estimates overstates the comparable poverty ratios for 1993-94.

[11] Our PROBIT-model analysis of household-level data on the poverty-status of labour households in Madhya Pradesh in fact confirms this hypothesis. See section III.

[12] The underlying population estimates are drawn from Sundaram (2001,c). At this point, it should also be noted that our estimates of work force in all households presented in this section differ slightly from those reported in the earlier section. While the work force estimates reported in the previous section were obtained by multiplying the estimated population by the survey estimate of the worker-population ratio (per 1000), in deriving the work force estimates by activity category and size class of monthly per capita consumer expenditure in this section, we have directly scaled up the estimated population in each category (as given in the published reports) to match our census-based estimates of total population. This difference only affects the size but not the structure of the work force.

In Tables II.5 and II.6 we present, respectively for rural and urban India, the distribution of the total population in all households (the poor and the non-poor) as well as those located in households below the poverty line - the population of the poor - by gender and labour force status. In each Table, Panel A presents the estimates for 1993-94 while the estimates for Panel B relate to 1999-2000.

Let us first examine the situation as on 1st January 1994.

As per our estimates, in rural India there were close to 289 million people living below the poverty line - about 51 percent of them males. A little over 42 percent, or about 110 million people in the below poverty-line (BPL for short) households, were in the work force, with another 0.8 million being classified as unemployed. So that, in rural India, the size of the labouring poor would be 110.5 million.

The corresponding estimates for urban India, for the number of poor and the numbers in the work force and the labour force in poor households are, respectively, 70.8 million; 23.8 million and 24.7 million.

Taking the rural and the urban population together and netting out the unemployed, **our estimate of the number of working poor as on 1st January 1994 is 133.5 million** or over 37 percent of the total work force.

In terms of gender composition, the share of women in the working poor (36.7 percent) is about 4 percentage points higher than their share in the total work force reflecting the fact that the poverty prevalence rates among women workers are greater than those for male workers in both rural and the urban areas (with HCRs of 40.6% and 35.8 percent for females and males in rural India, and 38.1 and 26.9 percent in urban India).

Similarly, the workers in rural India are over-represented in the working poor. While their share in the total work force is 78.2 percent, their share in the working poor, at 82.2 percent, is four percentage points higher. The underlying factor is the same: a higher poverty ratio for rural workers (37.5 percent) relative to their urban counter parts (27.0 percent).

What is the current (1999-2000) situation?

As explained in the appendix, BPL households calculated from the employment-unemployment survey (EUS) which uses the abridged schedule of consumer expenditure provide an upper bound of BPL households. Keeping this important proviso in mind, we examine the size of the labouring poor on the basis of panel B in Table II.5 (rural) and II.6 (urban). The labouring poor amounted to 104.8 million in the total rural labour force of 308.3 million or 34 percent) and 26.4 million out of the total urban labour force of 98.3 million (or 26.8 percent) in 1999-00. The rural component accounted for 80 percent of the total (rural plus urban) labouring poor. Labouring poor accounted for 40 percent in the rural and 33 percent in the urban population of persons in BPL households for the

entire population of (poor plus non poor) households these ratios were higher at 42 percent (rural) and 35.5 percent (urban)[13].

Comparing the estimates in Panel B with those in Panel A of Tables II.5 and II.6, we find a reduction in the number of the working poor in rural India by a little over 6 million - more or less evenly divided between males and females. This is partly offset by an increase of the order of 1.5 million in the number of the working poor in urban India. Significantly, this overall increase in the number of working poor in urban India is made up of a small decline in the number of women workers in below poverty line households (of 0.2 million) and an increase in the number of males in this category by 1.7 million.

Overall, taking both segments together, there is a decline in the number of the working poor in the country as a whole: from 133.5 million in 1993-94 to 128.8 million in 1999-2000 i.e. by 4.7 million. Also, the share of women workers in the working poor has come down - from 36.7 percent to 35.4 percent - over the same period. The rural share too has come down (from 82.2 to 80.4 percent) between 1st January 1994 and 1st January 2000[14].

Table II.7 presents our estimates for 1993-94 of the rural workers in all households and in poor households classified by the broad activity categories distinguished in the survey. This is presented separately for males and females.

This information is reclassified to obtain the composition of the workers in the poor and the non-poor households by gender and broad activity composition. This is presented in Table II.8.

This brings out a significant feature of the working poor in rural India: the proportion working in mainly self-employed activities, at 47 percent is only marginally lower than the proportion of them working as casual labourers.

In contrasting the activity composition of the working poor with that of the workers located in non-poor households, two points emerge.

First, the share of the casual labourers in the working poor is substantially higher (by 22 percentage points) than their share in the work force of the non-poor households. Predominantly, this reflects a much greater proportion of the self-employed among the workers located in above poverty line (APL for short) households.

[13] Also see footnote 7 on aspects of comparability.

[14] Since the share of women (and of rural areas) in the total work force has also come down to 31 (76.4) percent over the same period, both women and the rural areas continue to be over-represented among the working poor. Both segments of the population continue to report higher poverty ratios than their (male/urban) counterparts. Thus, the proportion of rural workers below the poverty line at 34 percent is considerably higher than the 27 percent reported for the urban workers. Similarly, at 37 and 35 percent (in rural and urban areas respectively) poverty ratios for women workers are higher than those for male workers: 32 and 25 percent.

Secondly, the proportion of those employed as regular wage/salaried employees in non-agriculture is significantly higher (by five percentage points) in the non-poor households relative to those in the BPL-households. As we shall see in the next section, in labour households, the absence of even one such regular wage/salaried workers in non-agriculture in a household significantly raises the probability of such a household falling below the poverty line.

Parallel estimates of the number of workers in all households and in poor households and of the per 1000 distribution of the workers in the poor and the non-poor households, by gender and broad activity in rural India for 1999-2000 are presented in Tables II.9 and II.10.

We had noted above an absolute reduction in the number of working poor in rural India of the order of 6.2 million between 1993-94 and 1999-2000. When we examine the changes in the number of working poor by activity categories, we have a striking result.

Leaving aside the category of casual labour in public works where there is a small (0.3 million) reduction in the number of workers in poor households, **there has been an increase in the number of working poor engaged in non-agricultural activities**. And, this is true for the self-employed as well as the casual labourers. And, even in the category of regular wage/salaried employees in non-agriculture, there is an increase (albeit marginal) in the number of the working poor. Overall, excluding the casual labourers in public works, there is an increase in the number of non-agricultural workers in BPL households of the order of 1.7 million.

In contrast to the workers in non-agriculture, workers in agriculture - be they self-employed or regular wage/salaried employees or casual labourers - there is a clear reduction in the number of such workers located in rural households below the poverty line.

The self-employed, as a group, form the major contributor to the reduction in the number of the working poor in rural India. There is a reduction of a little over 6.6 million in the number of self-employed workers in agriculture who are located in poor households. This reduction is partly facilitated by the reduction in the total number of self-employed workers in agriculture in rural India: from 137.9 million in 1993-94 to 133.9 million in 1999-2000. However, the reduction, by about 4 percentage points, in the head count ratios in the group, has also played an important role. (See Table II.11).

The role of the (sharp) decline in head count ratios in reducing the number of the working poor can be seen more clearly in the case of the casual labourers engaged in agriculture.

Given the fact that between 1994 and 2000 the number of casual labourers in agriculture in rural India increased from 88.3 to 94.7 million, if the head count ratio among such workers had remained unchanged at the 1993-94 level of 60.7 percent, the number of such workers in the below-poverty-line (BPL for short) households would

have increased by a little over 3.8 million. Instead, thanks to a reduction in the head count ratio among such workers (to 49.9 percent in 1999-2000), the number of casual labourers in agriculture in BPL households declined by 0.8 million between 1993-94 and 1999-2000. As we had seen in the earlier section this significant reduction in head count ratio among such workers in rural India has been made possible by the strong growth in real wages experienced by casual labourers in rural India. (Table I.8).

In terms of the broad activity composition of the working poor, the situation in 1999-2000 (See Table II.10) reflects the growing share of casual labourers in the total rural work force. For casual labourers in agriculture and the casual labourers in non-agriculture, this increase was of the order of about 1 percentage point each. This is partially offset by a decline in the share of casual labourers in Public Works, so that we have an overall increase of 1.7 percentage points in the share of casual labourers as a group. In the case of the working poor in rural India, the share of casual labourers, as a group, has increased from about 49 percent to 52 percent with a 2-percentage point rise in the share of casual labourers in agriculture in the working poor. This is despite the sizeable reduction in the poverty ratios for this class of workers that we had noted above.

With an unchanged share of the regular wage/salaried workers (a little over 3 percent), the rise in the share of casual labourers in the rural working poor is matched by a decline in the share of the self-employed as a group. However, reflecting the rise by a little over 1 million in the number of self-employed workers in non-agricultural activities located in poor households (in a situation where there has been a reduction in the total number of working poor), the share of the self-employed in non-agriculture in the working poor has increased by a little over one percentage point.

The broad pattern of change - rise in the share of casual labourers and a fall in the share of the self-employed - noted above for the working poor also holds true for the workers located in above-poverty line (APL for short) households.

The significantly higher share of the regular wage/salaried employees in the non-agricultural sector among the workers in APL families (relative to their share in the working poor) continues to be true in 1999-2000: if any thing, this divergence has increased slightly.

We turn next to an examination of the activity-composition of the working poor in urban India and the changes therein between 1993-94 and 1999-2000 (See Tables II.12, II.13, II.14; and II.15).

Unlike in rural India, it is the self-employed, as a group, rather than casual labourers, who have the largest share of the working poor in urban India. With a share of a little under 34 percent (compared to the 45 percent share of the self-employed), casual labourers have a distinctly lower share among the working poor. Also, as one would expect in the urban context, workers in non-agricultural activities, with a 79 percent share, dominate the working poor.

Another significant feature of the activity composition of the working poor in urban India is the fact that regular wage/salaried employees account for more than one-fifth of the working poor. As can be seen from Table II.13, a little over 16 percent of such workers are located in poor household in urban India. Having said that, it is also true that such regular wage/salaried workers, with a 47 percent share, form the largest group among the workers in the non-poor households. Also, as in the case of rural India, the share of such workers among the working poor is distinctly smaller (by 25 percentage points) than their share among the non-poor workers.

In terms of changes over the 1990s, as we had noted earlier, the number of the working poor in urban India has increased by a little over 1.5 million. In terms of the three broad activity groups - self-employment, regular wage/salaried employment, and casual labour - there is virtually no change between 1993-94 and 1999-2000 in the activity-composition of the working poor in urban India.

Before we conclude this discussion of the working poor in India, we wish to focus on the differences in the educational characteristics of the working poor and the workers in the above-poverty line households. We present in Table II.16 a distribution of usual status workers located in poor and non-poor households by level of education, gender and rural-urban location for 1993-94. The contrasts by poverty status (for given gender and location), by gender (given location and poverty status) and by rural-urban location (given gender and poverty status) are rather striking.

Consider first the poor-non-poor contrast. In rural India, the proportion of illiterate workers in poor households (i.e. among the working poor) is 20 percentage points more than that among the workers in the non-poor households.

Further, among the workers in non-poor households, the proportion with education up to and above secondary level of education (about 25 percent) is much higher - relative to the 10 percent share among the working poor.

The above noted contrasts in the education levels of the working poor and of the workers in the non-poor households are even sharper in urban India. Thus, while 45 percent of the working poor are illiterates, the proportion of illiterates among the workers in non-poor households is much lower at 17 percent. Equally, if not more significant is the fact that while the proportion of workers with above secondary level of education is less than 5 percent among the working poor, close to 28 percent of the workers in the non-poor households have this level of education.

The gender contrasts too are rather stark. Among the working poor in rural India, the proportion of illiterates among women workers (at 87 percent) is higher than the corresponding proportion among males by nearly 30 percentage points. Even among the workers in non-poor households in urban India the share of illiterates among women workers is nearly three times as large as the proportion of illiterates among male workers in these households.

Across the rural-urban divide, both for males and females and in both poor and non-poor households, the proportion of illiterate workers is smaller and the proportion of those with education up to or above secondary level is sharply higher in urban India.

As we shall see in the next section, the level of worker's education does matter in conditioning the probability of a household falling below the poverty line. **So that, the redress of inequalities in workers' education across gender and location is important - not only as a goal by itself but also as a key instrumental variable in reducing poverty.**

Table II.1: Poverty Ratios and Distribution of Poor by Means-of-Livelihood Categories of Households: All-India Rural 1983-1999-2000

Household Type	1983			1993-94 (URP)			1993-94 (MRP)			1999-2000 (EUS)		
	Share in All-hhlds (Per 1000)	HCRs (percent)	Share in Poor hlds (Per 1000)	Share in All-hlds	HCRs (percent)	Share in Poor hlds	Share in All-hlds (per 1000)	HCRs (percent)	Share in Poor hdds (per 1000)	Share in All-hlds (per 1000)	HCRs (percent)	Share in Poor hlds (Per 1000)
Self-Employed in Agriculture	407	38.63	343	379	27.97	298	379	25.37	286	327	24.12	251
Self-Employed in Non-Ag.	117	42.51	108	127	30.06	107	127	28.17	106	134	27.00	115
Agricultural Labour	307	62.83	420	303	51.71	441	303	50.30	454	322	46.96	480
Other Labour	66	43.78	63	80	35.78	80	80	33.29	79	80	29.24	74
Others	103	29.29	66	11	23.46	74	111	22.42	74	137	18.38	80
All	1000	45.89	1000	1000	35.57	1000	1000	33.60	1000	1000	31.48	1000

Source: All the tables in this section that follow are based on the calculations of the authors based on the unit level records of the 50th round (1993-94) and 55th Round (1999-2000) of the National Sample Surveys on Employment and Unemployment.

Table II.2: Poverty-Prevalence Rates in Households Classified by Means of Livelihood and their Share in all Households and Poor Households: All-India Urban: 1993-94 - 1999-2000

Household Type	1993-94 (URP)			1993-94 (MRP)			1999-2000 (EUS)		
	Share in All-hlds	HCRs	Share in Poor hlds	Share in All-hlds	HCRs	Share in Poor hdds	Share in All-hhlds	HCRs	Share in Poor hhlds
Self-Employed	337	28.94	388	337	26.38	381	345	25.49	387
Regular Wage/Salaried	433	14.66	253	433	13.04	243	418	12.30	226
Casual Labour	135	51.85	278	135	51.24	296	140	49.09	302
Others	95	21.10	80	95	19.56	80	97	20.00	85
All	1000	25.10	1000	1000	23.29	1000	1000	22.73	1000

Table II.3: Demographic Composition of Poor & Non-Poor Households in Rural and Urban Areas: All-India, 1993-94

(Percent)

	Share in Population			
	Rural		Urban	
	Poor	Non-Poor	Poor	Non-Poor
1. Male Child (0-14)	22.66	17.61	21.46	15.70
2. Girl Child (0-14)	20.93	15.32	20.60	13.55
3. Adult Male (15-64)	26.26	32.12	27.43	35.85
4. Adult Female (15-64)	26.69	30.50	27.14	31.07
5. Old	3.46	4.44	3.36	3.84
6. Child-Dependency Ratio ((1+2) % (3+4) x1000)	823	526	771	437
7. Child Woman Ratio (Per 1000)	705	426	610	

Table II.4: Worker-Population Ratios by Gender, Poverty-Status and Rural-Urban Location: All-India, 1993-94 - 1999-2000

Worker-Population Ratios
(Per 1000)

	Rural				Urban			
	Poor Household		Non-Poor Households		Poor Household		Non-Poor Households	
	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000
Males	512	485	578	556	479	471	533	536
Females	333	297	324	297	188	162	140	129
Persons	424	379	457	329	336	318	351	347
Share of Female Workers in Work Force	387	379	340	329	275	251	185	173

Notes: Worker-Population Ratios are based on the Usual (Principal plus Subsidiary) Status Categorisation

Table II.5: Distribution of Population in All Households and Poor Households by Gender and Labour Force Status: All-India, Rural: 1993-94 - 1999-2000

Panel A: 1993-94

('000)

Labour Force Category	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Workers	187,749	104,708	292,457	**67,236**	**42,508**	**109,744**
Unemployed	2,719	831	3,550	663	128	791
Labour Force	190,468	105,539	296,007	67,899	42,636	110,535
Outside Labour Force	149,135	213,883	363,018	63,296	85,029	148,325
Total Population	339,603	319,422	659,025	**131,195**	**137,665**	**258,860**

Panel B: 1999-2000

Population by Labour Force Status

('000)

Labour Force Category	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Workers	198.594	105,040	303,634	**64,315**	**39,249**	**103,564**
Unemployed	3,577	1,122	4,699	1,052	155	1207
Labour Force	202,171	106,162	308,333	65,367	39,404	104,771
Outside Labour Force	171,917	247,361	419,278	67,106	92,651	159,757
Total Population	374,088	353,523	727,611	**132,473**	**132,055**	**264,528**

Table II.6: Distribution of Population in All Households and Poor Households by Gender and Labour Force Status: All-India, Urban: 1993-94 - 1999-2000

Panel A: 1993-94

Population by Labour Force Status
('000)

Labour Force Category	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Workers	64,150	17,179	81,329	17,235	6,537	23,772
Unemployed	2706	1142	3848	695	199	894
Labour Force	66,856	18,231	85,087	17,930	6,736	24,666
Outside Labour Force	57,098	92,796	149,894	18,022	28,106	46,128
Total Population	123,954	111,027	234,981	35,952	34,842	70,794

Panel B: 1999-2000

Population by Labour Force Status

('000)

Labour Force Category	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Workers	75,405	18,192	93,597	18,935	6,341	25,276
Unemployed	3636	1096	4732	942	165	1107
Labour Force	79,041	19,288	98,329	19,877	6506	26,383
Outside Labour Force	66,484	111,662	178,146	20,366	32,619	52,985
Total Population	145,525	130,950	276,475	40,243	39,125	79,368

Table II.7: Distribution of Workers in All Households and Poor Households by Gender and Labour Force Status: All-India, Rural: 1993-94 - 1999-2000

Distribution of Workers by Activity
('000)

Activity	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	84,903	52,948	137,851	25,615	16,929	42,544
Self-Employed in Non-Agriculture	23,170	8491	31,661	6649	2735	9384
Self-Employed Total	**108,073**	**61,439**	**169,512**	**32,264**	**19,664**	**51,928**
Regular Wage/Salaried: Agriculture	2585	524	3109	1076	177	1253
Regular Wage/Salaried: Non-Agriculture	13,483	2280	15,763	1843	531	2374
Regular Wage/Salaried: Total	**16,068**	**2804**	**18,872**	**2919**	**708**	**3627**
Casual Labour: Public Works	621	374	995	361	243	604
Casual Labour: Agriculture	51,558	36,771	88,329	27,482	20,536	48,018
Casual Labour: Non-Agriculture	11,429	3319	14,748	4209	1357	5566
Casual Labour: Total	**63,608**	**40,464**	**104,072**	**32,052**	**22,136**	**54,188**
Total Work Force	**187,749**	**104,708**	**292,457**	**67,236**	**42,508**	**109,744**

Table II.8: Per 1000 Distribution of Workers in Poor and Non-Poor Households by Gender and Broad Activities: All India, Rural 1993-94

Per 1000 Distribution of Workers by Broad Activities

Activity	Poor Households			Non-Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	233	154	387	325	197	522
Self-Employed in Non-Agriculture	61	25	86	90	32	122
Self-Employed Total	**294**	**179**	**473**	**415**	**229**	**644**
Regular Wage/Salaried: Agriculture	10	2	12	8	2	10
Regular Wage/Salaried: Non-Agriculture	17	5	22	64	10	74
Regular Wage/Salaried: Total	**27**	**6**	**33**	**72**	**11**	**8**
Casual Labour: Public Works	3	2	5	1	0.7	1.7
Casual Labour: Agriculture	250	187	437	132	89	221
Casual Labour: Non-Agriculture	38	12	50	40	11	51
Casual Labour: Total	**292**	**202**	**494**	**173**	**100**	**273**
All Activities	613	387	1000	660	340	1000
Total Work Force (Males + Females)	**67,236**	**42,508**	**109,744**	**120,513**	**62,200**	**182,713**

Table II.9: Distribution of Workers in All Households and Poor Households by Gender and Broad Activities: All India, Rural 1999-2000

Distribution of Workers by Broad Activities
('000)

Activity	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	82,772	51,106	133,878	21,663	14,259	35,922
Self-Employed in Non-Agriculture	25,834	8962	34,796	7083	3309	10,392
Self-Employed Total	**108,606**	**60,068**	**168,674**	**28,746**	**17,568**	**46,314**
Regular Wage/Salaried: Agriculture	2463	659	3122	838	236	1074
Regular Wage/Salaried: Non-Agriculture	15,175	2663	17,838	1958	432	2390
Regular Wage/Salaried: Total	**17,638**	**3322**	**20,960**	**2796**	**668**	**3464**
Casual Labour: Public Works	450	170	620	189	95	284
Casual Labour: Agriculture	56,228	38,435	94,663	27,552	19,666	47,218
Casual Labour: Non-Agriculture	15,671	3045	18,716	5032	1252	6284
Casual Labour: Total	**72,349**	**41,650**	**113,379**	**32,773**	**21,013**	**53,786**
Total Work Force	**198,593**	**105,040**	**303,633**	**64,315**	**39,249**	**103,564**

Table II.10: Per 1000 Distribution of Workers in Poor and Non-Poor Households by Gender and Broad Activities: All India, Rural 1999-2000

Per 1000 Distribution of Workers by Broad Activities
('000)

Activity	Poor Households			Non-Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	209	138	347	305	184	490
Self-Employed in Non-Agriculture	68	32	100	94	28	122
Self-Employed Total	**278**	**170**	**447**	**399**	**212**	**612**
Regular Wage/Salaried: Agriculture	8	2	10	8	2	10
Regular Wage/Salaried: Non-Agriculture	19	4	29	66	11	77
Regular Wage/Salaried: Total	**27**	**6**	**33**	**74**	**13**	**87**
Casual Labour: Public Works	2	1	3	1	0.4	2
Casual Labour: Agriculture	266	190	456	143	94	237
Casual Labour: Non-Agriculture	49	12	61	53	9	62
Casual Labour: Total	**316**	**203**	**519**	**198**	**103**	**301**
All Activities	621	379	1000	671	329	1000
Work Force	**64,315**	**39,249**	**103,564**	**134,278**	**65,791**	**200,069**

Table II.11: Proportion of Population below the Poverty Line by Labour Force Category and of Workers by Activity Category, Gender, and Rural-Urban Location: All-India, 1993-94 - 1999-2000

Panel A: Rural
Head Count Ratio
(Percent)

	1993-94			1999-2000		
	Males	Females	Persons	Males	Females	Persons
I. Persons by LF Category						
Workers	**35.81**	**40.60**	**37.53**	**32.39**	**37.37**	**34.12**
Unemployed	24.37	15.39	22.27	29.42	13.85	25.67
Labour Force	35.65	40.40	37.35	32.33	37.12	33.99
Total Population	**38.63**	**39.97**	**39.28**	**35.41**	**37.35**	**36.36**
II. Workers by Activity						
S.E. Ag	30.17	31.97	30.86	26.18	27.90	26.84
S.E. Non-Ag	28.70	32.21	29.64	27.42	36.93	29.89
S.E. Total	**29.85**	**32.01**	**30.64**	**26.47**	**29.25**	**27.47**
RWS Ag	41.60	33.72	40.27	34.04	35.83	34.42
RWS Non Ag	13.67	23.29	15.07	12.90	16.20	13.40
RWS Total	**18.17**	**25.24**	**19.22**	**15.85**	**20.10**	**16.53**
CL Public Works	58.17	64.96	60.72	41.96	55.98	45.88
CL Ag	53.30	55.85	54.36	49.00	51.17	49.89
CL Non Ag	36.83	40.88	37.74	32.11	41.11	33.59
CL Total	**50.39**	**54.70**	**52.07**	**45.30**	**50.45**	**47.20**
Total WF	**35.81**	**40.60**	**37.53**	**32.39**	**37.37**	**34.12**

Panel B: Urban
Head Count Ratio
(Percent)

	1993-94			1999-2000		
	Males	Females	Persons	Males	Females	Persons
I. Persons by LF Category						
Workers	**26.87**	**38.05**	**29.23**	**25.11**	**34.86**	**27.01**
Unemployed	25.68	17.42	23.23	25.91	15.05	23.39
Labour Force	26.82	36.95	28.99	25.15	33.73	26.83
Total Population	**29.00**	**31.38**	**30.13**	**27.65**	**29.88**	**28.71**
II. Workers by Activity						
S.E. Ag	37.92	37.30	37.70	34.40	41.78	37.11
S.E. Non-Ag	27.42	38.84	29.53	25.61	36.86	27.72
S.E. Total	**28.79**	**38.35**	**30.93**	**26.44**	**37.89**	**28.83**
RWS Ag	34.06	23.81	32.70	29.75	16.92	27.32
RWS Non Ag	15.53	18.59	16.01	13.91	16.50	14.33
RWS Total	**15.72**	**18.63**	**16.17**	**14.05**	**16.50**	**14.45**
CL Public Works	33.64	46.67	35.24	48.51	71.74	52.82
CL Ag	69.26	71.46	70.29	68.29	65.97	67.20
CL Non Ag	46.69	51.37	47.84	45.58	50.89	46.52
CL Total	**50.91**	**59.24**	**53.42**	**48.65**	**56.98**	**50.58**
Total WF	**26.87**	**38.05**	**29.23**	**25.11**	**34.86**	**27.01**

Table II.12: Distribution of Workers in All Households and Poor Households by Gender and Broad Activities: All India, Urban 1993-1994

Distribution of Workers by Broad Activities
('000)

Activity	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	3465	2437	5902	1316	909	2225
Self-Employed in Non-Agriculture	23,235	5252	28,487	6372	2040	8412
Self-Employed Total	**26,700**	**7689**	**34,389**	**7688**	**2949**	**10,637**
Regular Wage/Salaried: Agriculture	276	42	318	93	10	103
Regular Wage/Salaried: Non-Agriculture	26,767	4966	31,733	4157	923	5080
Regular Wage/Salaried: Total	**27,043**	**5008**	**32,051**	**4250**	**933**	**5183**
Casual Labour: Public Works	107	15	122	35	7	43
Casual Labour: Agriculture	2007	1759	3766	1390	1257	2647
Casual Labour: Non-Agriculture	8293	2708	11,001	3872	1391	5263
Casual Labour: Total	**10,407**	**4482**	**14,889**	**5297**	**2655**	**7952**
Total Work Force	**64,150**	**17,179**	**81,329**	**17,235**	**6537**	**23,772**

Table II.13: Per 1000 Distribution of Workers in Poor and Non-Poor Households by Gender and Broad Activities: All India, Urban 1993-1994

Distribution of Workers by Broad Activities ('000)

Activity	Poor Households			Non-Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	55	38	93	37	27	64
Self-Employed in Non-Agriculture	268	86	354	293	56	349
Self-Employed Total	**323**	**124**	**447**	**330**	**83**	**413**
Regular Wage/Salaried: Agriculture	4	0.4	4	3	0.6	4
Regular Wage/Salaried: Non-Agriculture	175	39	214	393	70	463
Regular Wage/Salaried: Total	**179**	**39**	**218**	**396**	**71**	**467**
Casual Labour: Public Works	2	0.3	2	1	0.1	1
Casual Labour: Agriculture	58	53	111	11	9	19
Casual Labour: Non-Agriculture	163	59	222	77	23	100
Casual Labour: Total	**223**	**112**	**335**	**89**	**32**	**120**
All Activities	725	275	1000	815	185	1000
Total Work Force	**17,235**	**6537**	**23,772**	**46,915**	**10,642**	**57,557**

Table II.14: Distribution of Workers in all Households and Poor Households by Gender and Broad Activities: All India, Urban 1999-2000

Distribution of Workers by Broad Activities
('000)

Activity	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	2939	1709	4648	1011	714	1725
Self-Employed in Non-Agriculture	28,191	6475	34,666	7221	2387	9608
Self-Employed Total	**31,130**	**8184**	**39,314**	**8232**	**3101**	**11,333**
Regular Wage/Salaried: Agriculture	279	65	344	83	11	94
Regular Wage/Salaried: Non-Agriculture	31,037	6019	37,056	4316	993	5309
Regular Wage/Salaried: Total	**31,316**	**6084**	**37,400**	**4399**	**1004**	**5403**
Casual Labour: Public Works	202	46	248	98	33	131
Casual Labour: Agriculture	1722	1522	3244	1176	1006	2180
Casual Labour: Non-Agriculture	11,035	2356	13,391	5030	1199	6229
Casual Labour: Total	**12,959**	**3924**	**16,883**	**6304**	**2236**	**8540**
Total Work Force	**75,405**	**18,192**	**93,597**	**18,935**	**6341**	**25,276**

Table II.15: Per 1000 Distribution of Workers in Poor and Non-Poor Households by Gender and Broad Activities: All India, Urban 1999-2000

Per 1000 Distribution of Workers by Broad Activities ('000)

Activity	All Households			Poor Households		
	Males	Females	Persons	Males	Females	Persons
Self-Employed in Agriculture	40	28	68	28	15	43
Self-Employed in Non-Agriculture	286	94	380	307	60	367
Self-Employed Total	**326**	**122**	**448**	**335**	**75**	**410**
Regular Wage/Salaried: Agriculture	3	0.4	4	3	0.8	4
Regular Wage/Salaried: Non-Agriculture	171	39	210	391	74	465
Regular Wage/Salaried: Total	**174**	**40**	**214**	**394**	**74**	**468**
Casual Labour: Public Works	4	1	5	2	0.2	2
Casual Labour: Agriculture	47	40	87	8	8	16
Casual Labour: Non-Agriculture	199	47	246	88	17	105
Casual Labour: Total	**249**	**88**	**338**	**97**	**25**	**122**
All Activities	749	251	1000	827	173	1000
Work Force	**18,935**	**6341**	**25,276**	**56,470**	**11,851**	**68,321**

Table II.16: Percentage Distribution of Usual (Principal plus Subsidiary) Status Workers in Poor and Non-Poor Households by Level of Education, by Gender and Rural-Urban Location, All-India, 1993-94

Panel A: Rural India

Level of Education	Poor Households			Non-Poor Households		
	Males	Females	Persons	Males	Females	Persons
Illiterate	57.81	86.85	69.08	36.55	72.28	48.73
Literate up to Primary	26.75	10.22	20.33	30.89	17.87	26.45
Up to Secondary	13.17	2.73	9.12	24.91	8.39	19.27
Above Secondary	2.28	0.20	1.47	7.66	1.46	5.55

Panel B: Urban India

Level of Education	Poor Households			Non-Poor Households		
	Males	Females	Persons	Males	Females	Persons
Illiterate	35.50	70.15	45.13	12.64	35.96	16.94
Literate up to Primary	33.56	19.91	29.77	23.45	20.84	22.97
Up to Secondary	25.14	7.92	20.36	35.05	20.44	32.36
Above Secondary	5.80	2.02	4.75	28.86	22.77	27.73

III. Employment-Poverty Linkages: A Household-Level Analysis of Poverty in Madhya Pradesh

III.1 Specification of Probit Variables

In this section we explore the employment-poverty linkages through a household-level analysis of poverty in one of the focus states of ILO operations in India, namely, Madhya Pradesh. Using a PROBIT model framework, we examine the relationship between the household-level characteristics in general and their labour-market characteristics in particular and the probability of the household being poor i.e. having a monthly per capita consumer expenditure below the poverty-line level.

To bring out the effect of labour market characteristics on the poor - not poor status of households in sharp relief we focus on the rural labour households, i.e. households classified either as agricultural labour households or as 'other labour households' by reference to earnings from (manual) labour being the principal means of livelihood of the household. In Madhya Pradesh such labour households accounted for a little over fifty percent of all poor households in the rural areas of the State.

Our analysis is based on the unit record data from the 50th Round Consumer Expenditure and Employment-Unemployment Survey for the agricultural year July 1993 thru June 1994 carried out nation-wide by the National Sample Survey Organisation (NSSO) of the Government of India.

We begin by setting out briefly the extent of poverty among rural households of Madhya Pradesh in 1993-94. Overall, a shade less than one-third of the rural households were poor in that their monthly per capita consumer expenditure was below the State-specific price-adjusted poverty cut-off level of Rs.185.11.

Madhya Pradesh is a very large state with significant variations in the extent of poverty across the 7 "Regions" distinguished in the survey: the head count ratio is the lowest (12%) in Region 7. (See Table III.1 for a brief description of the seven NSS Regions and the Districts falling in each of them). It is the highest (59%) in Region 6. Three other Regions (3, 5 and 1, in descending order of poverty ratios) have poverty ratios close to or above the average for the State as a whole.

Across household types differentiated by principal means of livelihood, agricultural labour households have the highest proportion of households below the poverty line (47.4 percent) and accounted for 48 percent of all poor households in rural Madhya Pradesh. The category 'other labour households" reported the second highest head count ratio (37 percent) and accounted for close to 5 percent of the poor households.

We turn now to a brief statement of the central premise and the specific hypotheses linking the household-level characteristics in general and the labour-market characteristics in particular to the probability of the household being poor.

The central premise is that, given the available income-earning opportunities, the ability of a household to avail of these opportunities is shaped by the characteristics internal to the household. While the availability of income-earning opportunities would depend on the level of development of the district or the region where the household is located, in a fundamental sense, for a given household the probability of it being poor is conditioned by its physical and human capital resource base and the extent and nature of its participation in the labour market, with such participation in labour market itself being conditioned by the demographic characteristics of the household.

To the extent that certain socio-economic groups, such as the Scheduled Castes and the Scheduled Tribes or the (manual) labour households are perceived to be specially disadvantaged, belonging to such a group, per se, may be hypothesized to raise the probability of such a household being poor. Since our PROBIT analysis is focused on the poor-not poor status of the labour households, the relevant group-affiliation is whether or not the household under reference is either a scheduled caste or a scheduled-tribe household. In the estimated model, this is captured as a binary dummy variable which would take the value 1 if the household is a SC/ST household and zero otherwise.

As regards the demographic characteristics of the household, we focus on the child-woman ratio CWR, or rather the attendant child-care demands on the time of women, may be hypothesised to constrain not merely the extent of their participation in labour market activities but also the nature of such participation by limiting their mobility as well as their scope for skill formation through sustained on-job training or even through continued formal education. So that, even after controlling for the extent of participation in work by the members of the household, a higher CWR may be viewed as a factor raising the probability of the household being poor[15].

In terms of physical assets, land and cattle are the two key assets in the rural context. Since the survey reports the land possessed (i.e. land owned, plus land leased - in or otherwise possessed) by the household, the size of land possessed can be normalised by the household size and per capita land possessed (pcldpos, in hectares) can be taken as a continuous variable and hypothesised to be negatively related to the probability of the household being poor. In our sample of 1542 labour households analysed in the Probit framework, the average land possessed was only 0.11 hectares.

In the Survey, possession of milk cattle and/or draught animals is recorded only in a binary (possessed/not possessed) format and can be only introduced as a dummy variable and their non-possession hypothesised to be raising the probability of the household being poor.

In considering the human capital dimension of the asset base of the household, we recall our finding in the previous section where the proportion of workers having an educational attainment of up to or above secondary level of education was seen to be significantly higher among the non-poor households relative to the working poor. We therefore take the proportion of usual (principal plus subsidiary) status workers (of all ages and both gender, taken together) who

[15] The age-structure of the household, captured by the child (0-14) and the old age (65+) dependency ratios are viewed primarily as factors shaping the overall work force (or labour-force) participation rates in the household. Since the household-level work force participation rate is introduced explicitly as an explanatory variable, the dependency-ratios per se, are not included as additional explanatory variables.

have 'up to or above' secondary level education as the relevant indicator. It is a sad commentary of the state of workers' education among labour households in rural Madhya Pradesh in 1993-94 that in the sample households analysed the average is just 2.5 percent.

We turn now to the labour market characteristics.

The first, and the most obvious factor here is the earner strength of the household normalised for household size. In our analysis we capture this by the usual (principal plus subsidiary) status worker-population ratio in the household (wprupss). And, ceteris paribus, the higher the WPR the lower would be the probability of the household being poor.

In the previous section we had outlined the hypothesis that, **given the number of workers**, **a higher ratio** of female workers could, **per se**, be a factor **raising** the probability of the household being poor. Care is needed in interpreting this hypothesis and the empirical results confirming it. One additional female worker in the household would **directly lower the probability of the household being poor** by raising the earner strength (wprupss in the model) of the household. However, the extent of this favourable effect would get moderated or partially offset, (if the hypothesis is confirmed by data) by the widely observed lower returns to female labour relative to that for males.

Our analysis of the activity composition of the workers in the poor and the non-poor households in the previous section had highlighted the fact that the proportion of workers who are regular wage/salaried employees in non-agricultural activities was significantly higher in the non-poor households than among the working poor. Since the absence of such workers is the norm among the poor households, we introduce this as a binary dummy variable which takes the value 1 if such a worker is not present in the household and zero otherwise. It is hypothesised that, ceteris paribus, this factor would raise the probability of the household being poor. It would surprise no one to find that, in our sample of labour households in rural Madhya Pradesh, a little over 94 percent of such households do not have even a single worker who is employed as a regular wage/salaried employee in non-agricultural activities.

Finally, we have from the survey the activity-status classification of the members of the household on each of the seven days preceding the date of survey on the basis of which the current daily status estimates are generated. From this information we can compute, for each household, the number of days at work in the week preceding the survey. This is normalised by reference to the number of workers in the household as per the usual (principal plus subsidiary) status categorisation. This variable, labelled as perdwkd, (short for person-days worked during the reference week per usual status worker in the household) is hypothesised to carry a negative sign i.e. the higher the number of days worked per worker in a household the lower would be the probability of such a household being poor.

Ideally, one should also incorporate a wage-rate variable. While the Survey does provide data on wages received/receivable by the household during the week, the sample-size is too small to reliably estimate a village wage rate which can be used as an independent variable over and above the 'days worked' variable.

Can we not "import", say, a district wage rate from an external source? The problem here is more general than one of introducing a wage rate variable.

The central problem here is that the data set on the NSS 50th Round does not give the identification and/or details of the district/village in which a particular surveyed household is located. So that, in the absence of district identification codes in the data set, village/district level variables that may be expected to impact on the poverty-status of households in a given region - such as availability of transport services, banking services, availability of credit, distance between the village and the nearest town, existence of factories etc. not to forget the wage-rate - cannot be "imported" from other sources and therefore cannot be captured in the analysis.

In the alternative, one could attempt to estimate one or more wage rate(s) at the level of an NSS Region. However, that would not serve much of a purpose as, by construction, all households in a region would have to be assumed to be facing the same wage rate. Instead, it is proposed to use a "Region" dummy to capture all region specific factors impinging on the probability of a sample household located in the given region being poor. The software used treats the region (or sub-round) with the highest index - say Region 5 in a state with five regions or region 6 in a state with six regions and so on - as the control. In Madhya Pradesh, with seven NSS regions distinguished in the survey, Region 7 is taken as the base.

How do we capture the seasonality factor?

The NSS Surveys are so designed that estimates for the population can be obtained for each of the four sub-rounds (of three months duration each) which collectively form the full year survey. Thus in a survey spanning the agricultural year (July-June), the four sub-rounds will cover, respectively, July thru September; October thru December, January thru March; with the fourth sub-round covering the period April thru June. We therefore seek to capture the seasonality element by introducing what we call a "Sub-Round Dummy" one each for the first three sub-rounds, with the fourth sub-round taken as the "control".

The coefficients attached to the "Region Dummy" and the "Sub-Round Dummy" can then be interpreted in terms of the additional risk of being poor faced by a sample housed located in (say) Region 5, sub Round 1 relative to that faced by a household located in Region 7 and surveyed in sub-Round 4.

The list of variables used, along with a brief description is presented in Table III.2.

III.2 Results of Probit Analysis

We estimated two alternative models which differed from one another only by reference to the inclusion or exclusion of the per capita land possessed variable. Both models performed equally well in terms of the Wald chi-square statistic which indicate that the overall fit was good with coefficients that are statistically different from zero. We present the estimated coefficients with the land variable as the performance of this inclusive specification was somewhat better: its success rate in terms of the percentage of the poor households that are correctly predicted by the model is somewhat higher. The estimated model correctly predicts close to 70 percent of the non-poor households as non-poor and about 65 percent of the poor households as poor.

In presenting the results, we have reported both the regression coefficients as well as dF/dx values where dF indicates the marginal change in the probability of being poor and dx stands for a unit change in the explanatory variable - 1 hectare for PCLDPOS, one percentage point change in child woman ratio etc. In the case of dummy variable - SC/ST, REGNONAG or the Region/Sub-Round Dummies - dF/dx is for the discrete change from 0 to 1. We also report, for each of the variables, values of Z (analogous to the t-value in OLS regression) and P>ξ2ξ which test for the underlying coefficient being zero. [See Table II.3]

Test statistics indicate that the overall fit of the model is good and almost all the variables are statistically significant.

Leaving aside the sub-round and region dummies for the moment, we find that all the explanatory variable carry the "right" sign: that, as hypothesized, being an SC/ST household or the absence of even one member of the household working as regular wage/salaried employee in the non-agriculture sector increases the probability of a household being poor. Similarly, even controlling for the level of worker-population ratio, a one percentage point increase in the child-woman ratio raises, at the margin, the probability of the household being poor by 0.1 percent.

Before we examine the impact of labour market characteristics of households on the probability of the household being poor, let us note the effect of the asset-variables.

Consider first land. In evaluating the dF/dx value of the "per capita land possessed" variable, note that it measures the impact of augmenting the land resources of a household by 1 hectare per capita. Such an augmentation would reduce the probability of the household being poor by close to 26 percent. But, on a base of average land possessed per capita of 0.11 hectares, this would imply a more than 9 fold increase in the land resources of the labour households in rural Madhya Pradesh. A doubling of the existing average land holding of the labour households, would reduce the probability of the household being poor by a more modest three percent.

The absence of any milk cattle in the household, is statistically speaking, significant only at 10 percent level and the shift from the status of having milk cattle to one of not having any raises the probability of the household being poor by close to five percent.

We are now ready to examine the impact of labour market characteristics on the probability of a labour household in rural Madhya Pradesh being poor.

All, the labour market variables carry the predicted sign, and, except for the variable relating to the ratio of female workers to total workers on the usual (principal plus subsidiary) status categorisation are highly significant. Even the female ratio variable is significant at 20 percent level of significance.

Of these variables, in terms of marginal impact, the absence of even one regular wage/salaried worker in non-agriculture raises the probability of the household being poor by a little over 20 percent.

Next in order of impact is the effect of raising the number of days worked in a week by a usual status worker in the household by one day. This lowers the probability of the household being poor by a little over 2 percent. It would take a ten percentage points rise in the usual (principal plus subsidiary) status worker population ratio in the household (from an average of a little over 54 percent) to match the effect of one additional day of work per week by a usual status worker, in terms of the effect on lowering the probability of the household being poor. A similar, ten percentage point rise in the proportion of adult workers with secondary or higher level of education would lower the probability of the household being poor by 3.5 percent.

Finally, we may consider the sub-Round and Regional dummies. All of them, except the dummy for sub-round 3 and Region 4, are statistically significant and all of them are positive indicating that, relative to a household being surveyed in Region 7 (the region with the lowest head count ratio) and sub-round 4 (marked by the inflow of income from the Rabi Harvest), poverty ratios are higher in all other regions and sub-rounds. And, in each case, their marginal impact on the probability of a rural labour household in Madhya Pradesh being poor, are indeed very large - much larger than virtually any of the "policy" variables. This would seem to point to the need to focus on the structural characteristics of these regions which make for significantly higher poverty ratios in those regions. Similarly augmenting income-earning opportunities in the slack-seasons (especially, the period July thru September) would appear to promise a substantial pay off in terms of poverty alleviation.

Table III.1: A Brief Description of the NSS Regions in Madhya Pradesh

Region	Region Description
1. Chattisgarh	Surguja
	Bilaspur
	Rajgarh
	Raj Nandgaon
	Durg
	Raipur
	Bastar
2. Vindhya	Tikamgarh
	Chhatrapur
	Panna
	Sarna
	Rewa
	Shahdol
	Siddhi
3. Central	Sagar
	Damoh
	Vidisha
	Bhopal
	Sehore
	Raisen
4. Malwa	Mandsaur
	Ratlam
	Ujjain
	Shajapur
	Dewas
	Jhabua
	Dhar
	Indore
	Rajgarh
5. South	Jabalpur
	Narshimhapur
	Chhindwara
	Seoni
	Balaghat
	Mandla
6. South Western	Betul
	Khargone (W. Nirmar)
	Khandwa (E. Nirmar)
	Hoshangabad
7. Northern	Morena
	Bhind
	Gwalior
	Datia
	Shivpuri
	Guna

Table III.2: List of Variables Used in the PROBIT Model

DUMMY VARIABLES

D_SC/ST: Takes the value 1 if the household is either a scheduled castes or a scheduled tribe household, and zero otherwise.

D_MILCH: Takes the value 1 if the household does not possess milk cattle, and zero otherwise.

D_RNAG: Takes the value 1 if the household does not have even one adult worker who is employed as a regular wage/salaried employee in non-agricultural activities, and, zero otherwise.

D_SUBR1, D_SUBR2, D_SUBR3, D_REG1, D_REG2, D_REG3, D_REGA, D_REG5, AND D_REG6, are all binary dummy variables that would take the value 1 if the surveyed household was located in the indexed Region, or, in the case of the sub-Round dummies, surveyed in the indexed sub-round, and zero otherwise.

CONTINUOUS VARIABLES

PCLDPOS: Per capita land possessed by the household;

P_WKREDU: Percentage of workers in the household with general education up to or above the secondary level.

CHIL_WOM: Child-woman Ratio defined as the proportion of children in the age group 0-4 to women in the 15-49 age group, expressed as a percentage;

P_FEM_RAT: The ratio of female to total workers in the household expressed as a percentage.

P_WPRUPSS: The ratio of workers on the usual (principal plus subsidiary) status to the total number of persons in the household expressed as a percentage

PER_DWKD: The ratio of person-days worked by the members of the household worked during the reference week to the total number of workers in the household on the (usual plus subsidiary) status categorization

Table III.3: Probit and Dprobit Coefficients of the Household Level Regressions: Madhya Pradesh Rural

Variable	Probit Coefficients	Marginal Coefficients (dF/dx)	X-bar
D_SCST	0.31096 (0.000)	0.12319	0.6187
PCLDPOS	-.64798 (0.003)	-0.25829	0.118
D_MILCH	0.11558 (0.117)	0.04601	0.6258
P_WKREDU	-.00887 (0.003)	-0.00354	2.5890
CHIL_WOM	.003436 (0.000)	0.00137	68.0026

P_FEM_RAT	.00149 (0.189)	0.000595	45.9777
D_RNAG	.54036 (0.001)	0.02498	0.9429
P_WPRUPSS	-0.0516 (0.000)	-0.00206	54.1557
PER_DWKD	-0.0528 (0.030)	-0.021067	5.9264
D_SUBR1	0.29607 (0.003)	0.117631	0.2581
D_SUBR2	.19938 (0.040)	0.079408	0.2445
D_SUBR3	0.10079 (0.303)	0.040187	0.2575
D_REG1	0.58552 (0.000)	0.229475	0.2840
D_REG2	0.83753 (0.000)	0.314158	0.1368
D_REG3	1.14395 (0.000)	0.402205	0.1115
D_REG4	0.16812 (0.292)	0.06698	0.1427
D_REG5	0.79097 (0.000)	0.29954	0.1511
D_REG6	1.33367 (0.000)	0.44397	0.0921
CONSTT	-1.25502 (0.000)		
Number of observations	1542		
Wald chi2	241.46		
Log likelihood	--926.22217		
Percentage of cases correctly predicted	77.65		
Percentage of poor households correctly classified as poor	65.07		
Percentage of non-poor households correctly classified as non-poor	70.47		
Observed Prob.	0.4883268		
Predicted Prob. (at x-bar)	0.4837734		

Figures in the brackets are the p-values, i.e. P>|z|, that are the test of the underlying coefficient being 0.
(*) dF/dx is for discrete change of dummy variable from 0 to 1
Notes: The X-bar values represent the mean values of the characteristic among the sampled households in the case of the continuous variables. In the case of the binary dummy variables, the X-bar values relate to the proportion of sample households with the specified characteristic. Thus, an X-bar value of 0.6187 for D_SCST indicates that a little fewer than 62 percent of the surveyed households in the sample analysed are scheduled caste or scheduled tribe households. And so on.

IV. Employment Policy for Sustainable Poverty Reduction

IV.1 A Perspectives on Employment Policy

Beginning with a macro-level review of the Indian development experience of long-term growth, changes in employment structure (by sector of attachment) and the changes in poverty outcomes in section I, we presented in section II an analysis of the problem of the working poor in India at the aggregate level with data from the National Sample Surveys for the 1990s. This analysis was focused on the size and structure - by gender, rural-urban location and activity composition - of the working poor and the changes therein between 1993-94 and 1999-2000. This was followed in section III by a micro-level analysis, based on the unit record data from the NSS 50th Round Employment-Unemployment Survey (1993-94), which explored the employment-poverty linkages. Using the PROBIT-model framework, our analysis of the relationship between household-level characteristics in general and their labour-market characteristics in particular and the probability of household being poor was focused on the rural labour households in Madhya Pradesh - a focus state for ILO-operations in India. In this, the concluding section of this report, we draw on our analysis so far and offer a perspective on and outline the key elements of employment policy as an instrument for the realisation of the goal of early eradication of poverty in India.

Clearly rapid reduction of poverty, that still afflicts nearly 30 percent of the population in India despite considerable progress made in reducing it during the phase of accelerated growth since the early 1980s, remains the core objective of economic policy in India. Equally, a rapid expansion of employment opportunities for productive absorption of the growing labour force would be widely accepted to be at the core of policies aimed at reducing poverty.

A pre-occupation of policies and policy-makers with the quantity of employment or the number of "jobs" or employment opportunities would appear to be a natural corollary flowing from this perception. In the Indian context, this finds varied expressions. In the Indian Plan documents, we have exercises aimed at balancing the new employment opportunities that would be created through the realisation of the plan targets for the growth of commodities and services and the projected additions to labour force and going beyond that in terms of clearing the "backlog" of unemployment. Concerns about "jobless growth" or, in the jargon of the economists, about low elasticity of employment with respect to growth in value-added at one end and policy pronouncements at the highest level about "10 millions jobs a year" at the other, are all reflections of the same concern about the <u>number</u> of "jobs" or employment opportunities. It is all about <u>quantity</u> of employment.

Our understanding of the employment-poverty linkages in India and the Indian experience of the 1990s suggest **the need for a shift of focus towards quality of employment** in general and towards labour absorption with rising real returns to labour in particular.

On the face of it, this would appear to be a minor shift of focus - if at all even that. However, as we shall argue presently, this shift of focus, or, rather of bringing into sharper focus **rising returns to labour as a key element in policies for poverty reduction**, has significant implications for the design of labour and employment policies for poverty eradication and, indeed,

point to the need to go beyond the conventional "labour and employment" policies narrowly defined, to cover growth promoting policies in general.

The logic is fairly simple.

Currently, a large proportion of the work force in general and of the working poor in particular are located in low-productivity activities/sectors with low returns to labour as an inescapable concomitant reality. **Removing poverty, especially among the working poor and those dependent on them, requires a steady and sustained rise in real returns to labour**. And, given that casual labourers are a major if not the dominant component of the working poor, rising real wage rates, along with expanded labour absorption in quantitative terms, is a necessity. **In a market economy, rising real wages are predicated on rising labour productivity in real terms.**

The next step in this line of reasoning is simple yet crucial.

Raising the productivity of labour, defined by gross value-added per worker in real terms in any given activity or sector, requires that the increments to the number of workers employed are less than proportional to the increments to the gross value-added. In the economist's jargon, the widely used gross elasticity of employment with respect to growth in value added must be less than one. And, the larger the desired rise in labour productivity, the smaller will the employment-elasticity need to be. Further given the distance yet to be travelled in terms of reaching satisfactory levels of labour productivity and returns to labour tied to productivity in major sectors of the economy, **the policy makers would need to plan for not only elasticities of employment that are less than 1 but, perhaps, also, with scenarios of declining employment-elasticities in individual sectors.**

Not only that. **There are a number of sectors where the number of workers should not increase further, and, ideally, should decrease**. The over-sized bureaucracy and over-manned public sector units across a wide swathe of industries and the **over-crowded low-productivity** sectors with considerable underemployment **like agriculture** and lower-end personal services are the obvious examples. From this perspective, the reduction, between 1994 and 2000, in the number of workers in livestock, personal services, mining and quarrying and electricity, gas and water sectors, and the near stagnation in the number of workers in crop production as well as in public administration and defense is a development to be welcomed rather than bemoaned as "jobless growth".

IV.2 Elements of Employment Policy

How then do we meet the challenge of productively absorbing the projected additions to the labour force? For, this too is a reality that cannot be wished away. In fact with the projected decline in fertility and the resultant slow down in population growth we should expect a big shift in the age-structure towards the prime working age groups. A recent set of projections of the Indian Demographic scenario to 2025[16] indicate that the share of the 15-64 age-group in India's population would rise sharply from 59.8 percent in 2000 to 65.0 percent in 2010 and further to 68.7 in 2020. This would imply a rate of growth of population in this age group of close to 2.2

[16] See Mari Bhat (2001).

percent per annum up to 2010 and of only slightly under 2 percent per annum in the subsequent quinquennia. Admittedly, the growth of labour force would be moderated somewhat by the trend towards greater school-participation rates that is now firmly established in the country and the push towards higher enrolment rates into education in the 15-19 age-group and, perhaps, even in the 20-24 age-group. This would result in a reduction in the labour force participation rates in the age groups 10-14, 15-19 and (to a lesser extent) 20-24. Nevertheless, growth of labour force at close to or slightly below 2 percent annum, and, on a base labour force of about 400 million in 1999-2000, **annual additions to labour force of the order of 8 million is a very real prospect over the ten years covering the 10th and 11th Five Year Plans.**

How, then, do we meet the challenge of productively absorbing annual additions of 8 million or more to the labour force along with raising the average levels of productivity which alone can make possible rising real returns to labour?

Given the imperative of the low or declining gross employment elasticities with respect to value-added in real terms, faster volume growth of real output is clearly needed to absorb the projected annual additions to labour force of 8 million at progressively rising levels of productivity. **The focus of employment policy** that combines quantity and quality dimensions **must**, therefore, **shift to a more rapid rate of overall economic growth** which requires, inter alia (a) raising the rate of investment and (b) improving resource-use efficiency. Additional key elements would consist of (c) **inducing faster growth in relatively more labour-using sectors** constituting sectoral employment policies and (d) the urgent need for putting in place effective safety nets including government organised direct anti-poverty programmes for self-employment and wage-employment generation.

Fortunately, there has been a political consensus across a broad ideological spectrum on the need to place the Indian economy on a higher growth path. The recent report and the recommendations of the Task Force on Employment Opportunities set up by the Planning Commission, (GOI-PC, 2001) reflect this basic understanding and a broader perspective on employment policy. In what follows, we draw on this report and our understanding based on the analysis presented in the last three sections of this paper to discuss the key inter-related elements (a) to (d) of broader employment policy with a focus on both quantity and quality dimensions. The focus is not only on just rapid growth in the volume of output (that is clearly inescapable) but also on facilitating the growth of employment in the organised sectors and/or segments with a clearly acknowledged employee-employer relationship and raising the productivity of unorganised or informal segments of the economy. **Germane to our discussion is also the shift away from policies aiming at direct sectoral employment generation to those that take account both the direct and indirect employment effects**.

International comparisons of rapidly growing economies during the post-Second World War period (see, for example, Tendulkar and Sen (forthcoming), Tendulkar (2000b)) showed that rapid growth resulted from a combination of very high rates of investment combined with a high resource-use efficiency that was ensured by their aggressively open economies. Aggressively open economy character of these economies not only ensured international competitiveness of their domestic industrial structure but also managed to maintain very high private inducement to invest by expanding their small domestic markets beyond borders. The activist role of the state remained

complementary to the market by undertaking physical and social infrastructural investments and ensuring their efficient implementation and operation as also following market friendly industrial policies (See Hayami (1997), chapter 8). The rapid pace of economic growth in these economies reduced the initially high share of work force in agriculture and allied land intensive sectors which are known to have lower than average productivity per worker. The declining share of agriculture was initially absorbed in small part in the industrial sector but mostly in the heterogeneous services sector (Kuznets (1971) Ch. VI) whose productivity increased over time through skill and educational development. This rising human capital base also contributed to raising the productivity of industrial sector over time. The critical importance of the first two elements of raising the rate of investment and improving resource-use efficiency to employment policy should be obvious from the foregoing discussion. We now turn to a discussion of each of the key elements mentioned earlier.

(a) Raising the Rate of Investment

Accelerating the rate of growth of aggregate GDP would require a sizeable step-up in the rates of investment to be financed primarily by a rise in domestic saving rates supplemented by an augmented inflow of external resources. In order that this greater effort at resource mobilisation gets translated into faster growth and an improvement in living standards, it is imperative that there is a parallel effort at all-round improvement in resource-use efficiency.

The increase in the rates of domestic savings will have to come largely from a major turn around in government savings which have shown a steady deterioration from a positive contribution of 2.0 percent of GDP in 1991-92 to a negative savings of (-) 1.2 percent in 1999-2000.

In the context of employment policy, a strong fiscal policy both at the Centre and in the States is a necessary condition for the Government to play a key role in providing safety nets for labour affected by micro-level restructuring of enterprises that will inevitably accompany any dynamic process of growth with improved resource-use efficiency[17]. Equally, it is important to stress that the restoration of the fiscal health of both the Central Government and of the State Government is urgently needed for the Government to undertake essential investments in physical (power, roads, communication), social (educational and health) financial and institutional infrastructure (more on this below). This will favourably impact on the welfare of the labour class through the growth of indirect employment opportunities.

Central to this process of a turn around in public sector savings is a drastic reduction, if not total elimination of the revenue deficits of the Central and State Governments. Apart from efforts to reduce subsidies and increase tax realisation, serious efforts to cut down on revenue expenditure are urgently needed. Apart from trimming the government bureaucracy which suffers from

[17] It is worth noting in this context that non-availability of rupee finances with the state governments is one of the factors often cited for their failure to put in place a significantly expanded public works programme and to provide employment under the "food for work" programme in drought affected areas despite the abundance of food stocks with the central government.

massive over-staffing, ways and means of reducing the burden on the State in financing the social security system would also need to be explored on an urgent basis[18].

We may add that reduction of fiscal and revenue deficits of (the Central and State) governments through withdrawal of subsidies, decline in unproductive revenue expenditure and higher tax realizations is bound to reduce private disposable income and hence, ceteris paribus, private savings. However, we noted in Section I.2 a strong association of rise in fiscal and revenue deficits not only with a slowdown in growth rates but also reduction in rates of gross domestic savings and investment in the second half of the 1990s indicating an adverse impact of fiscal dilution on the climate for private investment. If restoration and maintenance of fiscal discipline were combined with other growth promoting policies, the resulting higher rate of economic growth would provide a stimulus to private savings and investment.

(b) Improving Resource-Use Efficiency

Competition, with its attendant problems of differential speeds of ex-post adjustment in different markets and sometimes persistent disequilibria, still remains the best available instrument for reducing wasteful utilisation of scarce resources and generate newer and more productive employment opportunities. We have already outlined in Section I the various economic policy reforms since 1991 that sought to remove competition-restricting, policy-induced entry barriers in different economic activities and markets. It is important to continue the process of domestic liberalisation. It is equally important to recognise that a short-term-focused policy of persistently protecting employment in sunset industries and in weaker economic units in sunrise industries can and does go against greater employment with higher labour productivity in the medium term. This was recognised and argued out cogently by Mahalanobis (1960, 1961) long time back.

In addition to competition-restricting policies, statutory controls various markets and economic activities had also been in operation. These controls restrict the movement of commodities across state boundaries (like orders under the Essential Commodities Act), impose arbitrary limits on potential expansion by competing units (as under Milk Marketing Products Order) or restrict entry of arbitrarily defined "large" units into certain economic activities which are reserved for exclusive production in arbitrarily defined "small" units (more on this below). The net effect of these measures, (originally employed in war time emergency situation) had been to prevent the development of unified competitive markets. After more than a decade since the beginning of the reforms process, it is only now that some of these issues are being addressed in a very hesitant manner.

Gradual integration with the global economy through a liberalisation of foreign-trade-and-investment policy has exposed the domestic industry to international competition - a time tested instrument in all the rapidly growing economies that has immensely improved resource use efficiency. Steps taken in this direction in India during the post 1991 period constitute giant strides in relation to pre-1991 situation in India. However, in relation to our rapidly growing Asian neighbours who liberalised their economies much earlier than India, the post-1991 strides constitute rather small and hesitant steps. Thus, the weighted average tariff level (excluding

[18] At least in one State, Kerala, the pension-payment liabilities constitute a large proportion of their revenue expenditure.

countervailing duties), as per the 2001-02 Union Budget, had been halved to about 35 percent from as high as 71.5 percent in 1991-92. However, the corresponding import-weighted tariff rates were much lower at 14.3 percent in Indonesia, 7 percent in South Korea and 9.4 percent in Malaysia (GOI (2001) p.3.23). High tariff walls not only encourage inefficiency and/or rent seeking with adverse consequences for international competitiveness but also tilt resource allocation against exportables by making the domestic sales more profitable than their international counterparts. A pre-announced time-schedule for gradual reduction import-tariff levels would help the Indian industry make the necessary adjustments and minimise the short-term dislocation and disruption. The Task Force Report has rightly suggested that pre-announced tariff reduction be accompanied by a steady depreciation of the exchange rate which would boost exports besides softening the impact of tariff reduction.

Promoting domestic and international competition through liberalisation would make our industrial units domestically cost competitive. Achievement of the competitive-edge internationally requires that these efforts be backed by removing infrastructural bottlenecks. Transaction costs associated with poor quality and high cost of physical (power, transport and communications) social (education and health) and institutional (financial, labour and capital market) infrastructure is a becoming a greater constraint in an open-economy context. They also undercut the potential gains from exchange rate and trade liberalisation and thereby also restrict the associated rise in gainful employment.

The detailed discussion of these problems is outside the scope of discussion in the present paper. We may only mention two areas of particular interest from the viewpoint of employment generation. The first one relates to the institutional rigidities in the organised segment of the labour market. These rigidities arise from the legislative protection to existing employment in the Factory Segment of the manufacturing sector. Compulsory arbitration procedures laid down in legislation have also come in the way of healthy bilateral bargaining for resolving disputes at the unit level and development of a vibrant trade union movement. An unintended consequence of these rigidities has been a damper on expanding factory sector employment and keeping nearly ninety percent of the labour force outside the ambit of better quality employment. These institutional rigidities further undercut the beneficial employment impact of domestic and external liberalisation. Prompt action in removing legislative rigidities would facilitate faster labour absorption in higher productivity factory segment of the manufacturing sector. Equally important is the need for parallel attempts at reforming and integrating corporate legislation for bringing about speedy restructuring and bankruptcy procedures. This is important to ensure mobility of scarce capital. Without ensuring reasonably smooth mobility of both labour and capital, improving resource-use efficiency through competition would remain an illusory goal.

The second area of particular interest relates to the informal segment of the labour force. While alleviation of labour market rigidities in the organised segment would indirectly help the informal segment, it is important to simultaneously make efforts to raise their productivity. One of the major handicaps faced by those operating in the informal sector is their limited access to institutional credit market due to lack of collateral assets, higher cost of servicing a large number of small borrowers and the existence of behavioural risk of default due to incomplete information with the credit disbursing financial institutions. These handicaps are accentuated by the larger than minimal interest-spread due to operational inefficiencies of the publicly owned short and medium

term-lending financial institutions. Mandatory priority sector lending without proper assessment of risk has further weakened their financial viability. The recommendations made by two committees headed by Narasimham to reduce non-performing assets and enforce prudential norms are being implemented while the problem of reducing operational inefficiencies is yet to be addressed.

In the context of facilitating access to institutional credit of the informal sector activities we may mention two initiatives focused on the critical areas of reducing behavioural risk of default and cost of servicing the informal sector activities. The Task Force Report suggests the promotion of an intermediary arrangement of local level non-banking financial institutions that can undertake the assessment of behavioural risk of default on the basis of their intimate knowledge of the local population as also recovery of loans. Large financial institutions can lend to these non-banking financial institutions for on lending to the informal activities. The second initiative that draws its inspiration from the Grameen Banks in Bangladesh is to replace individual lending by collective lending to self-help groups whose meagre but self-mobilised resources can be supplemented by loans either directly by the financial institutions or indirectly through the intermediary non-banking financial institutions. The performance of self-help groups in monitoring the utilisation of loans as well as recovery has been observed to be far better compared to individual lending. Peer pressures for repayment and self-contributed stake even by poor borrowers have been the possible factors for this favourable outcome[19]. We consider both these initiatives to be an integral part of institutional infrastructure that needs to be developed to promote the employment objective.

(c) Sectoral Policies

As explained earlier, these policies consist of inducing faster growth of relatively more labour using sectors within the overall rapid growth strategy. Opening up of the economy is particularly important in this context as the successful pursuit of these policies may lead to a faster growth domestic supply in comparison with domestic demand so that access to international markets become critical for their viability.

The Task Force Report correctly identifies four areas in the present context:

i. Agriculture and Allied Activities
ii. Food Processing Industries
iii. Small Scale Industries and
iv. Services

While readers may be referred to the Task Force Report for more details, we focus our discussion on the constraining factors and the possible key areas for policy initiatives.

[19] For extensive discussion of field-level experiences, a reference may be made to the July-September 2001 Conferences Number of the Indian Journal of Agricultural Economics (IJAE (2001)) which brings together papers on the theme "Working and Impact of Rural Self-Help Groups and Other Forms of Micro-Financing".

i. Agriculture and Allied Activities

This sector has traditionally been a residual absorber of the labour force mostly in self-employment. We noted in Section I.3 the welcome feature of stagnation of absolute size of work force in this sector in the 1990s. This sector is characterised by lower than average productivity per worker and absorbs 60 percent of the total (Table I.3), 76 percent of the rural (Table I.4) and 75 percent of the female work force (Table I.5) in 1999-2000. Given the growing shortage of land in densely populated agricultural economy like India, it should be obvious that the focus of growth in this sector ought to be on raising productivity of land and livestock through improved technologies along with activity and crop diversification thereby reducing under-employment which would contribute toward improving the quality of employment in this sector.

While improved physical and social infrastructure would benefit agriculture as well, agricultural growth would require, besides physical and social infrastructure needed for overall growth in the economy, specific rural infrastructure including irrigation and drainage, land development, water conservation and road connectivity. Such infrastructure development would generate more farm and non-farm rural employment opportunities. Public investment in rural infrastructure being primarily the responsibility of the State governments, this would require not only a strengthening of their fiscal situation but also a reallocation of resources by reducing wasteful subsidies on water, power and fertilisers.

While private industry has been liberalised from the plethora of mandatory government sanctions since 1991, the liberalisation of (mostly legislative) controls in agriculture has started only recently. As mentioned earlier under (b), a variety of (second world) wartime emergency restrictions on storage, movement and processing of agricultural produce had been imposed under the Essential Commodities Act, 1955 (ECA, 1955). After reviewing the operation of ECA 1955 in consultation with the state governments, a Central Order under ECA, 1955 has been issued as late as 15 February 2002 whereby (a) restrictions on licensing, stock limits and movements were removed in respect of wheat, rice, coarse grains, sugar, edible oilseeds and edible oils: and (b) some 12 major commodities were removed from the list of 30 commodities declared essential under ECA, 1955. This would help remove impediments in the development of a unified national market in agricultural commodities. Similarly, the laws that sought to establish regulated markets controlled by the Agricultural Produce Marketing Committees with the good intention of protecting the interests of the farmers, have unintentionally created a monopoly situation in which a small group of wholesale traders and commission agents used entry-blocking devices to extract benefits at the cost of the farmers. Increased transaction costs and misuse of originally well intentioned but outdated government regulations operating on the agricultural sector have limited the returns to economic activities and hence their savings and investment potential for generating productive employment.

Finally, the near total insulation from international markets for more than half a century has been largely responsible for keeping the yields low in comparison with international levels in respect of certain cereals, commercial crops as well as livestock products. Export restrictions on agricultural commodities were removed only in the latest (end-March 2002) Export-import Policy 2002-07. Agricultural policy needs to provide incentives for diversification of agricultural activities away from fine cereals and toward non-cereal food crops, commercial crops and newly

emerging activities like floriculture, and horticulture. Different infrastructural requirements of the diversification process need to be kept upfront so that its progress is not hampered.

ii. Food Processing Industries

Being one of the largest producers of foodgrains and the second largest producer of vegetables and fruits, food processing industries offer excellent opportunities for employment generation directly in farm production and indirectly in the associated infrastructural services both rural and urban.

Despite the potential advantage, less than 2 percent of fruit and vegetable production is processed in India compared 30 percent in Thailand, 70 percent in Brazil and 80 percent in Malaysia. The processing percentage is low partly because of their consumption mostly in unprocessed (fresh) form but also because of very high wastage and spoilage in storage and transportation and the production of processed food in inadequately equipped large number of small scale units who cater mostly to lower end, price sensitive local domestic market.

Given a large international and growing domestic market with rising real incomes for processed food, appropriate restructuring of the industry would not only generate employment and improve its quality but also add to the foreign exchange earnings. Four points particularly deserve mention in this context. One, wherever traditional varieties are found unsuitable for processing, it is important to induce changes in cultivation practices for adopting varieties suitable for the processed food market. Two, it is necessary to develop activity specific infrastructure for post-harvest preservation, quality testing and control laboratories, silos and warehouses, cold-storage facilities and air-conditioned transports. Three, it is important to give incentives for modern processing and packing facilities which may be labour saving at the micro level but would generate better quality and higher employment through volume expansion in international market. Fourthly, the present legal framework consisting of multiplicity of laws and regulations both at the Centre and in the states enforced by diverse agencies of the government deter large players from entering into this sector. It is the large players who possess the requisite capabilities to access vast international market.

In this connection, we may mention the recent welcome step in connection with dairying and milk processing. This industry had been developed though the public sector initiative since the mid seventies. Private sector units operated in the informal sector mostly in fresh or semi processed milk products. Following the delicensing of the industry in 1991 to provide entry to the private sector units, the government promulgated competition limiting Milk and Milk Products Order (MMPO) in 1992. Under this order, any person or agency to handle more than 1000 litres of milk a day or 500 metric tons of milk solids a year, was given monopoly license to operate in an assigned 'milk-shed' areas so that entry of other players was barred. Recently (March 2002), the central government liberalised MMPO to abolish monopoly license. The removal of this entry barrier is expected to induce entry of other large-scale operators and increase competition as well as development of this industry in as yet underdeveloped areas.

iii. Small Scale Industries

The Indian government policy since the mid-1950s has sought to support modern small scale manufacturing industries (SSI) defined in terms of a ceiling (changing over the years) on of original investment in plant and machinery under the argument of promoting decentralised employment and entrepreneurship. The policies have been operative on two fronts: promotional policies seeking to remove handicaps attributable to small scale and protective policies limiting competition from larger scale units in product and input markets. Tendulkar and Bhavani (1997) provide a detailed assessment of these policies to conclude that these policies have unintentionally contributed to the units remaining small and inefficient without attaining the stated primary objective of policy to make these units improve their economic viability and compete on equal terms with large scale units and imports. This outcome has emerged mainly because of the persistence of what was originally intended to be an instrument of temporary protection from large scale units (Mahalanobis (1955, 1963) becoming of goal of preserving the small units irrespective of economic viability.

That these policies did not serve the objective of efficient employment generation has been brought out in a recent study by Bhavani and Tendulkar (2000). They studied the small-scale garment and apparel producing units in Delhi. Till 1997, this industry was reserved for exclusive production in SSI. They identified two types of SSI units: a few catering to the price and quality sensitive export markets and a large number of very small units catering to the price sensitive but quality insensitive domestic market. In comparison with non-exporting units the units operating in the export markets were larger in size, had better access to capital and technology and were better equipped to incur marketing costs required for operating in the international competitive market. More important in the present context, the exporting units were more efficient in their utilisation of labour in terms of having a lower share of wages and salaries in gross output combined with a higher productivity per worker which enabled them to serve employment objective better than non-exporting units by paying a higher average wage per worker and employing larger number of workers per establishment.

Particularly damaging has been the reservation of some 800 odd products for exclusive production in SSI. The recent Report (submitted in 1997) of the Expert Committee on Small Scale Enterprises (chaired by Abid Hussain) lists several persuasive arguments based on empirical evidence to argue the case for wholesale dereservation. The Report on Economic Reforms submitted in 2001 by the Prime Minister's Economic Advisory Council (GOI-PM-EAC (2001)) as well as the Mid-term Appraisal of the Ninth Five Year Plan by the Planning Commission (GOI-PC (2000)) have recommended a phased abolition of reservation. The Task Force Report (2001) of the Planning Commission on Employment Opportunities has suggested a two-step phase out in three years by first liberally raising the investment ceiling limit, followed by a time-bound total phase out of the limit. Despite these heavy weight expert endorsements of phase out, not much progress has been made. The policy of protecting the existing employment irrespective of costs that applied to the organised factory segment persists in the SSI segment as well to the detriment of overall employment generation.

We may end this discussion by endorsing three useful suggestions made by the Task Force on Employment Opportunities in connection with SSI. One is to **widen the scope of SSI**

promotional policy from manufactured products at the moment **to include all small-scale enterprises (including services) and eventually also medium scale enterprises.** The idea is to permit the size of an enterprise to be determined on the criterion of market viability by removing the handicaps arising from scale rather than protective support system. The second idea is to **provide promotional support to existing clusters of small-scale enterprises** to make them competitive and capable of withstanding competition. This is sought to be done with establishment or upgrading of common infrastructure including quality control as a package. The third suggestion is to **reduce the burden imposed by inspection by a large number of different agencies**, mostly of the state governments for implementing different laws and regulations.

iv. Employment in Services

This heterogeneous sector has so far been dominated by low skill-low productivity activities. It was only in the last six years of the twentieth century, one found (as noted in Section I.3) a welcome stagnation or decline in low productivity personal and community services as also in unproductive public administration and defense. More importantly, the major expansion has been noted to have taken place in urban services which are expected to have relatively higher productivity than their rural counterparts. This sector has taken the major brunt of adjustment to the declining share of workforce in agriculture and allied activities. The focus of employment policy in this sector ought to be to raise productivity through the faster expansion of large-scale formal sector tertiary services that would raise the quality of employment.

The Task Force Report suggests major areas of potential expansion in the realm of both skill - intensive and moderately skill-intensive activities. They include travel and tourism, information technology, housing and real estate development, construction, road transport, distributive trades, education and health services. Of these, information technology, education and health services provide skill intensive employment opportunities whereas the expansion of formal sector large units in the remaining services would require moderate upgrading or on-the-job skills of various types.

We turn briefly to the constraints operating on employment expansion in tertiary services.

Starting with travel and tourism, the World Tourism Organisation reports India to be 43rd in the list of tourist destinations world wide with just 22 million tourist arrivals compared to 23 million in China (12 million excluding visitors from Hong Kong), a little over 7 million each in Thailand and Malaysia and 5 million in Indonesia. Considerable direct and indirect employment opportunities in this sector have been hampered by inadequate investment in tourism infrastructure including total development of each tourism circuit as a unit for investment while improving the quality of airports, airlines, railways, roads, tourist buses and hotels.

Construction and real estate and housing development constitute an inter-related complex with as yet largely untapped employment potential. An order of magnitude can be gauged from the fact that during the last six years of the 1990s. Construction offered incremental employment on the usual (principal plus subsidiary) status to 5.4 million people compared to 4.8 million in manufacturing. The Task Force Report rightly emphasised the basic constraint, namely, outdated laws and policies governing land development and rent control that have pushed the market

underground and resulted in inefficient utilisation of land and an ever increasing gap between growing housing demand (with urbanisation and rising rural and urban real income) and supply. The related construction activity is also hampered by the bias in favour of small construction companies that, constrained as they are by their small-scale of operation, do not pay adequate attention to quality and durability of construction and, important in the present context, offer poor employment conditions to their workers.

Distributive trade in general and organised retailing in particular is another important area that offers excellent employment prospects (albeit with possible disruption in the short run). These are also constrained by the inefficiencies associated with distorted land and rental markets and other national, regional, state level and even local municipal corporation level regulations. With expanding and diversified supply base of consumer goods, (both from domestic and international sources) and a growing demand with rising per capita income and increased assertiveness of Indian consumer, a substantial expansion in the volume of retailing is expected over the next decade. There is a common apprehension that organised retailing including modern super markets and departmental stores would reduce the employment potential in the sector. However, there are good reasons why this fear may be unfounded. In the rural areas, traditional small-scale retailing would hold sway because of the locational advantages. Many large domestic and multinational corporations have been using these outlets to tap the expanding rural markets. The same argument would also apply to large metropolitan areas with respect to daily items of consumption. Some losses of jobs of self-employed retailers may be inevitable but they may be more than made up by retail volume expansion and its spillover effects into increasing number of small and medium manufacturing enterprises along the supply chain. Modern supermarket and departmental stores would help develop effective supply chains, encourage competition, put pressure on distributive margins and ultimately help expand the market to the benefit of both producers and consumers. In the early stages of organised retailing, the potential price-benefits may not be apparent as it would initially cater to the quality sensitive and price-insensitive segment of the consumers.

The expansion of organised retailing is also closely linked to and requires improved efficiency in road transport services which themselves offer direct and indirect employment opportunities. The operational efficiency of the commercial road transport vehicles in India at about 8500 km per month are said to be about one sixth that in USA and Europe. This is mainly attributable to poorly maintained and inadequate road network, high accident rate due to insufficient training of drivers, poor maintenance of vehicles and long turnaround time due to manual handling of loading and unloading operations. Passenger traffic is handled by inefficient state road transport corporations whereas freight traffic is dominated by a large number of small truck operators. According to an estimate given in the Task Force report, 85 percent of the truck operators own 1-5 trucks and only 1 percent own more than 100 trucks Employment conditions offered by small operators are very unsatisfactory. The non-transparent system of granting licenses and permits by state governments and municipalities to a restricted number of small truck operators as well as a variety of sales taxes, octroi and other levies are the other major impediments to the expansion of transport services.

We finally discuss briefly the skill-intensive services.

As regards information technology services, these have been expanding very rapidly in the last 5 years. The employment potential of this sector has been estimated by McKinsey Report to increase by about 2 million by 2008 in comparison with a little over 1 million added to the organised manufacturing sector during the post-Reform period (Section I). This expansion in on-shore, off-shore and IT enabled service like call centres, customer relations management, back office accounting, medical prescriptions etc. is constrained partly by inadequate availability of higher level project-management skilled personnel and partly by the poor availability of fault-free, internal and external broadband telecom access at reasonable cost. Maintaining cost competitiveness in the face of new players like China and scaling up the value chain would be critical to the expansion of high quality employment in this sector.

Finally, raising the educational, skill and health status of the work force is critical to employment policy aimed at quantitative as well as qualitative dimensions. The demand for educational and health services is expected to increase in the face of their current inadequacy especially in rural areas. While state governments had taken the major responsibility in supplying these services, their performance had been very unsatisfactory besides their weak fiscal condition. New instruments for devising public private partnership in the supply of these services would also generate high quality employment.

We may recapitulate the main strands of the employment policy discussed above. The primary objective is to provide gainful employment to expanding the labour force at progressively higher levels of productivity which alone **can generate continuous and sustainable increase in real earnings of labour** in a densely populated agricultural economy at low level of per capital real income. **It is our contention that this is the only abiding solution for improving the lot of the labouring poor and providing them with the wherewithal of not only crossing the poverty line but also improving their living standards overtime.**

The primary objective can be divided into its two economic components. On the one hand, it is necessary to improve in a continuous fashion the educational and skill levels of the labour force which would raise the potential productivity of the human resource base from the supply side. On the other hand, it is necessary to shift the demand curve for labour continuously to the right so as to generate economic pressure for raising the returns to better skilled and educated labour.

Sustained demand for labour can only arise from sustained additions to productive capacity in the economy with technological upgrading raising labour productivity. Sustained additions to capacity over time constitute what Kuznets (1973) defined as the essence of economic growth. **It follows that putting the Indian economy on a higher growth path becomes an integral part of employment policy**. Policies for raising the rate of investment and improving resource use efficiency were discussed in this context. The continuation, completion and acceleration of economic policy reforms consisting of liberalisation and globalisation thus become relevant as integral parts of the employment policy. In addition, we also discussed sectoral employment policies with a view to inducing higher growth of relatively more labour-using sectors. These

policies centred on increasing the productivity of labour in agriculture and allied activities, promotion of food processing industries, development of economically viable small and medium enterprises and finally, relatively faster growth of labour and skill-intensive tertiary activities. The two-pronged strategy in this connection consisted of raising the productivity of informal segment operating in commodity and services sectors while facilitating labour absorption in the higher productivity organised segment.

The key component in this two-pronged strategy is the policies aimed at relaxing the constraints on expanding sectoral productive capacity. However, since relatively faster growth of labour-using activities may lead to faster growth in supply than domestic demand, we emphasized **the critical role of accessing international markets and the consequent imperative of maintaining efficiency and international competitiveness in the productive sectors of the economy.**

d. The Need for Safety Nets

It is doubtless true that, in the final analysis, any effective employment policy aimed at sustained poverty eradication has to be centred on rapid growth as the key instrument. The policy has to reckon with short-run dislocation and displacement and rising earning disparities between sunrise and sunset industries which are escapable concomitants of the structural changes during the rapid growth process (Kuznets (1972)). These arise from differential speeds of adjustment to market signals by different participants in any competition drive market-based growth process. However, **so long as the tempo of rapid growth is maintained**, the new employment opportunities would far exceed the job losses that arise from phasing out of sunset industries and weeding out of inefficient units urban sunrise industries so that **net employment would be increasing with rising productivity per worker** to take care of both quantity and quality dimensions of employment. In the short-run, however, new employment opportunities may not match the job losses in a given industry or location. This indicates a clear **need for safety nets to** alleviate hardships of displaced or dislocated workers while facilitating their mobility to areas, industries or units experiencing expansion. These safety nets may consist of strictly short-run and time-bound protection, providing compensation for lay-offs, retrenchment and liquidation, expanding facilities for skill acquisition, training and education and giving inducement, wherever necessary, to move to areas of expanding employment opportunities. **Evolving these safety nets would require a decisive shift of policy away from continuing protection of existing employment irrespective of costs which has proved to be counterproductive and toward putting in place of organisational and institutional modalities of safety nets**. It is, thus, important to highlight the urgent need for safety nets while recognising clearly that short-run costs of structural change can, at best, only be minimised and alleviated but never eliminated except at the cost of growth in employment over the medium term. Employment Policy to be effective has to be informed by this basic understanding of the inherent but painful trade off between short-run and medium-run employment.

Finally we review briefly the safety nets in the term of major anti-poverty programmes.

"Implementing focused special programme for creating additional employment or enhancing income generation from existing activities aimed at helping vulnerable groups that may

not be sufficiently benefited by the more general growth promoting policies" and, "pursuing suitable policies for education and skill-development which would upgrade the quality of labour force and make it capable of supporting a growth process which generates high quality jobs" (para 3.2, p.35) are the two other key components of the employment policy package outlined in the Report of the Task Force on Employment Opportunities.

There are currently three major centrally initiated, target-group oriented special employment programmes. Of these, the Swarnajayanti Gram Sarozgar Yojana (SGSY for short) constitutes a rationalisation of earlier IRDP and its allied sub-programmes for enhancing income-earning potential through self-employment. Two basic improvement over the earlier IRDP and allied programmes are: (i) provision for multiple doses of credit allowing for gradual evolution of skill and technology acquisition through training which should help reduce the probability of failure and provide flexibility to the household in currently mistakes; and, (ii) a shift to group lending instead of lending to an individual beneficiary. However, the programme is still beset with major problems. The bureaucratic restrictions imposed on the formation of self-help groups (SHGs) may turn out to be excessively constricting. Further, since the rationalisation of SGSY came into existence only in April 1999, the administrative machinery and particularly operational details of organisational restructuring for its implementation is yet to be stabilised.

The wage employment programmes have now been reorganised since April 1, 1999 into two components: Jawahar Gram Samridhi Yojana (JGSY) and Employment Assurance Scheme (EAS). The generation of supplementary employment for the unemployed poor in the rural areas is the *secondary* objective of JGSY. The *primary objective is the creation of demand driven community infrastructure*" at the village level to enable the *rural poor* to increase the opportunities for *sustained employment*. (**Guidelines** preamble). In comparison, the *primary* objective of EAS is creation of additional wage-employment opportunities during the period of acute shortage of wage employment through *manual work* for the *rural poor* living below the poverty line" (GOI (2001), p.32).

Both JGSY and EAS are meant to be wage-employment programmes with immediate wage employment generation during slack season being a primary objective in EAS and a secondary objective JGSY, the primary objective being creation of pre-planned demand-driven rural local public goods that help generate sustained employment.

Several features of JGSY are commendable. To start with, works are to be undertaken only from among those which have been approved as part of the Annual Action Plan at the village level (Guidelines, para 22.1). This is expected to result in prior thinking about the felt needs as well as enable a technical evaluation of the proposed works. Secondly, a focus on local public goods is indeed very welcome. Thirdly, village panchayats have been entrusted with the execution of the projects with a fair degree of autonomy in selection of works. Fourthly, allocation of funds across districts as well as across villages within districts takes into account the backwardness in terms of concentrations of SC/ST population, population density as well as inverse of per capita production of agricultural workers. No transfer of funds across districts and villages is permitted (Guidelines, Ch.II). Fifth, there is also a provision in the allocation of funds to the maintenance of the created assets. Finally, panchayats have been given powers to "suitably relax 60:40 wage-material ratio" (GOI, Annual Report, 2000-01, p.10).

Unlike the demand-driven local public goods-oriented character of JGSY, Employment Assurance Scheme (EAS) which started as a demand-driven work guarantee scheme in 1993, has been turned into an allocative scheme with fixed outlays to be implemented in all the rural 5448 rural blocks in the country. It is expected to supplement JGSY "whenever there is acute shortage (of wage employment) and the resources under normal plan/non-plan Schemes are not available to generate adequate opportunities of wage-employment to meet demand" (p.33). Consequently, "the wage-material ratio of 60:40 would be strictly implemented and block would be the unit for consideration". (GOI, Annual Report, 2000-01, p.35). This is the basic distinguishing feature of EAS in comparison with JGSY. However, it also makes it vulnerable to all the weaknesses of the employment programme noted in the Approach Paper. There is no reference to EAS in the Tenth Plan Approach Paper. It is mentioned, however, that "there should a single wage employment programme to be run only in *areas of distress*. The focus should be on *undertaking productive works and their maintenance*, such as rural roads, watershed development, rejuvenation of tanks, afforestation, irrigation and drainage. The payment of wages should mainly be in the form of foodgrains with some cash component. This will improve self-targeting" (bullet point, p.30). This presumably refers to EAS and, if so, these works come nearer to the relief works but still trying to keep a link with durability of created assets. This dilemma is bound to persist.

Last, but not least, promotion of health, education and skill development of workers. It should be noted that worker's health and safety has to be an integral part of any strategy of human resource development. It is worth emphasising that promotion of general education and skill development is necessary not only for supporting faster growth, but can be a key instrument for reducing poverty among the workers. Our micro-level analysis of poverty among the rural labour households in Madhya Pradesh provides confirmation - if at all necessary. It is also necessary to emphasise that, even as policies for strengthening vocational education and training are formulated and implemented, both the need for and the potentially high returns from expansion and improvement of the system of general and technical education need to be kept firmly in view.

As can be seen from our discussion, a shift of focus that assigns as much importance to quality of employment as to the number of "jobs" or employment opportunities brings growth to the centre-stage and substantially expands the scope of "employment policies". Along with adequate safety nets, this shift of focus offers the best hope for substantially reducing, if not eliminating altogether, the problem of the labouring poor in India.

Appendix

Issues relating to Comparability NSS Estimates over Time in the 1990s

This Appendix considers for comparison the headcount ratios emerging from the three quinquennial rounds of the National Sample Surveys (NSS) namely, the 38th round with a survey period of calendar year 1983 and the 50th and 55th rounds with survey periods from July to June in 1993-94 and 1999-2000 (1999-00 for short) respectively. Since rural poverty estimates in particular are known to be influenced by agricultural harvests and since rural poor still account for nearly eighty percent of the total poor populations, we decided to omit the intermediate 43rd round carried out during (July-June) 1987-88 the survey period of which was affected by meteorological drought conditions.

Some major differences between these three rounds for comparability need to be noted.

The 38th and 50th rounds canvassed schedules of consumer expenditure survey (CES) and employment-unemployment survey (EUS) on an identical set of sample households and the published results on consumer expenditure and the size-distribution of consumption expenditure for these two rounds are based on a uniform reference period (URP) of 30 days (preceding the date of interview) for all items of consumer expenditure. Hence, the poverty outcomes for 1983 and 1993-94 based on the published reports are directly comparable in terms of recall periods.

In the 50th round for 1993-94, information on (infrequently purchased items) durables, clothing, footwear and institutional expenditure on health and education was collected for a 30-day as well a 365-day reference period from each surveyed households.

In the 55th round for 1999-00, four changes were made compared to the previous quinquennial rounds. One, enquiries on CES and EUS were canvassed on independent sets of sample households on considerations of respondent fatigue. Two, while the CES enquiry, as in the previous quinquennial rounds, canvassed a detailed schedule (DS) of items of consumer expenditure to minimise recall lapse, the EUS enquiry canvassed a considerably abridged schedule (AS) of items because consumer expenditure was merely a classificatory variable, and not the main subject of enquiry in EUS. Three, in respect of expenditures on infrequently purchased items namely, durables, clothing, footwear, education and institutional health expenditure, a single 365-day reference period was used in the CES as well as the EUS enquiries. Four, in the CES, information on frequently purchased items, namely, food, paan, tobacco and intoxicants, information was collected for two *alternative reference periods* of 7-days and 30-days in blocks located side by side. In the EUS, the expenditure on these items was canvassed on *a single reference period* of 30-days. In respect of all the remaining items of expenditure, a 30-day reference period was used in both CES and EUS.

The published results of the 55th round for CES and EUS are based on a mixed reference period (MRP) of a 365-day recall for durables, clothing, footwear, education and institutional health expenditure and a 30-day recall for all the remaining items.

Two-fold comparability problems arise between the 50th and the 55th rounds.

a. Published results of the 50th round CES are based on a uniform 30-day recall for all items of consumer expenditure whereas the corresponding published results of the 55th round are based on 365 day recall for durables, clothing, footwear, education and institutional health expenditure and 30-day recall for all the remaining items. We have taken care of this by recalculating the 50th round results using 365-day recall information for the above-mentioned items from unit level records. We distinguish the recalculated results by MRP (mixed reference period) in comparison with URP (uniform reference period) based on the published data for 1993-94.

b. For food, paan, tobacco and intoxicants, the 55th round EUS enquiry collected information on a single, 30-day reference period, but in using the abridged schedule, generates results that are not strictly comparable to the 50th round.

The CES enquiry used the detailed schedule of items that was comparable to the 50th round but collected information on these items for two recall periods of 7-days and 30-days in blocks positioned side-by-side in the detailed schedule. For our immediate purpose of comparability, the apprehension relates to the field level practice with regard to two alternative possibilities depending on the order in which information was sought.

The two possibilities are: (1) respondent(s) may have recalled for 7-days and reported for 30 days making multiplicatory adjustment or (2) respondent(s) may have recalled for 30-days and reported for 7-days by division.

If, a sizeable proportion of the respondents had indeed reported their consumption on the 30-day reference period by a multiplicatory adjustment from a 7-day recall, it would make the results from the 55th round CES enquiry non-comparable to the results from <u>all</u> the previous quinquennial rounds. If, on the other hand, the responses on the 30-day reference period were indeed based on a 30-day recall, then, the estimated head count ratios based on the CES enquiry with a 30-day reference period for food, paan, tobacco and intoxicants would be comparable to our (MRP-based) estimates for the 50th Round. Now, the head count ratios estimated from the size-distribution of consumer expenditure from the 55th Round CES enquiry (based on the Key Results published earlier) with a 7-day reference period for food, paan, tobacco and intoxicants had been found to be uniformly *lower* than those based on the size-distribution with a 30-day reference period for the specified items. So that, if indeed the recorded responses on the 30-day reference period had been influenced by the recall on the 7-day reference period, directionally, this would tend to impart a downward bias to the resultant estimates of head count ratio. Seen from this perspective, the estimates of headcount ration (HCR) based on the 55th CES enquiry with a 30-day reference period for food, paan, tobacco and intoxicants, would provide a <u>lower bound</u> on HCRs for 1999-2000.

On the other hand, the 55th round EUS enquiry is comparable in terms of recall periods of the earlier quinquennial rounds (except in respect of clothing, durables etc. canvassed with a 365-day reference period) but is based on the abridged schedule rather than detailed schedule.

Abridgement of the schedule is known to be affected by a greater degree of recall lapse than a detailed schedule and hence would tend to *understate* the consumer expenditure in comparison with that based on a detailed schedule. This downward bias may be expected to shift the size distribution of per capita (monthly household) total consumer expenditure (pcte) based on EUS to the left of that based on CES for the 55th round.

Published results of the 55th round for EUS and CES indicate that the cumulative distribution function of pcte based EUS lies *uniformly above* that based on CES. This is so at the all-India level as well for rural and urban populations of most of the 15 major states in India. This suggests that headcount ratio based on EUS size distribution would be higher than that based CES and hence, would provide an upper bound to the comparable headcount ratio for the 55th round.

Is there some way to assess whether 7-day recall for food, paan, tobacco and intoxicants has been mostly recorded in practice and may have affected the 30-day recall making it non-comparable to the earlier rounds or 30-day recall may have been mostly recorded and affecting 7-day recall-based observations?

Notice from our foregoing discussion that

a. CES and EUS estimates of consumer expenditure, being based on two independent samples from the same universe of households provide independent estimates;
b. If 7-day reference period for food, paan, tobacco and intoxicants had influenced the 30-day recall, this would tend to over state household consumer expenditure on these items rendering them non-comparable with all the previous quinquennial rounds;
c. If, on the other hand, CES enquiry had indeed captured the 30-day recall based estimates. For the affected items (mentioned in (b), the results of the 55th Round for 1999-00 would be comparable in MRP-based (recalculated) results for the 50th Round for 1993-94;
d. EUS enquiry was based only on 30-day reference period for food, paan, tobacco and intoxicants but canvassed the abridged schedule of consumer expenditure which is expected to under state household consumer expenditure on the affected items in comparison with the corresponding detailed schedule canvassed in CES.

Given (a) to (d), the 7-day controversy can possibly be resolved by undertaking item level comparisons of estimates of household consumer expenditure from the independent samples in CES and EUS. Sundaram and Tendulkar (2001b) undertake such a comparison to find that for the affected items, CES and EUS estimates are very close to each other. This close correspondence leads them to conclude that the CES enquiry approximated the 30-day recall for the affected items. Hence, headcount ratio estimates based on CES are indeed comparable to the (MRP-based) headcount ratios for the 50th Round for 1993-94.

REFERENCES

Acharya, S. (2001), “Macroeconomic Management in the Nineties”, ICRIER, New Delhi.

Bhat, M. (2001): "Indian Demographic Scenario, 2025", IEG Discussion Paper Series No. 27/2001, June 2001, Institute of Economic Growth, Delhi.

Bhavani, T.A. and Suresh D. Tendulkar (2000): "Determinants of Firm-level Export Performance: A Case Study of Indian Garment Industry", Journal of International Trade and Development, Vol. 10, No. 1(March), pp.65-92.

Dhar, P.N. (1990), Constraints on Growth, Reflections on the Indian Experience, Oxford University Press, Delhi.

Fields, G.S. (1991): "Growth and Income Distribution", Ch.1, pp.1-53 in G. Psacharopolous (ed.) Essays on Poverty, Equity and Growth, Published by the Pergamon Press for the World Bank.

_____(1995): "Income Distribution in Developing Economies: Conceptual, Data and Policy Issues in Broad Based Growth", Ch. 4, pp.75-107 in M.G. Quibria (ed.), Critical Issues in Asian Development, Theories, Experiences and Policies, Oxford University Press, Hong Kong.

GOI (1961): Registrar General: Census of India.

GOI (2001): Government of India, Ministry of Rural Development, ANNUAL REPORT, 2000-2001, New Delhi, Manager of Publications

GOI-PC (2001): Government of India, Planning Commission (2001), Report of Task Force on Employment Opportunities, New Delhi (June).

GOI-PC (2000): Government of India, Planning Commission (2000): Mid-Term Appraisal of the Ninth Five-Year Plan (1997-2002), New Delhi.

GOI-PC (2001): Government of India, Planning Commission, Report of the Task Force on Employment Opportunities, New Delhi (June 2001).

GOI-PM-EAC (2001): Economic Reforms: A Medium-Term Perspective, Recommendations of Prime Minister's Economic advisory Council, New Delhi.

Hayami, Y. (1997): Development Economics, From Poverty to the Wealth of Nations, Clarenden Press, Oxford, U.K.

IJAE (2001): INDIAN JOURNAL OF AGRICULTURAL ECONOMICS, vol 56, No 3
Conference Number of the journal of the Indian Society of Agricultural Economics, Bombay.

Kuznets, S. (1971): Economic Growth of Nations: Total Output and Production Structure, Belknap Press of the Harvard University Press, Cambridge, Mass, USA.

Kuznets, S. (1972): "Innovations and Adjustments in Economic Growth" The Swedish Journal of Economics, Vol. 74, No. 4 (December), pp.431-51/

Kuznets (1973): "Modern Economic Growth: Findings and Reflections" the American Economic Review, vol. LXIII, No. 3 (June), pp.247-58.

Mahalanobis, P.C. (1955, 1963): "The Approach of Operational Research to Planning in India", Sankhya, the Indian Journal of Statistics, Vol. 16, Parts 1 & 2 (1955), pp.3-130. Reprinted under the same title and published by Asia Publishing House, Bombay and Statistical Publishing Society, Calcutta (1963).

Mahalanobis, P.C. (1960, 1961): "Labour Problems in a Mixed Economy", the Indian Journal of Labour Economics, Vol. 3, No. 1 (April 1960), pp.1-8. Reprinted pp.153-59 in Mahalanobis, P.C. (1961): Talks on Planning, Asia Publishing House, Bombay and Statistical Publishing Society, Calcutta.

Minhas, B.S. (1991): Public versus Private Sector: Neglect of Lessons of Economics in Indian Policy Formulations, R.R. Kale Memorial Lecture, Gokhale Institute of Politics and Economics, Pune.

NSSO (2000): National Sample Survey Organisation, Household Consumer Expenditure in India, 1999-2000, Key Results, NSS 55th Round (July 1999 to June 2000), New Delhi. (December 2000)

NSSO (2000a): National Sample Survey Organisation, Level and Pattern of Consumer Expenditure in India, 1999-2000, NSS 55th Round (July 1999 to June 2000), Report No. 457, New Delhi (May 2001).

NSSO (2000b): National Sample Survey Organisation, Employment and Unemployment Situation in India, NSS 55th Round (July 1999 to June 2000), Parts I and II, reports No. 458, New Delhi (May 2001)

Reynolds, L.G. (1985): Economic Growth in the Third World, 1950-1980, Yale University Press, New Haven and London.

SARVEKSHANA (1996): Journal of the National Sample Survey Organisation vol.20 No.1 (July, Sept.) for the 50th Round.

Sundaram (1989a): "Agriculture Industry Inter-relations in India: Issues of Migration", Ch.8, pp.177-206 in Chakravarty, S. (ed.): The Balance between Industry and Agriculture in Economic Development, vol.3, Manpower and Transfers, Macmillan Press Ltd. in association with the International Economic Association.

Sundaram, K. (1989b): "Inter-State Variations in Work Force Participation Rates of Women in India: An Analysis", in A.V. Jose (ed.), limited Options: Women Workers in Rural India, WEP-ILO-ARTEP, 1989, ILO, Geneva.

Sundaram, K. (2001a): "Employment-Unemployment Situation in the Nineties: Some Results from NSS 55th Round Survey", Economic and Political Weekly, vol. XXXVI, No. 11 (March 11), pp.931-40.

Sundaram, K. (2001b): "Employment and Poverty in 1990s, Further Results from NSS 55th Round Employment-Unemployment Survey, 1999-2000", Economic and Political Weekly, vol. XXXVI, no. 32 (August 11), pp.3039-49.

Sundaram, K. (2001c): "Employment and Poverty in 1990's: A Post script", Economic and Political Weekly, August 25, 2001.

Sundaram, K. and Tendulkar, Suresh D. (1988):"Towards an Explanation of Inter-regional Variations in Poverty and Unemployment in India," Ch. 10, pp 315-62 in T.N.Srinivasan and P.Bardhan (Eds): RURAL POVERTY IN SOUTH ASIA, Oxford University Press, Delhi, India.

Sundaram, K. and Suresh D. Tendulkar (2001): "Recent Debates on Database for Measurement of Poverty in India: Some Fresh Evidence" presented at the Workshop on Poverty organised by the Indian Planning Commission and the World Bank (January 11-12).

Tendulkar, Suresh D. and T.A. Bhavani (1997): "Policy on Modern Small Scale Industries: A Case of Government Failure", Indian Economic Review, Vol. XXXII, No. 1 (January-June), pp.85-110.

Tendulkar, Suresh D. (2000a): "Employment Growth in Factory Manufacturing during the pre and post-Reform periods", presented at the Conference in Honour of Professor K.L. Krishna at the Delhi School of Economics (December).

Tendulkar (2000b): "Indian Export and Economic Growth Performance in Asian Perspective" Working Paper No. 54 (December), Indian Council for Research on International Economic Relations, New Delhi.

Tendulkar, Suresh D. (2001): "Has Poverty Declined in the 1990s? An Analysis of Problems of Comparability over Time", paper presented at the International Seminar on "Understanding Socio-Economic Changes Through National Sample Surveys" organised by the National Sample Survey Organisation, Government of India, New Delhi (12-13 May).

_____, and L.R. Jain (1995): "Economic Growth, Relative Inequality and Equity: The Case of India", Asian Development Review, vol. 13, no. 2, pp.138-68.

Tendulkar, Suresh D. and B. Sen (Forthcoming): "Markets and Long-term Growth in South Asia, 1950-97" Completed, May 2000. Forthcoming in a volume edited by I.J. Ahluwalia and J.G. Williamson and published by the Oxford University Press.

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